# Leonhardt Ventures 2019/20 Annual Report

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# Leonhardt's Launchpads by Cal-X Stars **Business Accelerator, Inc.**

2019/20 Portfolio of Startups/Licensable Technology Platforms (LTP's)

#### **Regenerative Medtech - Organ Regeneration**

#### Heart & Cardiovascular

- · BioLeonhardt heart regeneration
- AortaCell aorta regeneration
- · BioPace biological pacemaker regeneration
- · Valvublator heart valve decalcification and regeneration
- · VibroCell vibrational energy to prevent clots, plaque, calcification
- VascuStim peripheral limb wound healing and critical limb ischemia
- · Second Heart Assist, Inc. wireless powered chronic and temporary catheter based circulatory assist pump in aortic stent
- · PressureStim bioelectric treatment of blood pressure

#### **Brain**

- CerebraCell brain regeneration
- TremorStim bioelectric hand tremor treatment
- MemoryStim bioelectric memory enhancement
- Second Brain bioelectric gut microbiota and enteric nervous system treatment

#### **Cosmetic, Personal Care & Reproductive Health**

- Stem Cell Bra breast regeneration
- · DentaCell Accelerator bioelectric and biologics innovations in dentistry
- · ImplantStim bioelectric and biologics dental implant treatment
- · OrthodontiCell bioelectric stimulation mouthpiece for accelerated tooth movement and freezing teeth positions straight
- SkinStim skin regeneration
- MyoStim ED ErectiStimTM bioelectric and biologics erectile dysfunction treatment
- HairCell hair regeneration
- TestiStim bioelectric testosterone management and infertility treatment

Note - Leonhardt's Launchpads by Cal-X Stars Business Accelerator, Inc. is the organ regeneration innovation and startup launch accelerator arm of Leonhardt Ventures LLC (Leonhardt Vineyards LLC DBA Leonhardt Ventures). Leonhardt Ventures has 50.1% controlling ownership of Leonhardt's Launchpads with an anti-dilution clause in place. Prior to agreeing to enter the accelerator(s) Leonhardt Ventures owns 100% ownership rights to most all of these inventions, based on their core IP estate, and voluntarily gives up 49.9% ownership stake to get the help of the accelerator to advance the developments though first in human studies. In some cases the accelerator and other stakeholders invest under \$200,000 in a given invention/startup to get to this stage of being exit/strategic partnership ripe and the accelerator and its associated stakeholders along with management and advisors holding stock options take 49.9% of the ownership of that asset and thus 49.9% of the exit prize if achieved. Howard Leonhardt over time (since 1988) has personally invested about \$8 million of his own money into developing the platform biologics and bioelectric technologies as well as other accelerator assets and a lions share of the rest of the resources for developing the base platform has come from friends and family that he has brought to the organization(s).

#### **Major Organ Regeneration**

- · EyeCell eye vision regeneration
- PancreaCell pancreas regeneration
- RegenaLung lung regeneration
- KidneyCell kidney regeneration
- · EarCell ear hearing regeneration
- BladderCell bladder regeneration
- BioLeonhardt Whole Body Regeneration whole body regeneration
- OrthoStim bioelectric and biologics joint and tendons treatment
- InStim bioelectric inflammation treatment

#### **Cancer Treatment**

· CancerCell - bioelectric cancer tumor treatment + regeneration Note - Previous regenerative economy startups in portfolio have moved to Cal-Impact www.cal-impact.com

#### **Contact Info**

#### **Headquarters**

Leonhardt's Launchpads by Cal-X Stars Business Accelerator, Inc. 18575 Jamboree Rd #6, Irvine, CA 92612

#### **Other locations**

Leonhardt's Launchpads @ UCI Cove 5270 California Avenue, Irvine, CA 92617

#### Leonhardt Ventures LLC 613 Iris Avenue Corona Del Mar, CA 92625

#### Leonhardt's Launchpads Utah, Inc. **Research Lab**

2500 S State St. #D249, Salt Lake City, UT 84115

#### Leonhardt's Launchpads Utah Lab #2

2nd Research Lab **Research Park** 417 Wakara Way Rm 3321 Salt Lake City, 84108

#### Second Heart Assist, Inc.

2500 S State St. #D249 Salt Lake City, UT 84115

Leonhardt's Launchpads @ ScaleLA 3415 S Sepulveda Blvd 10th Floor Los Angeles, CA

Leonhardt's Launchpads @ Pacific Neuroscience Institute + John Wayne Cancer Institute 2125 Arizona Ave Santa Monica, CA 90404

Leonhardt's Launchpads Los Angeles R&D Lab 1124 W Carson St. Torrance, CA 90502

Leonhardt's Launchpads Pittsburgh 132 Tiffany Ridge Dr Coraopolis, PA 15108

Leonhardt's Launchpads **Australia Pty Ltd** 5 Martin Place Sydney, NSW, 2000

Leonhardt's Launchpads Brazil Street Marcelo Gama, 259 90540050 -Porto Alegre, Brazil Phone: (424) 291-2133 Fax: (866) 829-0929

With your help Leonhardt's Launchpads is leading a revolution to aid people in regenerating their own organs instead of getting artificial, animal, donor or cadaver implants or taking drugs. We believe we are on a path to change healthcare dramatically for the better!



### Howard J. Leonhardt

Executive Chairman & Chief Executive Officer

### **Intense FOCUS on Organ Regeneration and Recovery**

2019 was a spectacular year of progress! Some of our most exciting milestones achieved included...

# **800** PATIENTS\*

#### enrolled in clinical studies

- Over 800 patients enrolled in new organ regeneration and recovery clinical studies.
- Data on over 250 patients published or presented at major international conferences.
- Over 600 patent claims issued, pending, optioned or licensed for organ regeneration and recovery.
- 83% treatment success in clinical studies with no serious adverse events reported to date.
- 17 products at clinical stage of development and 14 at pre-clinical stage.
- Patent filed for bioelectric klotho expression a powerful anti-aging and regeneration protein.
- Patent filed for sonic hedgehog protein expression a powerful regeneration protein.
- Patent filed for COL17A highly powerful anti-aging and skin regeneration protein.
- Patent filed for combination SDF1 and PDGF stem cell homing signal.

# 83%

#### treatment success

\* includes some independent studies following our patent claims.
\*\* includes issued, pending, licensed and optioned patent claims.
\*\*\* \$4.5 million raised for Second Heart Assist, Inc. alone.



# **\$6.5** million\*\*\*

# raised for current portfolio of startups

#### **Completed Landmark**

First Ever Pilot Clinical Trial of a True Aortic Stent **Circulatory Assist Pump** with Stable Fixation

## U.S.P.T.O. patent claims

issued for bioelectric control of **RANKL and OPG** 

- Patent claims issued for controlled expression of RANKL and OPG for accelerated teeth straightening and stabilization for OrthodontiCell.
- 9 issued patents acquired for bioelectric cancer tumor treatment for CancerCell with dozens of additional new patent claims pending.
- 90% of MyoStim ED Erectistim<sup>™</sup> treated patients had substantial improvement. MyoStim ED has surpassed over 150 patients enrolled in clinical studies so far with more enrolling every week.
- 60% of OrthodontiCell treated patients had perfect straight teeth in only 3 months compared to only 14.3% with brace alone (braces alone group also had far more mild cases while OrthodontiCell had far more severe cases).
- OrthodontiCell treated patients had a 70% reduction of pain and discomfort compared to braces alone patients.
- HairCell treated patients had up to 30% increase of hair density.
- SkinStim treated patients had a significant reduction in noticeable wrinkles.
- BladderCell treated patients had a significant reduction of uncontrolled urination.

**Completed positive landmark study** for accelerating teeth straightening

About 2/3rds reduction in normal time and 70% reduction of discomfort

EyeCell investigators have published data on more than 176 patients and have 2 new studies preparing to enroll

BladderCell and KidneyCell are enrolling in new clinical trials now following previous pilot feasibility studies.

# **17 PRODUCTS**

at clinical stage of development

- 83%(5 of 6) of EyeCell wet macular degeneration treated patients had notable improvement in vision and none showed deterioration.
- sizable, whereas deteriorations were usually very slight.
- associated pain that was lasting.
- any side effects with our bioelectric underwear product.

# **9** issued patents

for bioelectric cancer treatment and dozens of new claims pending

# **13** PRODUCTS

#### in pre-clinical studies

Significant increases in visual acuity in dry macular degeneration treated patients were seen in the EyeCell pilot clinical study. 52% of EyeCell treated patients showed increased visual acuity compared to only 26% showing deterioration, with improvements often

Our first InStim treated patient exhibited substantial reduction of inflammation and

Our first TestiStim treated patient exhibited substantial increase of testosterone without

# **Pioneering patent**

for wireless power of circulatory assist devices

## Completed over 105 patients in MyoStim **ED erectile dysfunction studies**

All MyoStim ED ErectiStim treated patients experienced benefits in ALL study end points with an average of 90 to 150% improvement.

- In a 21 patient pioneering clinical study KidneyCell's Brazilian research collaborators demonstrated a significant decrease in DNA damage in chronic kidney failure patients on hemodialysis.
- BioLeonhardt completed a feasibility small animal study for bioelectric heart regeneration with a team at the University of Utah and is now preparing for large animal studies in at Texas Heart Insitute.
- CancerCell completed a feasibility small animal study for bioelectric cancer tumor treatment at UCLA is now preparing for a 2nd round of studies in Brazil.
- Valvublator research collaborators in Italy completed a pioneering clinical surgical case of dental burr removal of calcified plaque and stem cell injection regeneration of a damaged heart valve. Valvublator is preparing for large animal studies now at the University of Minnesota with Dr. Richard Bianco for a percutaneous non-surgical system.

## **Completed successful pilot studies** for HairCell and SkinStim.

HairCell patients are gaining up to 30% improvement of hair density.

SkinStim patients are exhibiting highly noticeable reduction of facial wrinkles

# Pioneering patent filed for bioelectric control of Klotho very powerful anti-aging and organ regeneration protein.

## This may be our most important patent ever filed.

- completed separately for bioelectric and biologics.
- blood pressure was reduced by 4 mmHg after 8 weeks of treatment.
- 9000. Second Heart Assist is preparing to launch a cardio renal syndrome study soon.

### **Pioneering patent for bioelectric stem** cell homing via SDF1 and PDGF

# **Pioneering patent**

for bioelectric blood pressure control

Vascustim launched a 3rd clinical trial for critical limb ischemia and diabetic wound ulcer healing this time with a combination of bioelectrics and biologics. Previous studies were

PressureStim research collaborators at UCIrvine in Irvine, California have completed studies with over 100 clinical patients in the USA. Peak and average systolic blood pressure decreased by 8 and 6 mmHg, respectively, in response to electroacupuncture. Diastolic

Second Heart Assist completed a successful first in human study in Paraguay the summer of 2019 with results presented at the Heart Failure Society of America, TCT Cardiology and Devices for Heart Failure annual 2019 meetings. A 400% increase in real output was reported in treated patients. Aortic pressure differential up to 37mm Hg was achieved at RPMs under 15,000. 10mm HG aortic pressure differentials were achieved at RPMs under

# Pioneering patent

for bioelectric bladder control Pioneering patent claims for combination stimulator, pump and composition for organ regeneration.

# Pioneering patent claims filed for bioelectric control of inflammation

- Second Heart Assist published a demonstration video of its patented wireless powered chronic implant completed at Queensland University of Technology in Australia.
- Second Heart Assist completed large animal studies in pigs, sheeps and cows at 4 different clinics.
- Second Heart Assist completed multiple rounds of mock loop tests at three different research centers up to 9 days duration.
- Second Heart Assist completed 2 rounds of computational fluid dynamics studies at enModes Germany.

# Pioneering patent

filed for COL17A1 very powerful anti-aging protein especially for skin regeneration

# Pioneering patent

claims filed for sonic hedgehog, IFG1, tropoelastin, HIF1a and other key regeneration promoting protein expressions This year marks Leonhardt Venture's 32nd Anniversary since we published our first cell composition based organ (heart) regeneration study working with Dr. Race Kao and Dr. George Magovern in Pittsburgh in 1988. To honor this pioneering work we co-sponsored the McGowan Regenerative Medicine Retreat in that same city in 2019. It is also the 21st anniversary year of our landmark first American Heart Association Circulation paper on bioelectric regeneration working with Dr. Shinichi Kanno in Japan - https://www.ahajournals.org/doi/10.1161/01. CIR.99.20.2682. ; No other research team has longer deeper experience in organ regeneration research and product development than our amazing team of people! The current organ regeneration product platform combining the best of bioelectrics and biologics is the derived from this unmatched cumulative experience.

Our Second Heart Assist and Valvublator product platforms build on our decades of experience in developing market leading endovascular devices. The TALENT stent graft is now achieving over \$1 billion in annual sales and is the un-disputed market leader in endovascular aortic aneurysm repair. Our pioneering patented technology in percutaneous heart valve placement is part of one of the leading product platforms in the world.

Over 700,000 patients have been treated with Leonhardt inventions to date since the 1980's.

Led by an amazing team with a potent combination: multiple decades of experience which includes one breakthrough market leading innovation after another with the ambition and energy to conquer fresh new opportunities rapidly.

#### Heart & Cardiovascular

Bioleonhardt www.bioleonhardt.com our flagship product development is poised in 2020 to establish a position as the undisputed leader in total heart regeneration with its combination implantable bioelectric stimulator, re-fillable implantable micro infusion pump and proprietary fifteen component heart regeneration composition. The development is the culmination of over 30 years of trial and error experimentation and uninterrupted development. Large animal studies are scheduled to take place at Texas Heart Institute 1H 2020 and pilot clinical trials OUS 2H 2020. We believe this product has the chance to be the ultimate treatment of choice for over 23 million people in heart failure worldwide.

Second Heart Assist www.secondheartinc.com plans to secure a strategic partnership by June of 2020 following its cardio renal syndrome clinical study results and another round of wireless power chronic implant pre-clinical studies. We believe this product will be the leader in treating patients in cardio-renal syndrome due its high flow at low rpms and high improvement in renal output. Our aortic stent based pump is the only one known that combines

stability of position with maintaining aortic wall pulsaltility essential for optimal organ health and hemodynamics. Second Heart Assist is positioned to be the first percutaneously (non surgical) placed wirelessly powered chronic circulatory assist pump on the market which addresses market numbers 300 to 500% great than external drive line systems. Abiomed the only competitor on the USA market with a catheter based external drive system pump peaked at \$21 billion valuation last year addressing a much smaller market.

Valvubator www.valvublator.com seeks to totally disrupt the heart valve market by providing a tool to allow cardiologists help patients regenerate their own heart valve instead of getting an artificial, cow, pig or cadaver implant. During the TCT Cardiology Meeting in San Francisco this past fall the Valvublator engineering team (internal staff teamed with Rev1 Engineering) unveiled a revolutionary simplified Valvublator II design. As part of disrupting this marketplace the Valvublator team hopes to open up a new paradigm where physicians intervene early to decalcify and regenerate heart valves BEFORE they are so diseased an implant may be necessary. Valvublator is planning large animal studies in 1H 2020 at the University of Minnesota with Dr. Richard Bianco and pilot clinical studies OUS in 2H 2020.

PressureStim www.pressurestim.com has a goal to nearly eliminate the 23 billion spent on blood pressure drugs annually with non-drug bioelectric alternative to blood reduction and control. Initial data has been highly promising! This product is a simple bioelectric wrist watch sometimes combined in severe cases with a bioelectric thigh and/or ankle band. PressureStim plan to complete additional new studies in Brazil and the USA 1H 2020 and to seek to secure a strategic partnership in 2H 2020.

Vascustim www.vascustim.com seeks to be the therapy of choice for limb salvage, critical lower limb ischemia and diabetic ulcer healing with an optimal combination of bioelectrics and biologics. The team recently launched their 3rd clinical study in Mexico.

AortaCell, Vibrocell and BioPace are all in pre-clinical development working towards entering clinical studies soon. AortaCell plans to offer an alternative to endovascular implants for a ortic aneurysm repair by regenerating the aorta. VibroCell has filed patent claims for a vibrational harmonic tuned resonance technology for preventing blood clot formation, plaque and calcification on natural and artificial blood contact surfaces. BioPace is seeking to bring to market the world's first reliable and practical biological pacemaker to eventually obsolete most steel can steel lead battery powered artificial pacemakers. They filed NIH and NSF SBIR grant applications which are under review at this time.

#### **Brain**

CerebraCellwww.cerebracell.com is launching a non-invasive bioelectric stimulation only stroke recovery study in Brazil and plans to have results available by summer ready for publication and presentation. CerebraCell is also developing a full business plan for an integrative Brain Health Institute to using multi-modality treatments for a variety of brain disorders including anxiety, depression, drug addiction, confusion and other traumatic brain injury recovery, Alzheimer's and Parkinson's in addition to the original indication of use of stroke recovery. Pre-clinical studies are planned for a more aggressive therapeutic approach combining an implantable stimulator + leads, re-fillable micro infusion pump and infusion catheters, focused ultrasound and multi component brain regeneration composition. CerebraCell has aspirations to advance greatly brain recovery with the combination of bioelectrics, focused ultrasound and repeat delivery of multi-component compositions via a re-fillable implanted micro infusion pump.

#### **Cosmetic & Reproductive Health**

**OrthodontiCell** www.orthodonticell.com completed a highly successful clinical study that followed two previous animal studies. The clinical study demonstrated up 70% improvement in accelerated teeth straightening and 70% reduction in pain an discomfort. 60% of treated patients had perfectly straight teeth in 3 months! The team is seeking a strategic partner at this time while it continues forward with new fixation and aligner studies as well as full development of an @ home use product. Align Technology and Smile Direct Club peaked at \$31 billion and \$8 billion valuations recently. They both take more than 18 months on average to straighten teeth and have no technology to keep them straight. We believe we will prove we can achieve 60% of treated patients with straight teeth in 3 months and the other 40% straight at 6 months and will keep them straight thus disrupting completely the entire industry in a big way!

**MyoStim ED ErectiStim™** www.erectistim.com has completed studies with over 150 patients enrolled to date is achieving remarkable improvement in treating ED over placebo treatments by a long margin. The company seeks now a strategic partnership while it continues to gather more supporting data.

**HairCell** www.haircellstim.com has demonstrated up to 30% increase in hair density in clinical studies substantially better than laser and other comparable technologies. The company seeks now a strategic partnership while it continues to gather more supporting data. Samumed of San Diego recently achieved a \$12 billion valuation with the WnT stimulation technology achieving just 10% hair density improvement.

**SkinStim** www.skin-stim.com completed successful clinical studies in Utah and South Africa and continue to enroll more patients as it seeks out a strategic partnership. Many patients demonstrated highly notable reduction of facial wrinkles. The breakthrough patent pending

discoveries of bioelectric controlled expressions of klotho, tropelastin (elasticity) and COL17A were major advances in our skin regeneration platform. Humans turn off their tropelastin elasticity expression at puberty and our team figured out the bioelectric signaling sequence code to turn it back on!

**Stem Cell Bra** www.stemcellbra.com on the heels of completing 15 large animals with spectacular results completed a Phase I safety low dose clinical study also with success and is now preparing in 2020 to complete its first efficacy clinical study. In animal studies breast tissue volume grew by up to 20 to 30% with only 1 hour of stimulation every other day for 4 weeks only. It is estimated that up to 2 billion worldwide would choose a safe, convenient, low cost means to increase their breast fullness and shape if available especially following post child birth changes to breast shape and volume.

**DentaCell** www.dentacellaccelerator.com DentaCell Accelerator collaborating investigators and their network of colleagues have completed over 2000 clinical cases utilizing frequency specific microcurrent for various applications in dentistry including inflammation and pain management and accelerated healing. DentaCell is now organizing controlled clinical studies with statistical significance to prove out these therapies with vigorous clinical data management.

**TestiStim** www.testistim.com following a successful pilot case is moving forward to launch a formal clinical study for bioelectric testosterone management.

#### **Major Organ Regeneration**

**EyeCell** - www.eye-cell.com has published results on 176 clinical patients so far and is launching now two new clinical studies. They are seeking a strategic partner at this time as they gather new supporting data with newly designed eye google and additional new bioelectric signaling sequences.

**BladderCell** www.bladdercell.com collaborating researchers published successful clinical trial results and now a team in Brazil is enrolling in a new clinical study with new bioelectric signaling sequences added. The company plans to seek a strategic partnership the 2H of 2020. BladderCell has multiple issued and pending patent claims.

**OrthoStim** www.ortho-stim.com is launching clinical studies in Mexico and Brazil with plans to follow with a study at Hoag Hospital Irvine in California for joint regeneration (knees, elbow, finger joints, elbows).

**KidneyCell** www.kidney-cell.com completed one successful 21 patent clinical study in Brazil and is now launching a new study with additional measures and new bioelectric signaling sequences for kidney regeneration including our new Klotho signal.

**InStim** www.instimcell.com completed a successful first pilot case and is now planning a formal clinical trial for inflammation management. InStim has over 21 inflammation management specific patent claims pending with the USPTO at this time - https://patents.justia.com/patent/20190022389

PancreaCell is working with an OUS team to soon launch a clinical study for pancreas regeneration.

**EarCell** www.ear-cell.com is launching a new clinical study in Brazil with a group that previously published multiple studies on electrical stimulation based hearing regeneration.

**BioLeonhardt Whole Body** - https://vimeo.com/179280204 is our most ambitious product development project with aspirations to introduce by 2023 the world's first safe and effective whole body regeneration chamber "a regeneration womb for adults". The team is also developing a more modest goal based body suit called BodStimTM designed to provide mild rejuvenation to yoga and pilates practitioners as well as athletes.

**LiverCell** for liver regeneration, PolypStim for bioelectric polyp treatment and RegenaLung for lung regeneration are all in discussions with potential research collaborators with plans to announce soon shared research initiatives.

#### Cancer

**CancerCell** www.cancercellinc.com has developed the most comprehensive bioelectric cancer tumor treatment platform known with 9 issued patents already and dozens of new patent claims pending. The CancerCell. therapeutic platform is the only one known to read a cancer tumor and customize the deliver of bioelectric signaling sequences based on that read real time. The therapy is designed to (1) jam the communication of the tumor, (2) change the surface proteins and charge to illicit and immune response, (3) release anti-angiogenic proteins to starve a tumor of blood supply, (4) to heal a tumor and manage inflammation, (5) to cause apoptosis stopping cell division, (6) to cause resonant rupture of cancer tumor cells, (7) to reprogram cancer tumor cells and finally (8) to regenerate the organ back to health after the the cancer tumor is eradicated. The team completed a pilot feasibility small animal study at UCLA last year which has laid the foundation for more studies this year. The CancerCell team has high confidence it is on a path to develop a cancer therapy that can be more effective with less side effects than current therapeutic options such as chemo therapy or radiation treatments. Three other companies in recent years have published successful results for electro-magnetic and bioelectric cancer therapies including Novocure which recently surpassed \$8 billion valuation.

I wish to thank the more than 200 people who in one form or another participated in advancing our product developments in 2019. We all continue to work hard to meet our goals set forth for 2020. We believe our work represents the best hope for many patients that are failed by current therapeutic options and we feel the sense of urgency felt by their families to come forward with a better solution soon. Our team members believe the combination of bioelectrics and biologics are on path to herald in a new area of patient care and we plan to help lead the way!

Sincerely, Howard J. Leonhardt Executive Chairman & CEO

#### Leonhardt's Launchpads Accelerator

- 9% seed stage equity normal common stock terms (other than anti-dilution floor at 9%).
- Accelerate for 7+ years until first in human studies done.
- Access to over 600 patent claims IP provided with exclusivity for application of use with no additional charge.
- Full time access to over 100 business and science advisors every day.
- Access to multiple staffed R&D Labs.
- · Hand in hand help with all business launch activities for 7+ years.
- We create web sites, videos, summaries and slide decks.
- Help with research grant writing.
- Help with keeping financials and filing tax returns.
- Help with cap table management.
- Handle all city, county, state, federal legal filings.
- Handle all pre-clincial and clinical study protocol designs and implementation.
- Handle all FDA , IRB and other regulatory filings.
- Provides most all insurance coverages
- Provides human resource management including payroll processing and health insurance.

#### **Other Startup Accelerators**

- 6% seed stage equity at tough VC like terms.
- Accelerate for only 12 weeks and then you are cold out on your own.
- No access to any IP.
- Usually one mentor meeting for 1 or 2 hours a week that is it.
- No access to R&D labs.
- No help with grant writing, financials, tax returns or cap table management.
- Only short review of web sites, videos, summaries and slide decks.
- No help with cap tables or any legal filings.
- Minimal regulatory guidance if any.
- No insurance coverage.
- No help with human resource management, payroll or health insurance

Most startup accelerators take 6% equity for only mentoring with one person one hour a week for 12 weeks with a token investment at tough VC type terms. Leonhardt's Launchpads has invested over \$2 million in its portfolio of 30 startups so far and we take only 9% seed stage equity primarily at normal common stock shareholder terms provided to all other investors (we do have an anti-dilution floor at 9% unless waived). We are working to raise and put to work another \$13 million for these startups now. We provide all our portfolio startups with a full large estate of IP (up to 600 patent claims now and counting) at no cash or additional equity stake charge. We accelerate our startups through first in human studies which often may take more than 7 years with full time work every day with a full staff. We provide daily access for our startups to over 100 highly experienced top tier business and scientific advisors. We work hand in hand with them to build their web sites, executive summaries, slide decks, newsletters, annual reports, press releases, animation and live action videos at our cost. We have a whole team of bioengineers and biologists at their disposal every day and access to multiple R&D labs in multiple locations fully equipped for research. We handle all their R&D tax credits paperwork including gualifying for the 44% R&D tax rebate system in Australia. We provide full access to a full lineup of prototyping houses and OEM manufacturers. Our startups have access to all our software subscriptions including Asana Project Management, LivePlan for business plan writing, Microsoft Office Suite, Adobe Complete Software, SlideBean for slide deck creation from templates, Calendly and Doodle for scheduling and Dropbox for document storage. We provide access to CapShare ShareWorks for cap table management and offer the service to completely manage their cap tables. We host innovation showcases, DEMO days and participation in dozens of international conferences every year. We provide access to gualified clinical investigators and expert panels. We handle their shareholder and board meetings including scripts and minutes. We write their pre-clincial and clinical protocols and manage all their studies including data collection and statistical analysis. We handle all regulatory filings, insurance coverages and patent filings. We provide full human resources support including an Employee Manual, health insurance benefits and payroll processing all at no additional charge other than our seed stage equity stake. Our accelerator has the preemptive right to purchase up to 20% equity in each startup up to exit but we have pay the full per share price with no special terms to acquire these shares. We handle their monthly financials and tax returns as well as all city, county, state and federal filings required. We provide access to all our legal agreement templates and to financing via our private placement memorandum and subscription agreements. We provide them access to our database of over 550 angel investors for capital raises. In addition to all the above we have staff and mentors that help our startups file research grant applications. We manage the process to find strategic partners or acquirers for the startups or innovation platforms via an Asset Purchase Agreement. All told we believe our accelerator offers significantly greater value to the startups entering our portfolio than any other accelerator choice they may have.

Howard J. Leonhardt Founder, Executive Chairman & CEO Leonhardt's Launchpads























# **Dr. Leslie Miller**

#### Chief Medical Officer

Leonhardt Ventures, Leonhardt's Launchpads and Second Heart Assist, Inc.





"The convergence of bioelectric controlled release of regeneration promoting factors and repeat delivery of stem cell based mixed compositions for organ recovery has the potential to greatly improve patient outcomes. Our team is committed to carefully designed study protocols, always with patient safety first, to prove out the benefits of this platform technology."

#### **Experience**

- 30+ years heart failure, cardiovascular disease and regenerative medicine research with focus on organ regeneration and recovery.
- · Director of Heart Failure and Stem Cell Research at Baycare Health System in Tampa, Florida.
- · Chairman of the Department of Cardiovascular Medicine, Chief Heart Failure at University of Minnesota.
- · Director of the University of South Florida (USF) Cardiovascular Clinical and Research Integrated Strategic program.
- Director of Cardiology at Washington Hospital Center, Georgetown University Hospital and Georgetown University School of Medicine.
- President of the International Society for Heart and Lung Transplantation and the American Society of Transplantation, as well as a Fellow of the American College of Cardiology and the American Heart Association.
- · Investigator in over 80 clinical trials.
- Co-Editor Stem Cell and Gene Therapy For Cardiovascular Disease Textbook Publisher El Sevier







# **Dr. Doris Taylor**

#### Co-Chair Scientific Advisory Board Since 1999, BioLeonhardt Heart **Regeneration Researcher**

Doris A. Taylor, Ph.D., FACC, FAHA is the Director, Regenerative Medicine Research and Director of the Center for Cell and Organ Biotechnology at the Texas Heart Institute in Houston.

She holds faculty appointments at both Texas A&M and Rice University and is a Fellow of the American College of Cardiology; American Heart Association and the Council on Functional Genomics and Translational Biology.

"In 1998 we published in Nature Medicine our landmark paper on heart generation with myoblasts and shortly thereafter I began working with Howard and the Leonhardt team to move the therapy from animal studies to clinical studies. It was a great day in May of 2001 to be together for the first-ever muscle derived cells nonsurgical repair of a human heart, to see our work in my lab translated to begin helping human patients in need. We have learned a lot from that first case 16 years ago and are now applying that into more advanced therapies. We are very excited to now implement well controlled studies."





#### **Background & Experience**

- Director Regenerative Medicine Texas Heart Institute
- Director Center for Cardiovascular Repair University of Minnesota
- Medtronic Bakken Chair of Integrative Biology and Physiology, Professor of Medicine
- Faculty Duke University Medical School
- 80+ Scientific Publications
- Co-Director Cardiovascular Cell Therapy Research Network
- Co-Director Cytokine Profiling Core Lab

#### Education

- B.S. Mississippi University for Women in Biology and Physical Sciences
- PhD Pharmacology University of Texas Southwestern Medical Center
- Post doctoral studies at Albert Einstein College of Medicine New York





# **Dr. Stuart Williams**

#### Vice President of Cardiovascular Research

Leonhardt's Launchpads, BioLeonhardt, VascuStim (formerly MyoStim Peripheral), EndoCell, President and Co-Founder - MucosaCell

*"I have been working with the Leonhardt team since the mid 1990's when we began cell seeding* 

stent grafts. We have come a long way since then and have learned how to support organ regeneration with not only stem cells but also growth factors, nutrient hydrogels, scaffoldings, matrixes, exosomes, micro RNAs, 3D printing and bioelectric stimulation. It is a delight to see all of this coming together now into a comprehensive therapeutic option."

#### **Background & Experience**

- Dr. Stuart Williams received his Ph.D. in Cell Biology from the University of Delaware
- Postdoctoral training in Pathology at the Yale School of Medicine.
- During the period 1980 to 1990 he held a faculty appointment at Jefferson Medical College where he was Director of Research in the Department of Surgery.
- In 1990 Dr. Williams joined the faculty at the University of Arizona and founded the University of Arizona Biomedical Engineering Program creating a research and educational link between the Medical School and College of Engineering. He held faculty positions jointly in Biomedical Engineering, Surgery, Physiology and Materials Science and Engineering.
- In 2007 Dr. Williams was selected as the Scientific Director of the newly established Cardiovascular Innovation Institute, a partnership between Jewish Hospital and the University of Louisville in Louisville Kentucky.
- Established the Bioficial Organs Program to create human tissues and organs for clinical therapeutics and in vitro drug testing using a patient's own cells. Central to this effort is the use of 3D bioprinting technologies.
- Dr. Williams' research interests have focused on medical devices and regenerative medicine. He developed and patented the first methods to use fat-derived stem and regenerative cells for therapeutic use.
- Dr. Williams has authored over 400 scientific publications including scientific papers, abstracts, book chapters and editorials.
- His entrepreneurial spirit has resulted in 22 issued US patents with numerous patents pending.
- He has founded several biotechnology companies; maintained active managerial positions and has been an active consultant to the medical device, regenerative medicine and pharmaceutical community.
- He is a Fellow of the American Heart Association and a Fellow of the American Institute of Medical and Biological Engineering.







# **Dr. Robert S. Kellar**

Senior Advisor Biologics and Healing

Chief Scientific Officer Axolotl Biologix and industry partner for regenerative fluid

"We are investigating the synergistic benefits to the combination of bioelectric stimulation controlled protein expressions and amnioticderived fluid products. Early data in is encouraging. This combination may be useful for a multitude of applications."



#### **Experience**

Dr. Robert Kellar is an Associate Professor at Northern Arizona University in the Center for Materials Interfaces in Research Applications (¡MIRA!), Biological Sciences, and Mechanical Engineering. He serves as the Chief Science Officer for Axolotl Biologix. He has over 19 years of experience in the development and regulatory approval of medical devices, pharmaceuticals, and biologics, including cell-based products and regenerative medicine and tissue engineered technology. He has 144 scientific abstracts, 35 peer-reviewed publications, and 6 issued US patents. He received his PhD from the University of Arizona in 2001.

Dr. Kellar currently serves on the Scientific Advisory Board (SAB) for Leonhardt Ventures, the SAB for the Stem Cell Medical Center in Antigua, and the Clinical Advisory Board for Aesthetics Biomedical. Dr. Kellar has helped to co-found a number of companies including Development Engineering Sciences, a biomedical consulting firm, Flagship Biosciences, a digital pathology company, and Autogenesis Corporation, a wound healing company. He serves as an Advisory Board Member for Protein Genomics, a protein polymer medical device company, and the California Stock Exchange.

Dr. Kellar's previous roles include: Past-President of the Surfaces in Biomaterials Foundation, VP of Research and Development at Histogen, Inc. in San Diego, CA, Product Specialist at W.L. Gore and Associates in Flagstaff, AZ, and Lead Scientist and Project Manager at Advanced Tissue Sciences, Inc. in La Jolla, CA.

#### Honors and Awards:

- Jay N. Cohn New Investigator Award, Heart Failure Society of America, Sept. 11, 2001
- Outstanding Professor Appreciation, Northern Arizona University, February 25, 2010
- Faculty Louie Award Nominee, Northern Arizona University, 2012
- Faculty Member of the Year, (Order of Omega, Northern Arizona University), 2012
- Pearson's One Professor Project, August 18, 2015
- Nominee, College of Engineering, Forestry & Natural Sciences, NAU, Teacher of the Year Award, 2016
- Outstanding Teacher of the Year, Department of Biological Sciences, NAU, 2016
- Finalist, BioAcell Solutions Challenge (Scorpion Pit), 2016
- Global Health & Pharma's "Most Innovative Regenerative Medicine Research Company USA", 2018
- Finalist, Phoenix Business Journal's Health Care Hero Awards, 2018
- Arizona Business Magazine's Healthcare Leaders Award, 2019
- Nominee, Research and Creative Activity (RCA), Northern Arizona University, "Most Significant Innovation in Technology Transfer of Commercialization", 2019
- Arizona Business Magazine's Healthcare Leadership Awards, Researcher of the Year, 2019



## Dr. Laurie Chaikin

Clinical Investigator EyeCell Clinical Investigator CerebraCell

Scientific Advisory Board Member Leonhardt's Launchpads

"I have been working with frequency specific microcurrent therapies for vision and TBI recovery for over a decade and have seen many patients with substantial recovery improvement. I was intrigued by the unique approach brought

forward by the EyeCell and CerebraCell teams to focus on specific protein expressions and I am very excited to collaborate in research with them"

# Rehabilitation Optometrist

Laurie Chaikin received her MS in Occupational Therapy in 1983 and her Doctor of Optometry degree from UC Berkeley in 1993. By integrating her knowledge and interest in vision and neurological rehabilitation Dr. Chaikin has created a unique practice that represents a merging of both disciplines. Her current professional interests focus on identification and treatment of visual problems in patients following stroke and traumatic brain injury, visually related learning problems of children, and low vision rehabilitation.

#### Background

Dr. Chaikin has been keenly interested in the application of microcurrent to help slow the progress of a number of different eye diseases. To this end she developed original protocols and has conducted clinical trials using microcurrent for macular degeneration. See https://www.dovepress.com/articles.php?article\_id=25016 for the article. Protocols are also under development for diabetic retinopathy, glaucoma, corneal injury, eye surgery recovery and other eye conditions.

Dr. Chaikin has also worked as a consultant with CentraSight, Inc. for the new prosthetic technology of the implantable miniature telescope to treat end-stage macular degeneration. This FDA approved treatment is an excellent option for on demand magnification. CentraSight is working with local specialists in the San Francisco Bay Area to establish a local center for this treatment.

Dr. Chaikin has also enjoyed teaching therapists about vision therapy for children and rehabilitation populations. She has also done professional writing contributing a chapter on vision rehabilitation to Darcy Umphred's textbook Neurological Rehabilitation, 6th Edition (2012), and a chapter titled Optometry and Occupational Therapy Collaboration in Vision Therapy in Michele Gentile's textbook Functional Visual Behavior in Children, 2nd Edition (2005).

#### **Experience**

- Mobile Optometric Rehab, Optometrist & Occupational Therapist (Jan 2008 Present)
- Owner OptoRehab http://www.optorehab.com/about/ (2008 2009)

### Education

- UC Berkeley School of Optometry, O.D. Optometry (1989 1993)
- San Jose State University, M.S., OTR Occupational Therapy (1980 1983)

Interview with Dr. Laurie Chaikin on traumatic brain injury/vision recovery with frequency specific microcurrent: https://youtu.be/1muZ47efMqs

**Clinical Study Results Published** Microcurrent stimulation in the treatment of dry and wet macular degeneration: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4689270/



# Jorge Genovese, MD, PhD

Vice President Bioelectric Research and Development

Leonhardt's Launchpads, BioLeonhardt, Stem Cell Bra, HairCell

"Electrical stimulation induces dramatic changes in stem cell activity toward a clear regenerative phenotype. Exogenous electrical

currents activate and mobilize autologous stem cells in vitro and in vivo. Cell movement and cell positioning are important components of regeneration and the right bioelectric signals can get regenerative repair cells to where they need to be. Bioelectric signals can turn up or turn off proliferation. They can cause new blood vessels to grow or can suddenly halt blood supply, as may be needed in the case of starving cancer tumors. Certain bioelectric signals can even affect cell elimination through programmed cell death. Experiments have proven the ability of bioelectric stimulation to induce or augment regeneration, which is our area of greatest research interest."



- Dr. Genovese obtained his M.D. and Ph.D. from Buenos Aires University
- · Faculty member of the McGowan Institute for Regenerative Medicine at the University of Pittsburgh, where he was the Principal Investigator at the Center for Cardiac Cell Therapy and the Cardiac and Molecular Biology Laboratory
- He was Director of the Cardiac Regenerative Medicine Laboratory at the Cardiac Surgery Division, University of Utah
- Dr. Genovese was also Invited Cardiac Surgery Professor at Campus Biomedico University in Rome
- Dr. Genovese has been very active in the Tissue Engineering International & Regenerative Medicine Society (TERMIS), chairing numerous committees and serving a term as Vice President
- · He is Editor of the Journal of Stem Cells, Associated Editor of the Frontiers in Stem Cells Journal, member of the Editorial Committee of the World Journal of Stem Cells
- Member of the North American Veterinary **Regenerative Medicine Association**
- President Hearten Biotech. Vice President Bioelectric **Research & Development BioLeonhardt**
- Dr. Genovese is a pioneer of Tissue Engineering in Latin America, being the first in the region to generate keratinocytes cultures in 1985, an organotípico dermoepidermic device in 1998, and a genetic modified dermo-epidermic device in 2002, among many other tissues











### **Dr. Catherine Davies**

Clinical Investigator HairCell Clinical Investigator SkinStim Clinical Investigator Stem Cell Bra Clinical Investigator MyoStim ED



"We have seen some remarkable results with the Leonhardt's Launchpads portfolio of products with our patients. The innovative approach of using precise bioelectric signaling sequences to stimulate specific regenerative protein expressions on demand is a leap forward in the field. The patients that we have treated with the combination of bioelectrics and biologics seem to be gaining even better results than treating with either of the therapy components on a stand alone basis. I greatly admire the research vigor of the Leonhardt's Launchpads clinical team and the commitment to continuous improvement and innovation of their R&D team. I am very proud to be one of the early clinical investigators for this exciting lineup of technologies."



#### Background

Dr. Catherine a.k.a the hair guru is a medical doctor who qualified at Wits in 1998. She went on to get an MBA at Henley Business School in 2007. She has a special interest in hair restoration and aesthetics, and has been performing FUE transplants since 2006. She has become an expert in this field and lectures at both local and international conferences. She has a passion for making her patients look and feel great about themselves. Dr Davies has passion for improving the lives of children in South Africa and enjoys helping with the burns and reconstructive cases as far as possible.

#### **Experience**

- Independant Practioner, Hair Restoration SA
- Founder, Rejuvnation 2006 2016
- Consultant, Roche 2007 2008
- Oncology Director, Novartis, 2001 2005

Dr. Catherine Davies HairCell DEMO video - https://vimeo.com/299288164 Dr. Catherine Davies SkinStim DEMO video - https://vimeo.com/305620084 Before and After HairCell Case Report Photos - https://haircellstim.com/clinical-results-before-and-after/ Follicle Thought First Case Reports - https://www.folliclethought.com/haircell-pilot-trial-results/



Dr. Catherine Davies is host of the television program **OUTPATIENTS** focused on aesthetic medicine.









# **Jeremy Koff**

### Vice President Strategic Development **Bioelectric & Neuromodulation**

Board Director Leonhardt's Launchpads by Cal-X Stars Business Accelerator, Inc.

Board Director Leonhardt's Launchpads Utah, Inc.

Chair Compensation Committee Leonhardt's Launchpads

Senior Technical, PPM and Business Plan Writer/Reviewer

Market Forecast, Statistical Analysis & **Business Modeling Specialist** 

**Clinical Development & Regulatory Expert** 

CMS Reimbursement Expert

VP Strategic Development PressureStim

VP Strategic Development BladderCell

VP Strategic Development CerebraCell

VP Strategic Development OrthoStim

"For nearly 20 years I have worked in the area of functional electrical stimulation to help patients recover to a full quality of life. The Leonhardt's Launchpads IP estate and portfolio of startups represent the most comprehensive lineup with the greatest depth of breakthrough technologies in bioelectric stimulation that I have been a part of to date. This experienced team truly deserves their spot of being recognized as one of the emerging pioneering leaders in the space."

#### **Background & Experience**

Seasoned medical device/neuromodulation executive with 25+ years experience in providing comprehensive business and strategic services to early-stage companies. Areas of expertise include clinical and technology assessments, market analysis, financial and business modeling, valuation, risk analysis, business plans, private placement memorandums, investor presentations, advisory board formation, key opinion leadership development, and more. Extensive personal network covering all areas of medical device commercialization (including reimbursement, regulatory, clinical, contract manufacturing, human factors assessment, etc.). Expertise and strong physician networks in pain, pelvic health and other areas.

President, Colibri Partners Inc. (May 2010 – Present)

Colibri Partners Inc. provides strategic and marketing consulting services to early-stage companies, with a primary focus in medtech start-ups. Areas of expertise:

- Identification and prioritization of new indications for existing technologies
- Technology and clinical assessments
- Business plans/financial modeling
- Private Placement Memorandums
- Competitive analysis and intelligence gathering
- Identification of KOLs for clinical trials, clinical/technology evaluations, advisory boards
- Development of corporate roadshow presentations
- Organization and execution of focus groups
- Market due diligence for venture firms
- Member Board Of Directors, Leonhardt Ventures | Cal-X Stars Business Accelerator Inc. (Jan 2014 – Present)

Leonhardt Ventures is a venture creation lab focused on developing regenerative medtech inventions and regenerative economy startups.

• Sr. Contributing Editor, Neurotech Business Reports, Neurotech Business **Reports** (Sep 2017 – Present)

Neurotech Reports is dedicated to providing business and technology professionals upto-date and forward-looking information about the field of neurotechnology and future developments that will affect the venture capital, research, and start-up communities

Head of Clinical Development, Mainstay Medical (Apr 2018 – Jan 2019)

Mainstay's ReActiv8 is an implantable device designed to electrically stimulate nerves to key stabilizing muscles of the lumbar spine thereby activating these muscles.



### Dr. Valerie Kanter

Chief Scientific Officer DentaCell Accelerator

**Board Director** DentaCell Accelerator

"The exciting new frontier in regenerative endodontics is working to bring nerves, bone and other tissues back to life using innovative

technologies like bioelectric and biologics/stem cell therapy. DentaCell Accelerator's focus on integrating bioelectrics and biologics for accelerated healing offers the potential to lead to many improvements in patient outcomes in the next years. Bioelectric management of inflammation, pain and infection may make a major contribution to dentistry. Bioelectric driven accelerated tooth movement developed in our accelerator is being proven out in well designed clinical studies to be a major breakthrough in orthodontics."

> Dr. Valerie Kanter has a truly unique approach to endodontics-she is at the forefront of applying less-invasive, chemical-free and biological approaches to traditional endodontic therapies such as root canals and microsurgery. A third-generation dentist, Dr. Kanter has a deep understanding of how oral health is connected to overall health, and has built her practice around caring for patients' holistic well-being.

#### **Experience**

- **Owner**, Integrative Endodontics (2019 Present)
- Regenerative Endodontist, Beverly Hills Dental Health and Wellnes (2015 - 2019)

#### Education

• University of Florida, Master's degree in Dentistry / Endodontics

#### **Licenses & Certifications**

- Board Certification in Progress, American Association of Naturopathic Physicians
- Member: International Academy of Biological Dentistry & Medicine, International Academy Of Biological Dentistry And Medicine
- Member: International Academy of Oral Medicine & Toxicology, The International Academy of Oral Medicine & Toxicology
- Standard Proficiency Certificate, Academy of Laser Dentistry
- · Board Certified in Endodontics, American Board Of Endodontics





## **Dr. Mary Ellen Chalmers**

Senior Advisor DentaCell Accelerator

Senior Advisor Frequency Specific Microcurrent

Senior Advisor Functional Medicine Based Dentistry

Mary Ellen S. Chalmers, DMD, is a dentist in Santa Rosa, CA, practicing Integrative and Functional Dental Medicine, which incorporates Functional Medicine principles and practices with the art and science of

Dentistry. Dr. Chalmers received her dental degree from Tufts University School of Dental Medicine in 1980 and became Board Certified Naturopath (BCNP) in 2010 by the American Naturopathic Medical Certification Board, with training from the American College of Integrative Medicine and Dentistry (IBDM). She has augmented her studies with extensive training in traditional dental modalities, as well as Functional Medicine. She has advanced trained in Oxygen and Ozone Therapy and its applications in dentistry as well as Applied Functional Medicine in Clinical Practice and Advanced Practice Modules through Institute for Functional Medicine.

**Inventor** - https://patents.google.com/patent/US8909346B2/en

#### Background

Dr. Chalmers has the distinction of being the first dentist certified as a Frequency Specific Microcurrent practitioner. She has been working since 2006 to develop the dental protocols and applications for this technology and holds the U.S. and International Patents. In 2010, she co-founded Functional Synergy Corporation, a company dedicated to research, teaching, and product development in the field of Oral Systemic Medicine.

Dr. Chalmers' professional memberships include the International Academy of Oral Medicine and Toxicology, Institute for Functional Medicine, American Naturopathic Medical Association, International and American Academies for Dental Research, Academy of Dental Materials, and American Dental Association. She a Faculty member for the Institute for Functional Medicine and has made presentations at symposiums for IFM, FSM, and other national and international conferences as well as dental and medical study clubs and community organizations.

Clinically, Dr. Chalmers' believes the practice of Functional Medicine based Dentistry bridges the gap between Evidence Based Dentistry and Biological Dentistry as well as provides a critical foundation for communication between the Medical and Dental professions, enhancing the quality of care for patients.

Dr. Chalmers is committed to expanding her knowledge through continuing education and training. Her distinctive background includes:

#### **Postdoctoral Training**

- Functional Medicine Advanced Practice Modules®: Immune/Inflammation Module – "The Many Faces of Immune Dysregulation and Chronic Inflammation: Chronic Infections, Atopy and Autoimmune Disorders", Institute for Functional Medicine, 10/2011
- Detoxification Module "DETOX: Understanding Biotransformation and Recognizing Toxicity: Evaluation and Treatment in the Functional Medicine Model", Institute for Functional Medicine, 12/2011
- Residency Program in Integrative Biologic Dental Medicine, I.B.D.M. Program, American College of Integrative Medicine and Dentistry, 4/2009 – 06/2010.
- Applying Functional Medicine in Clinical Practice, Institute for Functional Medicine, 12/2008.





## **Dr. Brett Burton**

Ph.D. Bioengineering University of Utah 8 years work experience

Vice President of R&D + Startup Launches Leonhardt's Launchpads Utah, Inc.

Director of R&D Second Heart Assist, Inc.



"I am proud of the accomplishments of our Utah lab in supporting the overall missions of Leonhardt's Launchpads and Second Heart Assist over the past year. *Our two, staffed, R&D laboratories provided valuable support to pre-clinical and* clinical studies and made several breakthrough discoveries this year that have contributed to all 30 startups in the 2020 accelerator portfolio class."



#### **Education and Experience**

- A.E. Electrical, Mechanical, and Computer Engineering, 2005 College of Southern Idaho
- B.S. Biomedical Engineering with Undergraduate Research Scholar Designation and **Departmental Honors, 2008** University of Utah
- Ph.D Bioengineering with an emphasis in Cardiac Electrophysiology and Biophysics, 2018 University of Utah
- Research Assistant, Scientific Computing and Imaging Institute
- Research Assistant, Cardiovascular Research and Training Institute
- Instructor and Trainer, Image-Based Biomedical Modeling (computational forward/inverse methods)
- Senior Associate, University Venture Fund
- Associate Student Director, Lassonde Entrepreneurial Institute
- Clinical Study Supervisor, Atrispec (computational arrhythmia detection)
- 20+ Scientific Publications



# 2019/20 Notable Accomplishments of Utah Lab

- Discovered bioelectric signaling sequence to increase the expression of the regenerating promoting protein Klotho.
- Discovered the bioelectric signaling sequence to increase the expression of the regeneration promoting protein Sonic Hedgehog.
- Discovered the bioelectric signaling sequence to increase the expression of the regeneration promoting protein COL17A1.
- Built and tested HairCell hair regeneration helmet prototypes.
- Built and tested EyeCell vision regeneration googles prototypes.
- Built and testing Valvublator heart valve regeneration prototypes.
- Built and tested OrthodontiCell bioelectric accelerated tooth movement and stabilization mouthpiece prototypes.



- Completed radial force testing for Second Heart Assist device.
- Developed Quality Manual and Total Quality Management System.
- Completed Design Review and Risk Analysis for Second Heart Assist devices.
- Completed Design Review and Risk Analysis for OrthodontiCell mouthpiece.
- Supported CancerCell bioelectric cancer treatment pre-clinical studies.
- Supported clinical study launches of 16 products.
- Supported further pre-clinical development of 14 additional products.
- Supported Utah clinical study for SkinStim.
- Supported Utah clinical study for HairCell.
- Supported MyoStim ED ErectiStimTM clinical studies.
- Supported BladderCell clinicians studies.
- Supported PressureStim product development.
- Supported OrthodontiCell clinical study.
- Supported AortaCell product development.
- Supported ImplantStim a DentaCell Accelerator product development clinical study launch.
- Supported KidneyCell clinical study launch.
- Supported CerebraCell clinical study launch.
- Supported Vascustim new clinical study launch.
- Supported OrthoStim clinical study launch.
- Supported Stem Cell Bra clinical study launch.
- Supported BioPace grant applications and product development.
- Supported BioLeonhardt pre-clinical small and large animal studies.
- Supported investor presentations to raise capital.
- Helped update all 30 portfolio startups and innovations web sites.
- Helped recruit key advisory board members.
- Implemented biocompatibility testing of Second Heart Assist devices.
- Supported pre-clinical studies for Second Heart Assist.
- Supported clinical studies for Second Heart Assist.
- Supported OrthdontiCell patent prosecution.
- Supported 2 FDA in-person pre-submission meetings.
- Complete over 1000 bioelectric stimulation experiments in our own labs.
- Helped evaluate and co-develop portable bioelectric stimulators.
- Helped evaluate SkinStim bioelectric and LED light stimulation mask.
- Helped develop timelines, budgets and test plan for Second Heart Assist 1st and 2nd generation devices.
- Helped develop and test multi-component organ regeneration compositions.
- Helped source and test re-fillable micro infusion pumps for organ regeneration studies.







# Dr. Alonso P. Moreno

# Vice President of Research and Development BioPace

Senior Scientific Advisor and Lab Researcher Leonhardt's Launchpads Utah, Inc.

PhD Physiology, Biophysics and Neuroscience CINVESTAV, IPN Mexico.

*"I have been actively involved hands on in bioelectric regeneration research for nearly 2 years now with the Leonhardt* 

team and can state from these initial observations that this technology has great promise, especially in the regulation of gene expression through bioelectrical stimulation. My primary focus has been on collaborative research to develop the BioPace biological pacemaker. We have co-invented a unique design that we believe overcomes the short comings found in previous designs. Our team is conducting every day studies in the lab, to prove out all these technologies."



#### **Background and Experience**

Dr. Moreno obtained a Doctor in Science degree (PhD equivalent) in Physiology, Biophysics and Neuroscience at the Center for Research and Advance Studies of the National Polytechnic Institute in Mexico City. Dr. Moreno's work and publications during that time allowed him to graduate in less than 5 years, spearheading a new program to be completed in that institution, without a Master's degree.

After an intensive postdoctoral work in electrophysiology and calcium signaling at the Albert Einstein College of Medicine in NY, and a strong molecular training at the State University of NY at Buffalo, Dr. Moreno was invited to participate in the Bench-to-Bedside Cardiology Program from the Krannert Institute, directed by Dr. Douglas Zipes. As an Associate Professor, Dr. Moreno established a research laboratory at Indiana University, strongly centered on the biophysical properties of gap junction channels and their participation in cardiac metabolism and arrhythmias. During that time, he actively interacted with the department of Bioengineering at Purdue and directed a PhD student that worked on mathematical modeling of action potential and junction communications in neonatal cardiocytes. He obtained his tenure from Indiana University.

In 2004, Dr. Moreno was offered a Full Professor in Medicine position at the University of Utah. There, he continued his studies in biophysics and cellular communication. In addition, Dr. Moreno also focused his attention on investigating how hetero-cellular junctions could affect metabolic communication biological tissues. Taking advantage of the strong computational infrastructure of the Bioengineering Department of the institution, he modeled how fibroblasts and myocytes could interact to modify the electrical signals in cardiac muscle and, in turn, affect conduction in the heart. To this end, he performed and published in vitro experiments to test the strength of the developed mathematical models.

With the use of neonatal mice and rat cells, Dr. Moreno developed and patented a system to co-culture myocytes and fibroblasts across a perforated thin membrane with the purpose of developing a 3D scaffold where cell architecture could be controlled. He has also published on the utility of other scaffold types, with imbedded biological, for cardiac repair and the fabrication of scaffolds in 3D Nano-printers to use with biological pacemakers. He is currently patenting the Bio-Pace biological pacemaker in conjunction with the U of Utah and Leonhardt Launchpads. In 2009, he obtained his Tenure from the University of Utah. During his academic career he's research was funded by private and national agencies including the Grass Foundation, The Treadwell Foundation, the American Heart Association, the National Institutes of Health, and the British Heart Foundation.

In 2017, Dr. Moreno was offered to work full time at Leonhardt Launchpads. He became the CSO for Bio-Pace, acting also as Senior Scientific Advisor for LLU, due to his extensive qualifications in optimizing pacemaker implants for cardiac repair. He is actively working in the laboratories at Salt Lake City, UT, where cellular and tissue cultures are used to determine the electrophysiological signatures (voltage, current, and pulse frequencies) necessaries to activate selected genes. These studies allow him to support and participate in companies like EyeCell, Orthodonticell, GingivaCell, AortaCell, SkinCell, OrthoCell, and HairCell. He is also collaborating in Bioengineering studies related to BioLeonhardt and ImplantStim.

Dr. Moreno brings three decades of experience in various tissue types offer a unique advantage to Leonhardt's Launchpads and its affiliates. Having a robust, experienced scientist with a high degree of skill and interest in the electrophysiological properties of cells and their associated interactions (either directly or through hormones) demonstrates seriousness and care with which the Leonhardt companies addresses research as a backbone of their approach.





# **Kapil Sharma**

MBA University of Utah

Masters in Finance (MSF)

Masters Bioengineering and Biomedical Engineering University of Utah

B.S. Honors Biomedical/Medical Engineering, Minor in Chemistry

Bioinnovate Fellow, Bench to Bedside Executive Leadership Director of R&D and Startup Launches **Leonhardt's Launchpads Utah, Inc.** 

Chief Technology Officer
AortaCell LTP

Bioengineer Quality Engineer Biocompatibility Testing Team Leader **Second Heart Assist, Inc.** 

Project Co-Leader Bioengineering Recalcification Prevention Task Force Leader Valvublator LTP

"AortaCell and Valvublator made great strides in development in 2019. AortaCell developed a pathway to license nanoparticles for minimally invasive aortic aneurysm treatment. Valvublator unveiled the simplified Valvublator II design and a number of lab feasibility tests were completed. We are preparing now for large animal studies with the world renowned heart valve researcher Dr. Richard Bianco of the University of Minnesota. Valvublator also further developed its strategy for preventing re-calcification of heart valves after de-calcification." "Second Heart Assist is well along the path to meet all pre-clinical study requirements to start an Early Feasibility Study in the USA including Design Controls, Risk Analysis, Electrical Safety Testing, Biocompatbility Testing including Thrombosis, Hemolysis, Sterility, Packaging, Transport and Shelf Life. We have completed large animal studies at Tufts Medical Center Boston, Q Test Ohio, APS Minneapolis and Texas Heart Institute Houston in addition to mock loop studies at the University of Louisville, Vivitro Labs Canada and Biomerics Minneapolis. Additionally we completed 2 rounds of computational fluid dynamics testing at enModes Germany and aortic stent radial force testing."

"Lastly, an effective supply chain process has been successfully implemented to continuously provide material and resource support to all ongoing Leonhardt Launchpads US/OUS clinical trials spearheaded by our CMO, Dr. Leslie Miller."





# **Sejal Chaudhari**

#### R&D Program Manager Experimental Biology Team Lead

Master's of Science and Technology,

University of Utah

B.S. Honors Biological Science, Cellular and Molecular Biology

"Our Leonhardt's Launchpads R&D labs has completed multiple thousands of individual experiments

for bioelectric stimulation protein expressions and supported both pre-clinical and clinical studies at multiple investigational sites around the world. In the past year our lab team is very proud to have added klotho, sonic hedgehog and COL17A1 bioelectric electrical stimulation sequences to our IP estate."



#### **Background and Experience**

- Klotho is an anti-aging single-pass membrane protein predominantly produced in the kidney, with shedding of the amino-terminal extracellular domain into the systemic circulation. Circulating levels of soluble Klotho decrease with age. Klotho has been demonstrated in studies to assist in organ regeneration especially muscle, brain, kidneys and skin https:// www.biospace.com/article/leonhardt-s-launchpads-announces-filing-ofpatent-for-bioelectric-stimulation-controlled-klotho-expression-powerfulanti-aging-and-regeneration-promoting-protein-/
- Sonic hedgehog is a secreted protein which mediates signaling activities involved with organ regeneration for many human organs such as eyes, lungs, heart, ear hair cells for hearing, hair, liver, pancreas and skin - https://en.wikipedia. org/wiki/Sonic\_hedgehog + https://www.prdistribution.com/news/leonhardtslaunchpads-announces-filing-of-provisional-patent-for-bioelectric-stimulationcontrolled-sonic-hedgehog-expression-powerful-anti-aging-and-regenerationpromoting-protein.html
- The COL17A1 gene provides instructions for making a protein that is used to assemble type XVII collagen. Collagens are a family of proteins that strengthen and support connective tissues, such as skin, bone, tendons, and ligaments, throughout the body.







# **Dr. Dinesh Patel**

Board Director Leonhardt's Launchpads, Inc.

**Board Director** Second Heart Assist. Inc. Senior Advisor Biotech Business Development

"When I first discussed joining Leonhardt's Launchpads in late 2015 as they launched their Utah R&D lab

operations I could not see how such a small core team could possibly manage so many projects in parallel. Now nearly 5 years later while closely observing their progress every step of the way I am convinced that they can do it and do it well. They are able to do this by leveraging a large number of independent contractors, researchers and suppliers around the world in a well coordinated manner. All but one of their startups is based on a common bioelectric stimulation IP platform which requires only minor adaptation to be applied to different organs. This focus to me is a secret to their success."

I showed the Second Heart Assist product platform to a number of my cardiologist friends and family members before joining this team and across the board they were impressed with the design. The data gathered to date from dozens of pre-clinical experiments and a pilot clinical study is highly encouraging."

#### **Experience**

- Managing Director and co-Founder, Agua Recycling Group, LLC (Jan 2017 Present)
- Board Member, Utah Symphony & Opera (2009 Present)
- **Chairman of the Board**, The Leonardo (Sep 2014 May 2018)
- **Founding Partner and Managing Director**, vSpring Capita (Jan 2000 Oct 2014)
- **Chairman**, USTAR (2006 2014)
- **CEO**, Inflabloc Pharmaceuticals (2006 2009)

### Education

- University of Michigan, Ph.D in Pharmaceutics (1975 1978)
- Gujarat University, Bachelor of Science (B.S.) in Pharmacy (1969 1973)



Founding Partner and Managing Director, Patel Family Investments (Oct 2014 – Present)

Philadelphia College of Pharmacy, Master's degree in Pharmaceutics (1973 – 1975)



# John Langell, MD, PhD, MPH, MBA, FACS

Senior Advisor Medical Innovation

"It has been a pleasure working with the bright young engineering teams, nearly all from U of Utah Bioengineering and the Center for Medical Innovation's Bench to Bedside

program grads, as they turn what they learned in school into realities at Leonhardt's Launchpads Utah, Inc. I am especially impressed with the commitment of the organization to good science, quality management and well designed clinical trial pathways for their products."



#### Experience

- 2019 to present President, Northeast Ohio Medical University
- 2019 to present Professor of Surgery, Northeast Ohio Medical University
- 2010 to present University of Utah Medical Technology Innovation and Commercialization Initiatives
- 2006 to present University of Utah Director Center of Medical Innovation, Bench to Bedside Competition and other healthcare related initiatives.
- 2006 to present Assistant Professor of Surgery, University of Utah Health Sciences Center, UT

### **Education**

- MBA University of Utah
- General Surgical Residency Stanford University
- Masters in Public Health University of Texas
- Space and Aerospace Medicine Resident NASA
- Doctor of Medicine Drexel University College of Medicine
- Doctor of Philosophy Drexel University
- B.S. Biology UCLA 1989-1991

### **Licenses and Certifications**

- Advanced Cardiac Life Support
- Board Certified in General Surgery
- California State Medical License
- Lean Six Sigma Quality Systems
- Utah State Medical License
- Private Pilot License

Iniversity Texas ent NASA



### Jay Hydren

Human Physiologist -Lead Biostatistician Leonhardt's Launchpads Utah, Inc. Second Heart Assist. Inc.

"It has been a thrill to join the Leonhardt's Launchpads and Second Heart Assist teams. My Ph.D. and research on vascular function was in part on the importance of maintaining arterial pulsatility when utilizing mechanical circulatory

support devices in advanced heart failure patients. The Second Heart Assist design does this perhaps better than any other device design I have seen and will fill a critical growing medical need for advanced heart failure patients."

"Working as a biostatician to compile and analyze the data coming from the over 800 patients who are enrolled and followed in clinical studies within the portfolio of Leonhardt's Launchpads startups has been a tremendous opportunity. I am astonished at how well a variety of bioelectric stimulations are working to help patients recover from many ailments.

#### **Background & Experience**

My research experience has continuity that revolves around human-based research with the goal of not only understanding the underlying physiology of medical technologies, treatments and screening tests, but is specifically aimed at generating scientific products to inform practitioners in a constructive manner to enhance evidence-based decision making and medical tools. For these efforts I employ a wide range of statistical techniques from basic cohort cross-sectional studies to complex mixed model studies and even developed a new technique for a systematic review in predictive modeling. My approached to biostatistics is to create an informative display of the data that is simple to interpret.

#### Education

- Ph.D. Nutrition and Integrative Physiology, University of Utah
- Utah Vascular Research Laboratory
- Fellowship. Physiology, Human Performance and Nutrition, U.S. Army Research Institute of Environmental Medicine
- Military Performance Branch
- M.S. Kinesiology, University of Connecticut
- Human Performance Laboratory
- B.S. Kinesiology, Business Administration, Nutrition, University of New Hampshire

#### Jay Hydren's research works

https://www.researchgate.net/scientific-contributions/2129927411\_Jay\_R\_Hydren

#### Exercise Capacity in Mechanically Supported Advanced Heart Failure Patients: It Is All About the Beat

https://journals.lww.com/asaiojournal/FullText/2020/04000/Exercise\_Capacity\_in\_Mechanically\_ Supported.1.aspx

Targeting Peripheral Vascular Pulsatility in Heart Failure Patients with Continuous-Flow Left Ventricular Assist Devices: the Impact of Pump Speed https://journals.lww.com/asaiojournal/Citation/2020/03000/Targeting\_Peripheral\_Vascular\_ Pulsatility\_in\_Heart.10.aspx

#### The 'Double Whammy' of a Continuous Flow Left Ventricular Assist Device on von Willebrand Factor

https://www.jtcvs.org/article/S0022-5223(19)31020-7/fulltext









































# **REV1 Engineering of SoCaL**

Lead Rapid Prototyping House / Development Partner Valvublator Manufacturing Transfer Assistance Provider

The REV-1 Engineering team averages over 20 years of medical device design & development experience. The combination of our culture, ambition, creativity, and engineering synergies, with our in-house capabilities in CNC machining, 3D printing, molding and fabrication allow us to move at a pace others cannot achieve.





CEO

Phil Burke **COO** 

# Accelerating Value Creation Throughout the Critical Chain











Terry Murray **VP Strategic** Development



Andy Denison Development and Innovation

Scott Huter VP **Operations** 



### **Suresh Gurunathan**

Senior Advisor **Bioelectronics R&D** 

Leonhardt's believe the Launchpads innovation accelerator business model of completing first in human studies and then securing a strategic partner for each organ specific

application based on a core IP platform is a solid one. At Nanostim we partnered with St. Jude Medical after completing a 20 patient pilot study in Czech Republic and this model was successful for all parties concerned."



#### **Experience**

Accomplished leader with a record of successfully executing complex projects from research to final product stages in the heavily regulated field of bio-medical devices. Comfortable in client facing and leadership roles in multi-functional environments. A direct contributor to business success through innovation and differentiation. Strong multi-tasker backed by rigorous academic and analytical skills and strong multi-cultural people skills. Fluent in English, Hindi and Tamil. Conversant in French.

- · Design of pacing algorithms and communication protocol for Leadless Dual Chamber pacemakers.
- Detection and treatment (electrical stimulation) of seizure for an implantable Neurostimulator (Closed loop neuromodulation)
- · Cardiac Arrhythmia detection and treatment for Ventricular Tachycardia and Fibrillation.
- Software and Hardware design of implantable devices.
- · FDA compliance, Risk Assessment, Product Management and Product Marketing.
- MBA Wharton School of Business

Specialties: Proficient in heading a design and development of medical devices from concept.

Extensive cross functional knowledge within Research, Software, Hardware and Mechanical engineering departments.

Due diligence on a new concept, market analysis and research and assessment of marketing needs.

### **Education**

- The Wharton School, MBA Finance and Entrepreneurial Management, 2007 - 2009
- Virginia Commonwealth University School of Medicine, MS Biomedical Engg., 1994 – 1996
- BITS Pilani, M.Sc, BE Bio Sciences, EEE, 1989 - 1994



# **Alex Richardson**

Chief Technology Officer (CTO)

Vice President Engineering & **Product Development** 

Board Director Leonhardt's Launchpads

**Board Director Second Heart** Assist, Inc.

"Our Engineering and Product Development team made great strides in 2019 to advance all 30 of our product platforms that positions over 5 startups in our portfolio to be ripe to secure strategic partnerships in 2020".



#### **Experience**

Alex S. Richardson, former founder of CORE Manufacturing, has 33 years of experience in highreliability manufacturing. After serving in the United States Air Force as an Avionics Navigation Engineer, Richardson launched his professional career in the private sector in engineering, guality, operations, business development and key executive roles for distinguished OEMs and manufacturers such as ITT Gilfillan, JPL/NASA and Stellar Microelectronics (Flextronics). Over the last three decades, he has been instrumental in launching a myriad of complex products in the military/aerospace and medical device market sectors with a forte in radar systems, unmanned aerial vehicles (UAVs), military radios, countermeasures, Class II and III implantable medical devices, and other products that push the technology envelope. Richardson has spent the last 17 years supporting several Alfred Mann companies and maintaining successful partnerships with other medical device entities such as Advanced Bionics, Biotronik, Boston Scientific, GE Medical, Medtronic, St. Jude Medical and other world-class organizations. Senior level executive leader who thrives in technical business environments with in-depth experience in the manufacturing of high reliability electronics,



microelectronics, and complex devices.

#### Notable Accomplishments of Engineering & Product Development Team Led by Alex Richardson

- Supported pre-clinical animal studies for Second Heart Assist at Q Test Ohio, APS Minneapolis and Texas Heart Institute.
- Supported successful OUS First in Human clinical study for Second Heart Assist.
- Supported Design Controls for Second Heart Assist including Failure Mode Effects Analysis and full Risk Analysis and Mitigation.
- Helped upgrade all documentation controls for Second Heart Assist and Leonhardt's Launchpads.
- Helped support Second Heart Assist's meetings and communications with FDA to advance forward regulatory approval for Early Feasibility Study forthcoming.
- Helped develop Total Quality Management system for companies working Ben Boytor and our Quality Management team.
- Helped develop and test Second Heart Assist motor controller and alarm box.
- Helped implement two rounds of pulsatile flow mock loop studies at ViVitro Labs Canada for Second Heart Assist.
- Helped develop proprietary portable at home use bioelectric stimulator with up to 6 signaling sequences with auto transition and safety checks.
- Helped source implantable programmable re-fillable micro infusion pump for organ regeneration studies.
- Helped develop bioelectric mouthpieces for OrthodontiCell and DentaCell.
- Help prepare and implement FDA 510K filling strategy for OrthodontiCell and supported in-person FDA presubmission meeting in Washington D.C.
- Helped support CancerCell animal studies for tumor treatment at UCLA.



## Dr. Mark W. Kroll

Senior Technology Advisor Leonhardt's Launchpads Senior Advisor BioLeonhardt Senior Advisor Bioelectric Therapies

Holds over 340 issued U.S. patents. Has written more than 200 papers, book chapters, and abstracts.

- Retired, in 2005, as Chief Technology Officer and Sr. VP from St. Jude Medical, Inc.'s Cardiac Rhythm Management Division.
- B.S. Mathematics and M.S. and Ph.D. in Electrical Engineering from the University of Minnesota. M.B.A. from the University of St. Thomas.
- · Research specialty is the effects of electricity on the human body.
- · Discoverer of the "burping" effect explaining biphasic defibrillation waveforms.
- Fellow of IEEE, American College of Cardiology, Heart Rhythm Society, and the American Institute for Medicine and Biology in Engineering.

#### Co-editor of 4 books:

- 1. Implantable-Cardioverter Defibrillator Therapy
- 2. Cardiac Bioelectric Therapy
- 3. TASER® Conducted Electrical Weapons: Physiology, Pathology and Law
- 4. Forensic Atlas of Electrical Weapon Injuries

#### **Background & Experience**

Mark W. Kroll, corporate director of Haemonetics, Taser International, and NewCardio, received his B.S. degree in mathematics (1975), a M.S. (1983) and Ph.D. (1987) in electrical engineering from the College of Science and Engineering at the University of Minnesota. With more than 350 patents to his name, Dr. Kroll is one of the most prolific inventors of medical devices in the world. His outstanding contributions to the biomedical device industry are particularly in the area of cardiac rhythm adjustment. He is one of the key inventors of the Implantable Cardioverter Defibrillator (ICD). More than 1 million patients have received sub-pectorial biphasic ICD implants since his invention. He also contributed to the development of electrical CPR assist used in research at the Weil Institute for Critical Care Medicine. This device enhances coronary blood flow by producing muscle contractions induced by intracardiac electrical CPR during ventricular fibrillation. Dr. Kroll was also instrumental in the development of the Taser® - an electronic device used by police to control law offenders. Before retiring in 2005 from St. Jude Medical, he served as chief technology officer and senior vice president. Dr. Kroll has lectured in more than 30 countries, and is co-editor of four books and has written more than 200 papers, book chapters, and abstracts. He was named Fellow of the Institute of Electrical and Electronics Engineering (IEEE) in 2011. He received the Engineering in Medicine and Biology Society's Career Achievement Award in 2010 (the highest international award in biomedical engineering). He also received Fellow designations from the American College of Cardiology and the Heart Rhythm Society. In addition, Dr. Kroll has been listed annually in Who's Who in Science and Engineering since 1992. He currently contributes his time and expertise to the University of Minnesota as adjunct professor for the Department of Biomedical Engineering and as a member of the Department of Computer Engineering Industrial Advisory Council.

### **Outstanding Achievement Award Recipient**

University of Minnesota - College of Science and Engineering, November 2, 2012





## **Paul Norman**

#### Managing Partner Leonhardt's Launchpads

Lead Contracts Negotiating Advisor to CEO Leader of Animation Team Board of Directors Advisor Since 2013

The thing that has impressed me most in my time guiding Leonhardt's Launchpads since 2013 is the highly efficient use of capital and their speed in innovation. Most other medtech

firms I have invested in over many years have substantially higher overhead and development costs and yet have far lesser output of breakthrough innovations than Leonhardt's Launchpads. The amount of working prototypes that this team has developed with so little capital in so little time is truly remarkable. Rapid prototyping is truly their core strength. I am very proud to be working with this outstanding team of true innovators.

#### **Experience**

Paul has been an active partner in building our innovation and startup launch accelerator since 2013 and stands as the 2nd leading shareholder of the company as an early investor backer. Based in Napa, California Paul has been a successful serial entrepreneur for over 30 years with substantial experience in negotiating top price for the sale of assets and in negotiating contracts with suppliers, equipment leases, employees, consultants, government entities and landlords. He also has substantial experience in helping to guide other medtech innovation firms and accelerators. He has worked side by side with a team that raised over \$70 million for medtech innovation funding from crowdfunding with angel investors in the past and brings that special experience to the table. He also leads our contract animation team based in Burbank, California that has produced over 15 animation videos for our startups so far with a number more in the works right now.







Leonhardt's Launchpads Animation Team Burbank, California - James, Howard, Jason, Sofia, Paul


## **Dr. Tuan Hoang**

Senior Advisor Micro Infusion Pump Development

Senior Advisor Translational Research

Senior Neuroscience Advisor Senior Advisor EyeCell Senior Advisor BioLeonhardt

Tuan Hoang is a neuroscientist and serial entrepreneur who has cofounded, invested and advised over 20 companies. Since 2006, he has been a faculty member in the Department of Biomedical Engineering at the University of Southern California, Los Angeles, where he is currently the Directorof the Coulter Translational Research Program, through which he leads investments into USC medtech ventures.

Tuan Hoang is a serial entrepreneur who has co-founded and on founding teams of high tech and medtech ventures at various stages of product development and commercialization. As both an accredited investor and managing partner of the NineSquare Private Equity & VC firms, he invests, advises, and sits on the boards of over 15 medtech and life science companies. He trained and conducted research in life science, engineering, medical imaging, and neuroscience at Caltech, UCLA, HMRI, and USC. He is an inventor on several licensed patents and published over 30 articles in scientific, engineering, and medical journals. He also serves as a Co-Director at the USC Coulter Translational Research Partnership program and as teaching faculty in the USC Biomedical Engineering Department.

## **Experience**

- **Co-Founder and Managing Partner** NineSquare MedTech Ventures, Jun 2018 - Present
- President, Medical Business Unit WytCote Technologies, Inc., Feb 2019 - Present
- **Co-Founder and CEO** SmoothStim, Inc., Jan 2019 - Present
- Co-Director, USC Coulter Translational Research Partnership, Apr 2016 - Present
- Lecturer, Biomedical Engineering University of Southern California, Aug 2006 - Present
- Program Administrator, Biomedical Engineering Depart., USC -Coulter Translational Research Partnership, May 2012 - Mar 2016
- Lab Manager & Research Associate USC Biomedical Microsystems Laboratory, Dec 2004 – May 2012
- Co-Founder Senseer, Apr 2017 - Present
- **Resident Associate, Student Affairs Staff** California Institute of Technology, Sep 1998 - Jun 2005
- PhD Graduate Research Assistant, Neuroscience UCLA, Sep 1997 - Nov 2004
- Clinical MR Imaging and Spectroscopist Huntington Medical Research Institute, May 1996 - Sep 1997
- **Undergraduate Research Assistant** California Institute of Technology, Mar 1993 - Sep 1994

## Education

- Caltech BS, Biological Sciences 1991 - 1995
- University of California, Los Angeles Ph.D. candidate, Neuroscience 1997 - 2004











## Santosh Kesari, M.D., Ph.D.

## Chief Medical Advisor CancerCell & CerebraCell

### **Professor Of Neurosciences**

Pacific Neuroscience Institute, Santa Monica, CA John Wayne Cancer Institute, Santa Monica, CA Providence St. Johns Hospital Chair, Department of Translational Neurosciences and Neurotherapeutics Director of Neuro-oncology, Director Research Pacific Neuroscience Research Center

"Our patented and patent pending

technologies for reading the electrical communication signals of cancer tumors and delivering customized bioelectric signals to jam their ability to grow coupled with specific bioelectric signals to halt cell division and starve a tumor of blood supply is unique in the field. We are combining this with bioelectric signals that change the surface protein expression of tumors so the body attacks it to develop a combination multi-mode therapy that what we hope will be the most effective treatment for cancer tumors. It is believed that bioelectric treatments can be less toxic than traditional chemo and radiation therapy treatments with less side effects. We are also the only firm that follows cancer tumor destruction treatment with a full organ regeneration and recovery protocol. Our team is excited to advance this therapeutic regime carefully through well designed pre-clinical and clinical protocols with hope to ultimately prove out safety and efficacy. There are many patients waiting for a solution like this to come forward."

"We are also making strides in harnessing the capability of non-invasive bioelectric scanning for the early detection of cancers and look forward to reporting to you soon progress in this direction."

A DESCRIPTION OF

## Experience

Dr. Santosh Kesari is a board-certified neurologist and neuro-oncologist and is currently Chair and Professor, Department of Translational Neurosciences and Neurotherapeutics, John Wayne Cancer Institute. He is also Director of Neuro-oncology at Pacific Neuroscience Institute, Providence Saint John's Health Center and Providence Little Company of Mary Medical Center Torrance, and leads the Pacific Neuroscience Research Center at Pacific Neuroscience Institute. Dr. Kesari is ranked among the top 1% of neuro-oncologists and neurologists in the nation, according to Castle Connolly Medical Ltd and an internationally recognized scientist and clinician. He is a winner of an Innovation Award by the San Diego Business Journal. He is on the advisory board of American Brain Tumor Association, San Diego Brain Tumor Foundation, Chris Elliott Fund, Nicolas Conor Institute, Voices Against Brain Cancer, and Philippine Brain Tumor Alliance. He has been the author of over 250 scientific publications, reviews, or books. He is the inventor on several patents and patent applications, and founder and advisor to many cancer and neurosciences focused biotech startups. In addition, he is a member of the Los Angeles Biomedical Research Institute.

Dr. Kesari has had a long-standing interest in cancer stem cells and studies their role in the formation of brain tumors and resistance to treatment. He believes that in order to cure patients with brain tumors we first need to gain a better molecular and biological understanding of the disease. A physician/ scientist, Kesari harnesses his experience in surgery, chemotherapy, immunotherapy, radiation therapy and novel devices to help develop Precision Therapeutic Strategies that will advance medicine to a new stage in the battle against brain tumors and eradicate the disease.

Dr. Kesari graduated from University of Pennsylvania, School of Arts and Sciences in 1992 and earned a PhD degree in molecular biology and a MD from the University of Pennsylvania, School of Medicine. He completed his residency in neurology at the Massachusetts General Hospital/Brigham and Women's Hospital/Harvard Medical School and his neuro-oncology fellowship at the Dana-Farber Cancer Institute in Boston. He was previously assistant professor of neurology at Harvard Medical School/Dana-Farber Cancer Institute/Brigham and Women's Hospital and then professor of neurosciences at UC San Diego. He is a member of the Society of Neuro-Oncology, American Society of Clinical Oncology, Indian Society of Neuro-Oncology, American Neurological Association, and American Academy of Neurology.





## Keith March, MD, PhD, FACC

## Senior Advisor Biologics Research

Director, Center for Regenerative Medicine University of Florida Vice Chief, Cardiology Research Professor of Medicine

"I have served as an advisor to the Leonhardt research team since 2000 with a focus on applying growth factors with

adult stem cell therapies for better results with particular emphasis on adipose tissue sourced product."



## Experience

Keith L. March, MD, PhD, FACC, has dedicated his career to bringing new medical approaches to patients. His publications include more than 150 manuscripts. He was the editor of the first book dedicated to cardiovascular gene transfer. Dr. March's research has resulted in more than 55 worldwide (20+U.S.) patents, with others pending. He invented the Closer, a widely-utilized patented suture-mediated closure device, used to close the puncture wound in an artery following heart catheterization. This device allows a patient to "walk off the table" after a catheterization without requiring prolonged bedrest. In 1999, Abbott Vascular, an affiliate of Abbott Laboratories, acquired the company that developed this technology, and the Closer approach has been used worldwide to treat more than 8,000,000 patients. He has served as a scientific advisor to numerous pharmaceutical, biotechnology, and medical device companies. Most recently, he co-founded NeuroFx, Inc., based on a patented platform of technology originating in his laboratory that establishes the therapeutic factors secreted by stem cells as powerful therapeutics for critical medical needs, including degenerative and ischemic diseases of the nervous system. With FDA input, NeuroFx is pursuing this off-the-shelf approach to markedly reduce stroke and prolong quality life in ALS (Lou Gehrig's disease), as two near-term goals.

His laboratory focuses on vascular biology, with a particular emphasis on the function and translational study of stem cells found in the adipose (fat) tissue, which his laboratory identified as cells with critical roles in blood vessel growth and control of inflammation. Dr. March is recognized as a leading expert in the field of adult stem cell research, particularly that involving adipose-derived stem cells. From 2008-2012, he was Chair of the National Institutes of Health Data and Safety Monitoring Board that oversees cell therapy trials in the areas of heart, lung, and blood diseases. In 2012, his center was selected as one of the seven Cardiovascular Cell Therapy Research Network (CCTRN) centers in the USA which would work together to conduct NIHsponsored cell therapy clinical trials during a 7-year period. He has obtained FDA approval to conduct U.S. trials employing one's own adipose-derived stem cells: one of these to avoid amputations in legs of patients with severe circulatory disease, and another to avert knee replacements in patients with severe arthritis.

In addition to his research roles, Dr. March has served as the President (2007) of the International Federation of Adipose Therapeutics and Science (IFATS), and as the Chief Medical Advisor for the Cell Therapy Foundation. He continues to serve on the IFATS Board. In these affiliations, he has worked to advance collaboration as well as public awareness about the significance of adult stem cells.

In 2017, Dr. March joined the University of Florida as Director of the University of Florida Center for Regenerative Medicine. This multidisciplinary center is working to bring regenerative therapies to patients with unmet medical needs.



## **Bobby Shah**

Senior Advisor Startup Launches Leonhardt's Launchpads @ The Cove UCI

Interim President PressureStim Based in Newport Beach, CA

"The entire Leonhardt's Launchpads portfolio is exciting but to me PressureStim stands out as perhaps the most impactful development

short term. More than 1.1 billion people worldwide have high blood pressure and less than 1 in 5 have it under control. Hypertension is a major cause of premature death. A better solution is needed and we believe PressureStim may be the answer with a simple bioelectric treatment protocol. Early data on bioelectric treatment of blood pressure is encouraging from independent investigators around the world. We just launched a new clinical study in Brazil with additional new bioelectric signaling sequences and look forward to sharing these results with you later this year or early next year."

## Background

Bobby Shah was born in Chertsey Surrey, England in 1973. He is the President and co-founder of NiN Healthcare, Inc. and resides in Newport Beach, California.

Having successfully co-founded his first small private hedge fund in Switzerland , Bobby leaped into Healthcare due to a close family member being diagnosed with an illness.

Since then Bobby has co-founded multiple medical device startups from low tech to high and his latest being vTitan Corporation, the leader in development of cost effective next generation intelligent infusion pumps, which was acquired in 2013.

Beside starting and working on his own business, Bobby has served on several boards like DocBox Inc.

Each time Mr Shah served or started a company, it is because he believes the company can improve quality of life and impact a generation. Thus, NiN Healthcare was innovated/created.

Bobby Shah is a keen philanthropist and promoter of education through his company. In the past he has been a key speaker for the UK Trade and Investment Industry in San Francisco on US Medical Devices, companies looking to expand internationally.

## **Experience**

- Founder, NiN Healthcare, Oct 2014 Present
- Board Member, DocBox Inc, Dec 2013 Present
- Director, Counter Threat Institute Intl, LLC, Aug 2010 Present
- Co-Founder, vTitan Corporation, Apr 2010 Jul 2013
- Part of the angel investor group, Spirx Closure LLC, May 2008 Jul 2011
- Co Founder Board of Director, Indigo Orb Inc, Mar 2005 2011
- Co Founder CEO, Bandog Corporation, Jan 2007 Nov 2010



nt esent Aug 2010 – Present Jul 2013 ure LLC, May 2008 – Jul 201<sup>-</sup> nc, Mar 2005 – 2011 a 2007 – Nov 2010



## **Nestor Gonzalez-Cadavid, PhD**

Chief Scientific Advisor MyoStim ED Senior Medical Advisor TremorStim Senior Medical Advisor BladderCell

Investigator, The Lundquist Institute

Professor of Urology, David Geffen School of Medicine at UCLA

Professor of Medicine, Division of Endocrinology, Metabolism and Molecular Medicine, Charles R. Drew University of Medicine and Science

Director, Urology Research Laboratory, LA BioMed at Harbor-UCLA Medical Center

The lab of Dr. Gonzalez-Cadavid utilizes a multidisciplinary approach that includes cell and molecular biology, biochemistry, molecular pharmacology, immunohistochemistry, and related, both in cell culture, experimental animal work, and in human tissue and blood specimens.

The basic translational research focuses on the cellular and molecular pathophysiology of: a) erectile dysfunction (ED) and its relationship to lower urogenital tract symptoms (LUTS), b) female stress urinary incontinence (SUI), c) Peyronie's disease (PD), and d) critical limb ischemia (CLI), mostly in type 2 diabetes (T2D) and obesity.

These approaches are complemented by exploring novel biological and pharmacological therapies for these conditions, mostly aiming to improve stem cells tissue repair by continuous long-term administration (CLTA) of phosphodiesterase 5 inhibitors (PDE5i), and/or myostatin inhibitors and other strategies, as well to define, prevent, and counteract endogenous or therapeutically implanted stem cell damage by the noxious T2D diabetic milieu.

## Background

Dr. Gonzalez-Cadavid's lab has pioneered highly relevant translational work on the concept that diffuse corporal tissue fibrosis and oxidative stress in the context of T2D, post-radical prostatectomy, and aging are major factors for ED, similar to what occurs in a localized way, and with different etiology, in Peyronie's disease, and SUI, and that dyslipidemia, senescence, and cytokines impair the repair ability of stem cells in various contexts. In addition, we are studying the noxious effects of excessive alcohol consumption on normal and malignant stem cells. The common additional interest in all these studies is the potential role of alterations in the global transcriptional expression (GTS) of microRNAs (miRs), that may serve as non invasive biomarkers or therapeutic targets.

## **Education**

MSc, 1961, University of Buenos Aires, Argentina PhD, 1964, University of Buenos Aires, Argentina PhD, 1967, University of London, England

## **Significant Publications**

Kovanecz I, Vernet D, Masouminia M, Gelfand R, Loni L, Aboagye J, Tsao J, Rajfer J, Gonzalez-Cadavid NF. Implanted Muscle-Derived Stem Cells Ameliorate Erectile Dysfunction in a Rat Model of Type 2 Diabetes, but Their Repair Capacity Is Impaired by Their Prior Exposure to the Diabetic Milieu. J Sex Med. 2016 May;13(5):786-97. *DOI* 

Tsao J, Kovanecz I, Awadalla N, Gelfand R, Sinha-Hikim I, White R, Gonzalez-Cadavid NF. (2017). Muscle derived stem cells stimulate muscle myofiber repair and counteract fat infiltration in a diabetic mouse model of critical limb ischemia. J Stem Cell Res Ther. 2016 Dec;6(12). pii: 370. doi: 10.4172/2157-7633.1000370. *PubMed Central* 

Tsao J, Vernet DA, Gelfand R, Kovanecz I, Nolazco G, Bruhn KW, Gonzalez-Cadavid NF. Myostatin genetic inactivation inhibits myogenesis by muscle-derived stem cells in vitro but not when implanted in the mdx mouse muscle. Stem Cell Res Ther. 2013;4(1):4. doi: 10.1186/scrt152. PubMed PMID: 23295128; *PubMed Central* 

Kovanecz I, Rivera S, Nolazco G, Vernet D, Segura D, Gharib S, Rajfer J, Gonzalez-Cadavid NF. Separate or combined treatments with daily sildenafil, molsidomine, or muscle-derived stem cells prevent erectile dysfunction in a rat model of cavernosal nerve damage. J Sex Med. 2012 Nov;9(11):2814-26. *PubMed Central* 

Kovanecz I, Masouminia M, Gelfand R, Vernet D, Rajfer J, Gonzalez-Cadavid NF. Myostatin, a profibrotic factor and the main inhibitor of striated muscle mass, is present in the penile and vascular smooth muscle. Int J Impot Res. 2017 Sep;29(5):194-201. *DOI* 

Kovanecz I, Gelfand R, Lin G, Sharifzad S, Ohanian A, Ricks R, Lue T, Gonzalez-Cadavid NF. Stem Cells from a Female Rat Model of Type 2 Diabetes/Obesity and Stress Urinary Incontinence Are Damaged by In Vitro Exposure to its Dyslipidemic Serum, Predicting Inadequate Repair Capacity In Vivo. Int J Mol Sci. 2019 Aug 19;20(16). pii: E4044. doi: 10.3390/ijms20164044.Masouminia M, Gelfand R, Kovanecz I, Vernet D, Tsao J, Salas R, Castro K, Loni

L, Rajfer J, Gonzalez-Cadavid NF. Dyslipidemia Is a Major Factor in Stem Cell Damage Induced by Uncontrolled Long-Term Type 2 Diabetes and Obesity in the Rat, as Suggested by the Effects on Stem Cell Culture. J Sex Med. 2018 Dec;15(12):1678-1697.







## **Dr. Robert Gelfand**

## Los Angeles Lab Research Manager Leonhardt's Launchpads

Research Associate Los Angeles Biomedical Research Institute - Lundquist Institute

"I am very enthusiastic in joining this research effort which will apply basic science translationally in developing an improved therapy for erectile

dysfunction using bioelectric stimulation (BES). In particular, I have a background in analyzing the effects of treatment on the expression of messenger RNAs (mRNA) and microRNAs (miRs) in cells and tissues, including two recent first author publications in the International Journal of Oncology (2016, 2017). At the biochemical level, the analysis of miRs and mRNA will provide a method for following the effects of BES treatment and therefore in fine tuning the treatment methodology. In terms of the proposed experimental methodology, I also have a background in electronics at the practical level. In my undergraduate education, I took courses in electrical engineering and electronic circuit design and later taught analog computation using op-amps. At the business level, I developed software to drive one of the first analog-digital and digital-analog conversion systems and, in addition, designed and developed software which controlled an early satellite-based navigation system. I also hold an amateur radio Advanced Class license. I have previously participated in studies on myostatin including its prevalence and expression in the corpora cavernosa as well as other sources. I have also participated in studies aimed at reducing the myostatin effects in other ailments such as muscular dystrophy. I have experience in analyzing the development of muscle derived stem cells into myofibers including quantitative analysis of their development in cell culture and analysis of the molecular markers of muscle development. Finally, I am proficient in the quantitative analysis of gene expression including that of stem cell regulatory genes. My earlier work on mitochondrial gene expression is an accepted part of the literature and can be found in textbooks."

## **Experience**

As a molecular biologist, I have been carrying out gene expression experiments using DNA microarrays, RT-PCR, and qPCR. In addition, I have been analyzing microRNA expression. I am expert in RNA purification and analysis. I am also proficient at analyzing proteins by standard methods such as western blot, and also analysis so as to compare the competing effects of transcriptional and microRNA effects on protein expression. I am expert at doing mammalian tissue culture and in analyzing cultured cells using immunohistochemical methods. In addition, my colleagues have relied on my mathematical skills in carrying out experimental planning and analysis. I look forward to extending our previous work to this field.

Therewasahiatusinmyscientificcareerduefirsttothelossofgrantfunding, and then as eriousillness from which I recovered. I returned to science in the laboratory of Dr. Nestor Gonzalez-Cadavid, and havebeenworkinginhislabsatLABiomedandatCharlesR.DrewUniversityofMedicineandScience.

## **Positions and Honors**

- Staff scientist, Charles R Drew University of Medicine and Science: 2014-present
- UCLA Medical Center, 2007 present
- Staff scientist, Charles R. Drew University of Medicine and Science, 2009 2012.
- Adjunct Assistant Professor, Charles R. Drew University of Medicine and Science, 2007 2008
- Adjunct Faculty, Los Angeles Southwest College: 2007 9
- Visiting Scientist, Los Angeles Biomedical Research Institute (LA Biomed), Harbor UCLA Medical Center, 2005 - 2007
- Lecturer, Department of Chemistry and Biochemistry CSU, Long Beach 1995 1997
- Biochemist, VAMC, Long Beach, CA 1990-1994
- Staff Research Associate, Univ of California, Irvine Department of Medicine and VAMC, Long Beach, CA. 1987-1990Postdoctoral Research Associate Department of Biology Purdue University, W. Lafayette, IN. 1980-7

### Research Publications - https://www.researchgate.net/profile/Robert\_Gelfand



Staff Research Associate IV Los Angeles Biomedical Research Institute (LA Biomed), Harbor



## **Doc Vu**

Senior Advisor Medical Device Design & Prototyping

"HEROES ARE MADE BY THE PATHS THEY CHOOSE, NOT THE POWERS THEY ARE GRACED WITH."

– Tony Stark

An innovative leader with 25+ years experience in product development and commercialization of world-class medical and life science equipment. Demonstrated accomplishments in engineering, manufacturing, quality control, operations to drive product & process excellence and deliver business profitability.



## Background

We are passionate about innovating better LIFE. That meant: Concept, design and development of next-generation disruptive wireless medical devices in health care. Connecting Point of Care POC service providers with patients worldwide through smart mobile devices. Applying world-class design, engineering and product development processes to drive full engagement and creativity at all levels of the organization. Creating a culture obsessed with excellence, attention to detail and deploying best practices to achieve breakthrough levels of performance and innovation.

Skilled at leading high performance teams of professionally and culturally diverse engineering teams to new levels of success in highly competitive industries, cutting-edge markets, and fast-paced environments.

Strong technical and business qualifications with an impressive record in strategic planning, business unit development, project and product management, and international strategies.

## **Specialties:**

Class I & II Medical Device Design, Medical Electronic Systems Development, One Use (Disposable) Product Design. Handheld portable product Design and Engineering, Custom medical cart design, Point of care POC Systems, Embedded software systems Table top Diagnostics Systems Fluorescence Reader Detector Optical Systems Medical Device FDA consulting Illumination/Thermal Analysis Finite Element Analysis FEA Machine Vision Test equipment design Rapid Sheet Metal Prototype

- President, DeviceLab Inc. Feb 1998 – Present
- Engineering Manager
  GM/Hughes Delco
  Electronics, 1985 1996

































## **Dr. Rodrigo Plentz**

## Clinical Research Investigator Brazil

- KidneyCell
- Second Brain
- PressureStim OrthoStim
- CerebraCell
- RegenaLung

"Our team has been doing electrical stimulation research for rehabilitation since 2007 with excellent results for many patients. The new technologies brought

by the Leonhardt team with more precise bioelectric signaling for controlled release of very specific proteins on demand, such a klotho, SDF1, PDGF and IGF1, is a great leap forward in the field. We are proud to be early clinical investigators for this breakthrough technology platform for multiple applications of use."

Published Electrical Stimulation Kidney Study - https://www.ncbi.nlm.nih.gov/pubmed/29529880\

Kidney Electrical Stimulation Review - https://www.researchgate.net/ publication/338144649\_Neuromuscular\_Electrical\_Stimulation\_in\_Chronic\_ Kidney\_Failure\_A\_Systematic\_Review\_and\_Meta-analysis

Published Electrical Stimulation Blood Pressure Study https://www.ncbi.nlm.nih.gov/pubmed/29658440

Published Electrical Stimulation Blood Pressure and QOL Study Elderly Women http://www.scielo.br/scielo.php?script=sci\_arttext&pid=S1413-35552011000400013

Electrical Stimulation Heart Failure Review - http://www.ppgcardiologia. com.br/wp-content/uploads/2014/03/Functional-electrical-stimulation-inthe-treatment-of-patients-with-chronic-heart-failure-a-meta-ana.pdf

**Electrical Stimulation for Stroke Recovery** https://www.tandfonline.com/doi/abs/10.1080/09638288.2018

## Background

Rodrigo Della Méa Plentz is a Professor at the Universidade Federal de Ciências da Saúde de Porto Alegre and Chief of the Physiotherapy Service and Research at the Santa Casa de Misericórdia Hospital in Porto Alegre. He serves as an Advisor for Master's and Doctorate Students in the Health Sciences and Rehabilitation Sciences Graduate Programs with over 100 peer reviewed publications and experience with over 50 clinical trials. Prof. Dr. Rodrigo Della Méa Plentz, Universidade Federal de Ciências da Saúde de Porto Alegre Rua Sarmento Leite, 245 - Porto Alegre, Rio Grande do Sul, Brazil - CEP 90050-170

Dr. Rodrigo Plentz has 135 research publications with more about to be published soon https://www.researchgate.net/profile/Rodrigo\_Della\_Mea\_Plentz

**Related Press Release KidneyCell Clinical Trial Launch** 

https://leonhardtventures.com/kidneycell-announces-launch-of-newbioelectric-stimulation-study-to-attempt-to-reverse-kidney-failure/

## **Experience**

Chief of the Physiotherapy Service & Research Santa Casa de Misericórdia de Porto Alegre Oct 2018 – Present

UFCSPA Professor Jul 2008 – Present

**Pró-reitor** Mar 2013 – Mar 2017

Diretor do Curso de Fisioterapia Mar 2011 – Mar 2013

Chefe de departamento Mar 2009 – Mar 201









## **Dr. Cristiane Carboni**

Ph.D. Physical Therapy Universidade Federal de Ciências da Saúde de Porto Alegre

Research Co-ordinator Leonhardt's Launchpads Brazil

Chief Scientific Officer MyoStim ED

"Our team in Brazil is supportingclinicalstudiesnow for MyoStim ED, BladderCell, KidneyCell, OrthodontiCell, PressureStim, EarCell, Stem Cell Bra, InStim, OrthoStim

and CerebraCell now and we are preparing to launch additional studies soon. We are also about to launch new pre-clinical studies for CancerCell. Our MyoStim ED II clinical study demonstrated substantial improvement in ED recovery over placebo and we have presented this data at a number of conferences with good reception."



# Data, Development and Patent Progress Updates



# **Heart & Cardiovascular Bio-Leonhardt**

BioLeonhardt www.bioleonhardt.com

- Completed feasibility small animal study at U of Utah.

- amniotic tissues.
- fibrin.
- Developed source of supply from Kimera Labs for exosomes.
- Therapies.
- Evaluated sources of injectable hydrogel, matrix, nanoparticles, alkaloids and micro RNA gel.
- Evaluated key proteins to select for bioelectric programming and/or infusions.
- Developed source of supply for adipose tissue processing systems from three qualified vendors. Had custom built by Biomerics Advanced Catheter in Minneapolis a large quantity of cork screw
- tip pacing infusion catheters for testing.
- Sourced implantable programmable micro stimulators from three qualified suppliers.
- Filed patent for bioelectric klotho expression a strong muscle regeneration protein.
- Patent issued for combination stimulator + pump + mixed composition.
- Filed patent for bioelectric inflammation control.
- Filed patent for bioelectric tropoelastin expression for elasticity improvement.
- Filed patent for bioelectric expression of HIF1a.
- Patent claim issued for SDF1 and PDGF combination for stem cell homing.
- Patent filed for combination of bioelectric protein expressions in sequence to create mature true endothelium lining new blood vessels that do not leak or retreat.
- protein.



- Sourced components for BL-15 heart regeneration composition.
- Sourced re-fillable micro infusion pumps from three qualified suppliers,
- Developed bioelectric signaling sequences for heart regeneration.
- Developed research and supply collaboration with Axolotl Biologix for regenerative fluid from
- Developed research and supply collaboration with The MironLab for bioelectric PRF platelet rich
- Developed source of supply for hypoxia treated mesenchymal stem cells from Biorestorative

- Previously filed patent for bioelectric follistatin expression another strong muscle regeneration

Developed large animal study protocol to be completed at Texas Heart Institute.





### Second Heart Assist, Inc. www.secondheartinc.com

- Completed feasibility animal studies at Tufts Medical Center.
- Completed comprehensive mock loop testing at the University of Louisville.
- Completed 2 rounds of computational fluid dynamics testing at enModes Berlin.
- Completed large animal study at Q Test Ohio.
- Completed 2 rounds of large animal studies at APS Minneapolis.
- Completed multiple rounds of long duration mock loop tests at ViVitro Labs Canada.
- Complete multiple rounds of long duration in flow studies at Biomerics Minneapolis up to 9 days.
- · Complete full array of biocompatibility tests.
- Completed comprehensive Design Control risk analysis and mitigation + design review within a full Quality Management System.
- Working with DeviceLab Tustin, CA and Saeyang of Korea developed a motor controller and alarm box.
- Preparing for another round of long duration animal studies at Texas Heart Institute.
- Filed patent on aortic stent shape and design that minimizes hemolysis, maximizes flow, ensures secure fixation and pulsates with aortic wall.
- Filed patent on auto control of impeller RPM speed and deflection angles.
- Filed patent on two aortic stent pumps in series in the aorta. The upper a pulsating stent graft the lower a spinning impeller within a bare aortic stent.
- Secured exclusive license to the pioneering wireless power patent from Vascor Pittsburgh.
- Successfully tested wireless powered device in mock system at Queensland University of Technology Australia.
- Developed and filed patent for 2nd generation wireless powered device with miniaturized internal coils and flexibility.
- Developed professional valuation model for Second Heart Assist working with experienced investment banker Kurt Kruger.
- File patent on harmonic resonance vibrational energy system for prevention blood clot formations on chronic circulatory assist pump devices.
- Developed updated animation video with greater detail.
- Held multiple pre-submission Early Feasibility Study interactions with the FDA in preparation for upcoming U.S. study.
- Completed successful short duration pilot clinical study 4 patients in Paraguay.
- Achieved > 400% in urine output in clinical study.
- Achieved > 30mm Hg aortic pressure differential at RPMs as low as 8000 in clinical studies.
- Preparing to launch cardio renal syndrome clinical studies in Eastern Europe and Australia.
- Preparing data for FDA with intent to launch a cardio renal syndrome early feasibility study at Ohio State University later this year.

400%+ increase in renal output. Revives kidney function. Rapidly removes excess fluids. World's first circulatory assist pump within a true aortic stent. Firm fixation without interfering with aortic wall pulsatile movement. Low RPMs and high flow. Wireless power option. Harmonic resonance vibrational energy to prevent thrombosis formation.





AortaCell https://leonhardtventures.com/aortacell/

- Filed patent on wireless bioelectric energy belt design for shrinking aneurysm non-invasively.
- Filed patent on combination of bioelectric and biologics aortic aneurysm repair.
- Designed an aortic wrap organ interface to be tested.
- Assessed feasibility of including Elastrin Therapeutics nano-particles to AortaCell mix.
- Filed patent on AC-15 mixed biologics composition for aortic aneurysm recovery.
- Prepared animal protocol and budget with University of Virginia pre-clinical studies.
- Reviewed all previous aortic aneurysm stem cell studies.



### PressureStim www.pressurestim.com

- Secured exclusive license to pioneering Schuler bioelectric blood pressure control patents.
- Filed patent on bioelectric protein expression based blood pressure control. •
- Initiated a relationship with UCIrvine that has completed over 100 patents with bioelectric blood pressure treatment.
- Launching a clinical study in Brazil for bioelectric blood pressure control.



### Vascustim www.vascustim.com

- Previously completed 7 patient pilot clinical study in Mexico bioelectric treatment only with success.
- Previously completed 16 patient pilot clinical study in Czech Republic with biologics treatment only with success.
- Launching now combination bioelectric and biologics study in Mexico.
- Collaborated in research with the late John Wetling that led completion of successful 47 patient clinical study in Germany and Switzerland with non-invasive microcurrent therapy
- Benchtop bioelectric stimulator used in current studies has FDA 510K market clearance for improving blood circulation, pain relief and muscle healing.





Valvublator www.valvublator.com

- •
- desian.
- Medical Advisor.
- Tested in our own Utah lab decalcification devices and methods.
- Participated in Bench to Bedside competition at the University of Utah.
- Evaluated Elastrin Therapeutics nano-particles for preventing re-calcification.
- Developed a citric acid based biologically safe de-calcification solvent.
  - Filed patent for bioelectric klotho expression for prevention calcification on heart valve leaflets.
  - clinical case independently.
  - of his affiliated OUS labs.
  - calcification.



### VibroCell https://leonhardtventures.com/vibrocell/

plaque and calcification.



BioPace www.bio-pace.com

- Filed new NIH and NSF SBIR grant applications.



Filed multiple patent applications covering device and methods for decalcification and regeneration. Working with Rev1 Engineering in Murrieta, CA designed Valvublator II 2nd generation simplified

Developed Valvublator I and Valvublator II animation videos.

Dr. Mark Cunningham of the Cardiac Surgery Dept. USC Keck Los Angeles recruited as Chief

Opened collaboration with Italian cardiac surgery team that already completed a successful

Preparing to do large animal studies with Dr. Richard Bianco at the University of Minnesota or one

Filed patent application for harmonic resonance vibrational energy for preventing and removing

Tested a variety of ultrasonic and vibrational energy de-calicification devices in our Utah lab. Sourced, modified, developed and tested components for a Valvublator surgical use device.

Filed patent application for harmonic resonance vibrational energy for preventing blood clots,

Filed patent for implantable bioreactor chamber. Special license agreement with U of Utah via TVC. Dr. Nicholas Peters leading Electrophysiologist from Imperial Hospital London on advisory board. Dr. Alonso Moreno with 25 years experience in area recruited to lead BioPace research team. Prototypes developed and tested working with USTAR U of Utah nano-fabrication lab.



## Dr. Zvonimir Krajcer

Senior Cardiovascular Advisor President International Society of Endovascular Specialists 2019-20

Leonhardt's Launchpads BioLeonhardt AortaCell Valvublator Second Heart Assist

Dr. Krajcer is a member of Texas Heart Institute's Professional Staff

Leadership team and serves as the Director or Peripheral Vascular Diseases. He is an active member of the Texas Heart Institute Cardiovascular Disease Fellowship Program at Baylor St. Luke's Medical Center teaching staff, training our next generation of physician scientist and interventional cardiologists. His leadership and commitment to important international research and education collaborations is impacting the care of patients suffering from vascular diseases worldwide.

Dr. Krajcer is an internationally recognized pioneer in his field and serves as the President of the International Society for Endovascular Specialists dedicated to the advancement of vascular and endovascular therapies. Since 1996, Dr. Krajcer has participated as a co-investigator and principal investigator in many clinical trials for treatment of peripheral arterial disease, abdominal and thoracic aortic aneurysms and carotid artery stenosis including: Corvita AAA trial, Hemobahn Trial, AneuRx AAA Trial, AneuRx Thoracic trial, Wallgraft Trial, Carotid Wallstent Trial, Sapphire Carotid Stent Trial, BEECH Carotid Trial, Sapphire World Registry Trial, Archer Carotid Stent Trial, Choice Carotid stent Trial, Capture I & II Carotid Stent Trials, Endologix EVAR Trials, Valor I and Valor II Trial, Captivia Thoracic Trial, Captivia Acute Dissection Trial, and Excluder Original Design vs. Low Permeability Design study.

## **Background, Experience and Education**

• M.D. University of Zagreb, Socialist Federal Republic of Yougoslavia, Socialist Republic of Croatia

### Training

- Lutheran Hospital of Milwaukee, Milwaukee, WI
- Mercy Hospital and Medical Center, Chicago, IL
- · Northwestern University (Passavant Hospital, Wesly Memorial and Lakeside VA Hospital), Chicago, IL
- Baylor College of Medicine / St. Lukes Episcopal Hospital, Houston, TX

### Certifications

- American Board of Internal Medicine
- Certified in Internal Medicine, Cardiovascular Disease and Interventional Cardiology

### Honors

- · Program Director of Peripheral Vascular Interventions at St. Lukes Episcopal Hospital and Texas Heart Institute
- Founding member of the Texas Heart Institute Cardiac Society
- Pioneered a technique of non-surgical repair of abdominal aortic aneurysms (AAA) with stent grafts
- Texas Super Doctor by Texas Monthly Magazine 2006, 2007, 2008, 2009, 2010, 2011 and 2012

### **Special Interests**

- Interventional Cardiology
- Peripheral Vascular Disease
- Carotid Artery Stenting
- Stent graft repair of abdominal and thoracic aortic aneurysms

























# **CerebraCell**

CerebraCell www.cerebracell.com is launching non-invasive stroke recovery study in Brazil working with a team with nearly 2 decades of experience in electrical stimulation based rehabilitation.



- TremorStim www.tremorstim.com has been spun out of CerebraCell for treating hand tremors.
- Patent was filed for bioelectric treatment of neurodegenerative disorders.
- Patent was filed for bioelectric inflammation management.



Second Brain has been spun out of CerebraCell for bioelectric gut microbiota stimulation treatment targeting serotonin expression in particular.

## **MEMORYSTIM**

- MemoryStim has been spun out of CerebraCell to focus on non-invasive bioelectric memory improvement stimulation.
- Patent was filed for bioelectric klotho expression known in pre-clinical studies to improve brain function and possibly a target to reverse Alzheimer's and Parkinson's diseases.
- Patent was filed for bioelectric sonic hedgehog expression known to have a role in brain cortex development.
- Patent was filed for bioelectric RANKL expression for minimized brain intact size following a stroke.
- CerebraCell met or corresponding with dozens of researchers doing stem cell, matrix and other biological and electrical stimulation related brain recovery studies and is in the process of establishing a number of collaborative research agreements.
- CerebraCell advised the founders of the formative stage startup The Brain Health Institute in Newport Beach, CA on ways to integrate bioelectric stimulation and perhaps biologics into their brain treatment programs. Collaborative research is being planned at this time.
- CerebraCell is exploring in collaboration with AddictiStim ways to apply bioelectric stimulation and electroacupuncture to treat addictions.
- CerebraCell has arranged for access to research lab space at the Pacific Neurosciences Institute in Santa Monica, CA.
- Dr. Santosh Kesari Director of Research and Chair and Professor, Department of Translational Neurosciences and Neurotherapeutics at the Pacific Neurosciences Institute serves as CerebraCell's Chief Medical and Scientific Advisor.





## **Cosmetic, Personal Care & Reproductive Health**

## **StemCellBra**

### Stem Cell Bra www.stemcellbra.com

- Stem Cell Bra www.stemcellbra.com completed 16 large animals over 2 years for pre-clinical safety and efficacy testing.
- every other day for 4 weeks.
- Histo pathology examinations confirmed safety.
- A pilot safety study of 10 patients was completed in 2019 in South Africa and Brazil. No adverse events were reported. Only short durations of treatment were used in this safety study.
- Stem Cell Bra is preparing for an early feasibility efficacy and safety study with treatment durations matching that applied in the large animals of 1 hour every other day.
- Stem Cell Bra has developed three products.
- BreastStim is a non-invasive patch electrode system useable without a bra
- construct injections.
- Stem Cell Bra filed a Trademark for Stem Cell Bra.

# MyoSTIM ED

### MyoStim ED www.erectistim.com

- MyoStim ED has completed four clinical studies in Brazil and South Africa.
- Up to 90% of patients are reporting satisfactory recovery.
- MyoStim ED has developed a portable at home use stimulator with 6 sequences in auto sequence and a daily safety shut off to avoid over dosing.
- MyoStim ED clinical data has been presented at numerous national and international conferences.



### OrthodontiCell www.orthodonticell.com

- Enrolled 44 patients in a pilot clinical study.
- 60% of treated patients had perfectly straight teeth at 3 months compared to only 14.3% of control patients.
- The team is still correlating the 6 month followup data.
  - Treated patients confirmed a 70% reduction in pain and discomfort.





Actual Stem Cell Bra safety clinical study patient

Breast tissue volume increased reached as high as 30% in test animals with only 1 hour stimulation

- Stem Cell Bra is a portable wearable stimulator built into a shape forming bra.
- Stem Cell Bra plus combines a bioelectric wearable bra with fat grafting and periodic fat tissue derived



- An over aligners study has been launched. •
- The company developed a portable at home use stimulator with multiple safety protection features.
- A fixation stabilization study is about to be launched.
- Biocompatibility testing of mouthpiece has been completed.
- U.S.P.T.O. issued pioneering patent claims for bioelectric controlled expression of RANKL and OPG.
- OrthodontiCell met with the FDA as part of pre-submission and is preparing to file soon a 510K application for the mouthpiece.
- An FDA 510K market clearance is already in place for the bench top bioelectric stimulator for improving blood circulation and pain relief.
- The company will soon file with the FDA to broaden indications of use based on gathered pre-clinical, lab and clinical data.



### HairCell www.haircellstim.com

- HairCell completed a positive pilot clinical study in 20 patients in South Africa with up to 30% increase in hair density.
- HairCell developed a collaboration with TeslaBrush TM of Canada for at home supplemental treatment.
- HairCell is planning to increase enrollment in its clinical registry in 2020.
- HairCell partnered with Axolotl Biogloix for bioelectric and regenerative fluid from amniotic sourcing combination treatments.
- HairCell filed patent for bioelectric PRF.



SkinStim www.skin-stim.com

- SkinStim completed a positive pilot clinical study in South Africa and Utah.
- Filed patent for bioelectric COL17A1 protein expression known to promote skin regeneration.
- Filed patent for bioelectric klotho expression a known anti-aging protein.
- Filed patent for bioelectric tropoelastin expression known elasticity improving protein.
- Developed at home use stimulator with safety features.
- Bench top stimulator and skin electrodes have FDA 510K market clearance for improving blood circulation.
- Developed, sourced and tested various face masks and electrodes for skin regeneration.
- SkinStim with Axolotl Biogloix for bioelectric and regenerative fluid from amniotic sourcing combination treatments.
- SkinStim filed patent for bioelectric PRF.
- Developed and tested combination bioelectric and biologics SkinStim Plus therapy.
- Filed stand alone patent for bioelectric and biologics skin regeneration.
- Filed patent for bioelectric inflammation treatment applicable to skin psoriasis.



### DentaCell Accelerator www.dentacellaccelerator.com

- DentaCell Accelerator investigators and advisory board members have treated over 2000 dental patients with microcurrent therapies.
- DentaCell Accelerator spun out OrthodontiCell to focus on bioelectric accelerated tooth movement and stabilization.
- healing of dental implants.
- ImplantStim has completed it first successful pilot clinical case. DentaCell Accelerator is developing BreatheStim for bioelectric treatment of breathing disorders particularly
- for airways and airway arches.
- DentaCell Accelerator filed patent for bioelectric PRF platelet rich fibrin. DentaCell Accelerator partnered with Axolotl Biogloix for bioelectric and regenerative fluid from amniotic
- sourcing combination treatments.
- DentaCell Accelerator launched GingivaStim for bioelectric gingivitis treatment.
- DentaCell Accelerator launched GumsStim for bioelectric gum recession treatment.
- DentaCell Accelerator launched SnoreStim for bioelectric snoring treatment.
- DentaCell Accelerator launched BoneGraft for bioelectric bone grafting solutions.
- DentaCell Accelerator launched InfectiStim for bioelectric infection control.
- DentaCell Accelerator developed a world class scientific and clinical advisory board.



### TestiStim www.testistim.com





Actual TestiStim patient

DentaCell Accelerator spun out ImplantStim www.implantstim.com to focus on bioelectric based accelerated



- TestiStim acquired exclusive patent rights to pioneering bioelectric testosterone and infertility therapy.
- TestiStim completed first successful pilot clinical case. TestiStim filed patent claims for bioelectric klotho expression for testosterone and anti-aging therapy.



## **Major Organ Regeneration**

# Ceyecell

### EyeCell www.eye-cell.com

- EyeCell affiliated investigators have published data on 176 patients treated with microcurrent therapy.
- In the previous Dr. Chaikin led independent small scale 17 patient feasibility study In dry macular degeneration eyes, twice as many patients showed increase in VA (52%) compared to those showing deterioration (26%), with improvements being often sizeable, whereas deteriorations were usually very slight.
- In wet macular degeneration eyes, five of six (83%) patients showed an increase and none showed deterioration. No conclusions of safety or efficacy can be derived from these small number of patients.
- EyeCell is preparing to launch a new 40 patient clinical study led by Dr. Laurie Chaikin.
- EyeCell is preparing to launch a new 40 patient clinical study with Dr. Edward Kondrot.
- EyeCell has developed two different designs of non-invasive eye stimulation googles.
- EyeCell filed patent on bioelectric IGF1 expression for vision recovery.
- EyeCell filed patent on bioelectric klotho expression for vision recovery.
- EyeCell filed patent on bioelectric SDF1 and PDGF (stem cell homing factors) for vision recovery.
- EyeCell filed patent on bioelectric sonic hedgehog expression recovery.
- EyeCell filed patent on bioelectric arteriogenesis to seal leaky vessels and create mature true endothelium linings.
- EyeCell has developed and filed patents EyeCell Plus a combination of bioelectrics and biologics which is still in pre-clinical safety testing stage.
- EyeCell recruited experienced eye surgeon Dr. Patrick Johnson of Minneapolis as Chief Ophthalmology Officer.

# **Kidneycell**

### KidneyCell www.kidney-cell.com

- KidneyCell engaged a research collaboration with a team in Brazil that previously published a positive study with electrical stimulation therapy treatment.
- KidneyCell launched a new clinical study in Brazil led by Dr. Rodrigo Plentz featuring our bioelectric klotho expression technology.
- KidneyCell filed a patent covering both stand alone bioelectric treatment as well as bioelectrics and biologics for kidney regeneration.
- KidneyCell filed a patent on the KC-15 multicomponent composition for kidney regeneration composition comprised of stem cells, stromal fraction, PRF, amniotic fluid, selected growth factors, selected exosomes, nutrient hydrogel, selected alkaloids, oxygenated nanoparticles and kidney matrix.
- KidneyCell recruited experienced biotech entrepreneur Phil Patton as President.



### BladderCell www.bladdercell.com

- BladderCell launched a non-invasive clinical study for bladder regeneration in Brazil
- BladderCell is engaging with a number of independent researchers have already completed successful electrical stimulation bladder treatment studies.
- non-invasive and invasive.



### EarCell www.ear-cell.com

- EarCell is preparing to launch pre-clinical animal studies with a combination of bioelectrics and biologics for hearing regeneration.
- EarCell is preparing to launch a non-invasive clinical study for hearing regeneration following what has been learned from previous studies.
- research for many years.
- EarCell recruited experienced biomed entrepreneur Ken Evans as President.



### OrthoStim www.ortho-stim.com

- and biologics.
- OrthoStim is engaging with researchers with decades of experience in knee recovery.
- OrthoStim filed patent for bioelectric inflammation management.
- OrthoStim filed patent for bioelectric PRF platelet rich fibrin for joint recovery.
- recovery.
- amniotic fluid therapy.
- tissue.
- healing including bone graft healing improvements.
- OrthoStim has filed patents for improving bone integration of implants.
- OrthoStim has filed patients for cartilage, meniscus, tendon and muscle regeneration.





Prototype Vision

Not Actual Product



BladderCell filed patents on bioelectric and biologics based bladder recovery treatments both

BladderCell filed a patent on the BC-15 multicomponent composition for bladder regeneration.

EarCell is engaging researchers around the globe that have been working on hearing regeneration

OrthoStim is launching a clinical study for knee recovery in Mexico with a combination of bioelectrics

OrthoStim filed patent for bioelectric BMPs bone morphogenic proteins expression for joint

OrthoStim developed research partnership with Axolotl Biologix for a combination bioelectric and

OrthoStim has developed multiple sources of supply of kits to harvest cells and fluids from adipose

OrthoStim has filed patents and has tested bioelectric stimulation sequences for bone growth and



### Liver Cell www.livercellstim.com

- LiverCell is developing both bioelectric alone and bioelectric + biologics products for liver regeneration.
- LiverCell recruited experienced biotech entrepreneur Ben Boytor as President.



PancreaCell https://leonhardtventures.com/pancreacell/

- PancreaCell previously was a finalist in the American Diabetes Association National Innovation Challenge.
- PancreaCell filed patent for bioelectric klotho expression for pancreas regeneration.
- PancreaCell filed a patent for bioelectric sonic hedgehog expression for pancreas regeneration.
- PancreaCell filed a patent for the PC-15 multicomponent pancreas regeneration composition.
- PancreaCell recruited experienced sector entrepreneur Dr. Harish Kapoor as President.



InStim www.instimcell.com

- Filed patent on bioelectric inflammation management.
- Completed a successful pilot clinical case in Brazil.
- Instim recruited experienced biotech entrepreneur Michael Barberie as President.



### RegenaLung

RegenaLung https://leonhardtventures.com/regenalung/

- RegenaLung filed multiple patents related to lung regeneration and recovery.
- RegenaLung is engaging with multiple researchers worldwide with significant research experience in lung regeneration research.



BioLeonhardt Whole Body https://vimeo.com/179280204

- BioLeonhardt Whole Body filed over 100 patent claims related to organ regeneration and recovery.
- Bioleonhardt Whole Body is developing the BodStim bioelectric body suit.
- BioLeonhardt Whole Body plans to file an National Science Foundation Small Business Innovation Research grant application this year.







CancerCell www.cancercellinc.com

- CancerCell has nine issued patents for bioelectric cancer treatment https://cancercellinc.com/ list-of-the-issued-cancer-patents/
- com/patent/20190030330
- signals for treatment.
- supply and re-progam tumor.
- CancerCell filed patent on bioelectric real time customized inflammation management https:// patents.justia.com/patent/20190022389
- CancerCell completed a feasibility small animal study at UCLA.
- CancerCell is preparing for large animal studies.
- CancerCell is developing improved bioelectric tumor reading apparatus.
- Dr. Santosh Kesari Director of Neuro-Oncology at the John Wayne Cancer Institute in Los Angeles is CancerCell's Chief Medical Advisor.
- tumors have been eradicated.
- tumor growth.
- CancerCell has engaged discussions with numerous cancer research teams around the world. CancerCell is engaging cancer related collaborative research in Brazil.
- bone related cancers.



- CancerCell has new patent claims pending for bioelectric tumor treatment https://patents.justia.
- CancerCell is only known therapy to bioelectrically read a tumor and custom deliver bioelectric
- CancerCell is designed jam communication, trigger an immune response, starve tumor of blood
- CancerCell is the only cancer therapy known with a design to regenerate and organ after cancer
- Numerous independent studies have confirmed the ability of bioelectric treatment to slow or halt
- CancereCell filed patent on bioelectric OPG expression to counter RANKL over expression in





California Stock Xohange

### 108 day "create to great" Startup Launch Accelerator

Social good impact and life science focused https://calxelerator.com/how-it-works/

### The California Stock Exchange ™

Early formation stage social good impact stock exchange in the works. This includes Cal-Xports http://cal-xport.com

**Regenerative Economy** 

In 2018 the Board of Directors of Cal-X Stars Business Accelerator, Inc. DBA Leonhardt's Launchpads formally elected to focus exclusively on organ regeneration and recovery biotech + biomed technologies only. The decision was made to move the previous 2013 to 2018 Regenerative Economy social good impact portfolio startups to another innovation and startup launch accelerator within the Leonhardt Ventures LLC (Leonhardt Vineyards LLC DBA Leonhardt Ventures) umbrella called Cal-Impact www.cal-impact.com



Cal-Impact www.cal-impact.com is focused on accelerating social good impact innovations and startups through to market launch stage and then to seek a strategic partnership for full commercialization. The startups and social good impact innovations that moved over to the Cal-Impact Social Good Impact Accelerator are listed below. At that same time all social good impact recruited advisors for Cal-X Stars Business Accelerator, Inc. DBA Leonhardt's Launchpads were also transferred over to Cal-Impact. Cal-X Stars Business Accelerator, Inc. DBA Leonhardt's Launchpads relinguished their 9% equity ownership floor previously held ion these social good impact startups & innovation platforms as part of the out transfers but still maintains minority equity positions of approximately 6% in each but now subject to dilution as new capital is raised.



Cal-Xp<sup>\$</sup>rts

Social good impact media and publishing company which includes The Kindheart Lionheart TV Network www.kindheartlionhearttv.com and Kindheart Lionheart Adventures www.lionheartadventures.com includes Kindheart Lionheart Startup Media Support Services for social good impact movements, common causes, campaigns, products and startups - https://kindheartlionheart.com/startup-media-support-services/. Kindheart Lionheart Media & Publishing by charter re-directs a minimum of 15% of its profits to important causes such as organ regeneration research grants.



## Lionheart Food and Beverage

Food and beverage products cooperative co-marketing business model under early stage development designed to raise funds for important causes especially organ regeneration and cancer research. Includes Food Trikes & Scooters www. foodtrikesandscooters.com and Wine Country Baseball https://vimeo.com/showcase/244549/video/12625286. Lionheart Food & Beverage marketing co-operative is planning a marketing campaign in late 2020 or early 2021 for Leonhardt Vineyards LLC wines http://leonhardtvine.wpengine.com/history/ with a portion of profits to be directed toward sponsoring bioelectric and biologics based organ regeneration and cancer research. Leonhardt Vineyards established in 2000 on an initial 15 acre property in Dry Creek Valley of Sonoma County began producing award winning wines in 2005. Leonhardt Vineyards has produced Zinfandel, Sauvignon Blanc, Chadonnay, Petite Syrah and Cabernet Sauvignon in our history working in collaboration with other small family owned wineries and Northern California local grape growers mostly in Sonoma County. September 12th, 2018 we lost our long standing Vineyard Manager and business partner Ulises Valdez to a heart attack at age 49. He was a father of four https://www.winespectator.com/articles/beloved-california-vintner-ulisesvaldez-dies. He will be greatly missed.

### Kindheart Lionheart Media & Publishing

https://vimeo.com/showcase/244549/video/12625286



## **Dr. Camillo Ricordi**

Chief Medical Advisor - PancreaCell

Director Diabetes Research Institute Miami





"A combination of bioelectric stimulation and repeat delivery of mixed stem + growth factor cell based compositions warrants further study for pancreas regeneration and diabetes treatment. Our team is excited to engage research collaborations to examine this carefully."



## **Experience**

- Stacy Joy Goodman Professor of Surgery, Distinguished Professor of Medicine, Professor of Biomedical Engineering, and Microbiology and Immunology at the University of Miami (UM), Florida.
- Director of the Diabetes Research Institute (DRI: diabetesresearch.org) and the Cell Transplant Program.
- Responsible Head of the Human Cell Processing Facility (1993-2014).
- Co-Director of the Executive Office of Research Leadership (2001-2003)
- Senior Associate Dean for Research (2003-2006).
- Chaired the Dean's Research Cabinet (2006-2012) at the UM Miller School of Medicine.
- Washington University in St. Louis, Missouri, where he received an NIH Research Trainee Award (1986-1988) working with islet cell transplant pioneer Prof. Paul E. Lacy.
- Dr. Ricordi subsequently spent four years (1989-1993) with transplant pioneer, Prof. Thomas E. Starzl, as Director of Cellular Transplantation at the University of Pittsburgh Transplantation Institute. Since 1993, he has been working at the University of Miami (UM).
- President of the Cell Transplant Society (1992-94).
- · Co-founder and chairman of the National Diabetes Research Coalition (Chairman 1997)
- · Co-founder and president (1999-2001) of the International Association for Pancreas and Islet Transplantation.
- · Dr. Ricordi is currently serving on the editorial boards of CellR4 (Editorin-Chief; www.cellr4.org) and Cell Transplantation (Co-Editor-in-Chief). He has served also on the boards of the American Journal of Transplantation (Associate Editor), Transplantation, Transplantation Proceedings, Tissue Engineering, and Graft (Editor-in-Chief, 1998-2002).
- Chairman of the Diabetes Research Institute Federation (diabetesresearch.org/research-collaboration)
- Dr. Ricordi has authored over 700 scientific publications.
- Inventor, he has been awarded 23 patents.



# Patient Testimonials

"I had ED even before the surgery. I thought I would never get it back. I was more worried with my incontinence. When my doctor told me about this treatment, I was very surprised and decide to give a chance. And I have to say...It is even better than before the surgery. I hadn't felt so happy in years."

Francisco Paiva, 71

"Since the first session I already felt something different, I guess it got more sensible and with more volume... like it has more blood circulating. Now, I came back to have intercourse without taking any pills and I feel very satisfy."

Luiz Fernando Soares Barbosa, 73

"I was diagnosed with diabetes when I was 18 years old. Since them my erectile function start to get worse with the years and I just reached an erection each time with more medicines. When I started the treatment the morning erections start to get back. I still need medicines to have intercourse but I have better erections with less medicines. I hope I can keep on doing the treatment to improve more."

Rafael Mosmann, 45



Actual MyoStim ED Patients, Brazil







Actual HairCell Patients, South Africa



Actual SkinStim Patient



# Forward Looking Statement

his annual report contains forward-looking statements, including statements regarding development of Leonhardt's Launchpads and Leonhardt Ventures existing and new products, the Company's progress toward commercial growth, and future opportunities and expected regulatory approvals. The Company's actual results may differ materially from those anticipated in these forward-looking statements based upon a number of factors, including uncertainties associated with development, testing and related regulatory approvals, including the potential for future losses, complex manufacturing, high quality requirements, dependence on limited sources of supply, competition, technological change, government regulation, litigation matters, future capital needs and uncertainty of additional financing, and other risks and challenges detailed in the Company's filings. Readers are cautioned not to place undue reliance on any forward-looking statements, which speak only as of the date of this release. Leonhardt's Launchpads operates with a very small staff and limited budget while launching more than 30 startups. Not all websites and information is able to be kept up to date all the time. If you have any specific questions about accuracy or up to date information please email us with your questions. Leonhardt's Launchpads technologies (licensable technology platforms - startups) are very early stage and un-proven and thus are deemed very high risk investments not suitable to most. Investing in Cal-X Stars Business Accelerator, Inc. DBA Leonhardt's Launchpads is limited to verified accredited and sophisticated investors only at this time. The Company undertakes no obligation to publicly release the results of any revisions to these forward-looking statements that may be made to reflect events or circumstances that occur after the date of this release or to reflect the occurrence of unanticipated events.

# Corporate History & **Background**

eonhardt Ventures was formed in 1982 as HJ Leonhardt & Co. a sole proprietorship of Howard J. Leonhardt in Minneapolis, Minnesota. In 2005 this was formed into a California LLC via Leonhardt ■Vineyards LLC DBA Leonhardt Ventures. From 1982 to 1988 the primary business of the organization was to help promote exports of U.S. made cardiovascular and other medical products. In 1983 and part of 1984 Howard Leonhardt worked with American General Medical Corporation and in 1984 to Feb. 1986 with International Marketing Advisors, Inc. (IMA Medical) exporting cardiovascular and ICU devices primarily to the Eastern Hemisphere countries. In February of 1986 Leonhardt formed World Medical Corporation to focus on exporting cardiovascular and ICU products including those under a private World Medical label. That same year collaborations were initiated with Nova Medical Specialties, Numed, Dr. Robert O. Becker Author of The Body Electric, DMG and Labcor the the co-development and marketing of cardiovascular balloon catheters, oxygenators and heart valves. In 1988 Leonhardt formed World Medical Manufacturing Corporation to begin the design, development and manufacture of cardiovascular devices. Leonhardt patented the a predictably compliant polyurethane balloon cardiovascular catheter as a first product. In 1989 they secured their first outside milestone based investment commitment of \$300,000 from Nippon Zeon Co. of Japan. In 1989 regulatory clearance was received in Japan for the product line and in April 1990 U.S. FDA marketing clearance was received. Leonhardt then patented a radiation delivery catheter, an intravascular lung with vibrational energy to stop blood clots and improve gas exchange, the first percutaneous heart valve, the first percutaneous conformance stent graft for aortic aneurysm repair, one of the first stem cell delivery catheters and one of the first biological pacemakers. In 1995 the team working with Dr. Ken Thomson and Dr. Peter Field completed the first-in-man ever successful percutaneous repair of an aortic aneurysm. In June of 1997 World Medical Mfg. Corp. received a first offer to merge from Arterial Vascular Engineering, Corp. of Santa Rosa, California which later was formalized April of 1998 and closed December of that same year. November of that same year Medtronic announced their acquisition of Arterial Vascular Engineering, Inc. for \$3.7 billion in stock and \$600 million in cash for debt retirement. Howard Leonhardt remained President of World Medical Mfg. Corp. as a subsidiary of Medtronic AVE and took on an additional role as Executive Vice President of Emerging New Therapies. In 1999 the team published in The New England Journal of Medicine the first ever paper on endovascular repair of aortic dissections with Dr. Christof Nienaber. That same year they published in CIRCULATION the Journal of the American Heart Association with Dr. Shinichi Kanno the first ever paper on bioelectric stimulation controlled organ regeneration. June of 1999 Leonhardt left Medtronic to form Bioheart, Inc. the first company focused on living cell based regeneration of hearts. In 2000 Howard Leonhardt began filing a series of patents for bioelectric stimulation supported organ regeneration, mixed compositions and delivery systems. The company completed the historic first-in-man ever percutaneous stem cell based repair of a human heart in 2001 working with Dr. Patrick Serruys and Dr. Warren Sherman in The Netherlands. Leonhardt resigned as CEO in March of 2007 and took the role of Executive Chairman and CTO. Bioheart, Inc. completed a \$76 million valuation IPO on NASDAQ February of 2008. This was the only biotech IPO in the entire USA in this difficult financial crisis year. Shortly after the IPO Leonhardt moved to California and began his focused research on organ regeneration based on bioelectric stimulation, a re-fillable micro infusion pump and a mixed stem cell based composition. In 2008 Leonhardt's Launchpads NorCal was formed at the University of Northern California (Leonhardt has served on their formal Board of Directors since 1999) near Santa Rosa, California. In 2013 Cal-X Stars Business Accelerator, Inc. DBA Leonhardt's Launchpads was formed in Santa Monica, California, In November 2015 Leonhardt's Launchpads Utah was formed and later incorporated in Utah in 2016. These innovation/startup accelerators focus on accelerating the Leonhardt platform technology patents and concepts into viable businesses in position to land a key strategic partnership.

# Business Model

Our innovation & startup launch accelerator business model is to accelerate each organ specific innovation and it's corresponding startup through first in human studies and then begin the process to attempt to secure a strategic partner to take the innovation through to full commercialization. Since we are attempting to exit or create a strategic partnership at a relatively early stage of development we normally expect a milestone type deal structure with a modest initial down payment and additional milestone payments as the product innovation proves itself out over time. We will always strive to secure a 3% royalty on sales as well but there is no assurance we will actually be able to succeed at this goal. The accelerator normally sells its innovation assets, Licensable Technology Platforms, under and Asset Purchase Agreement not as a corporation sale so that the buyer can focus quickly on due diligence primarily only on intellectual property, data, regulatory progress and design controls not having to spend time on corporation related liabilities and associated risks. This strategy recommended by our mergers and acquisitions (M&A) counsel Wilson, Sonsini Goodrich can reduce acquisition due diligence time by more than 90 days. With this strategy most of the organ specific innovations (Licensable Technology Platforms) under development within the innovation accelerator will never by converted to a C corporation before acquisition by a strategic acquirer.

Investments are taken in the accelerator on a 2:1 basis meaning that investors whom invest \$30,000 receive \$30,000 worth of Leonhardt's Launchpads by Cal-X Stars Business Accelerator, Inc. shares AND receive a warrant worth \$30,000 to acquire percent ownership units or shares of Licensable Technology Platforms (LTPs = Organ Specific IP Baskets + Data), innovations or startups that are within the portfolio.

Note on risk level we are realistically facing as an accelerator. Y Combinator is the regarded as the most successful startup accelerator in the world by many polls. Here below is their record at a similar age of development as a comparison...

- 1. 37 of 511 startups over the 5 years preceding 2013 were valued at more than \$40 million.

## Estimated Y Combinator results from 05-09



4%	SOIU IOI > \$40 MIIIION
10%	sold for \$5 to \$40 million
12%	sold for under < \$5 million
8%	operating at > \$40 mil. sales
28%	operating at less < \$40 millio

Some may point out to succeed at total regeneration of organs or the treatment of major organ disease states like heart failure, kidney failure and hypertension require much more capital than a Y Combinator type startup, face much great regulatory, technology barriers and reimbursement hurdles, and thus would likely have an even lower success rate. No other company has ever succeeded fully at total organ regeneration so we are definitely fighting up hill odds for success across all our startups.

2. Y Combinator reviews approximately 10,000 applications to choose 500 startups for its acceleration

### not yet sold on sales and not yet sold

# **Review of Business Units**

### Leonhardt's Launchpads by Cal-X Stars Business Accelerator, Inc.

- Access to R&D Labs in Torrance. Santa Monica and Irvine
- Leonhardt's Launchpads @ UCI Cove
- Leonhardt's Launchpads @ ScaleLA
- Leonhardt's Launchpads @ LABioMed
- Leonhardt's Launchpads NorCal
- Research collaborations with UCLA, USC, CalTech, UCIrvine, Pepperdine.

### Leonhardt's Launchpads Utah, Inc.

- 2 staffed and fully equipped R&D labs
- One lab at BioInnovations Gateway
- One lab at Center for Medical Innovation @ Research Park

### Leonhardt's Launchpads Brazil

Multiple clinical and pre-clinical studies running.

### Leonhardt's Launchpads Pittsburgh

■ Local research collaborations and patent licensing.

### Leonhardt's Launchpads Minneapolis

- Collaboration with local suppliers.
- Collaboration with local researchers.

### Leonhardt's Launchpads Australia PTY

- Qualifies us for 44% R&D tax credit.
- Multiple pre-clinical and clinical studies planned.
- Completed wireless power demo at Queensland University of Technology (QUT)

Leonhardt's Launchpads by Cal-X Stars Business Accelerator, Inc. is focused exclusively on accelerating organ regeneration and recovery focused innovations and startup launches and is organized into these groups:

- 1. Heart & Cardiovascular
- 2. Brain
- 4. Major Organ Regeneration
- 5. Cancer

We strive to limit each portfolio class to a maximum of 30 startups. Our business model intent is to stay highly focused only on bioelectric and biologics based organ regeneration and recovery. In many cases different startups and innovations are the same product previously developed for another organ with just the bioelectric signaling sequences reprogrammed for that specific organ and a custom organ interface developed for that organ. In some cases like DentaCell Accelerator, OrthoStim Accelerator and CerebraCell Accelerator we have organ specific focused innovation accelerators within the umbrella support of the parent accelerator > Leonhardt's Launchpads. We also have subsidiary locations in Utah, Minneapolis, Northern California, Pittsburgh, Brazil and Australia for engaging local research collaboration and in some cases also local suppliers and other resources such as local talent. Our Australian subsidiary Leonhardt's Launchpads Australia PTY is able to qualify for a 44% R&D tax rebate for all research and development work completed there including pre-clinical and clinical research studies.

All startups in our portfolio utilize a common IP core of bioelectric stimulation based protein expressions and delivery systems. This includes patented bioelectric stimulation driven stem cell homing via SDF1 and PDGF expressions and a full suite of arteriogenesis promoting protein expressions (non-leaking blood vessel formation). Many of our startups also utilize our patent pending bioelectric stimulation sequence for Klotho expression a known powerful anti-aging and organ regeneration promoting protein. Second Heart Assist, Inc. in our portfolio has bioelectric stimulation in its IP estate but at this time the circulatory assist pump within an aortic stent in current testing does not utilize those bioelectric features, so this is an outlier in our portfolio. The Leonhardt core leadership team previously developed and patented market leading endovascular based aortic stent based therapies for aortic aneurysms and non-surgical heart valve repair and our current portfolio startup Second Heart Assist, Inc. is leveraging that experience base for their product development.

# 3. Cosmetic, Personal Care & Reproductive Health



## **Estimated Startups Ripe for Strategic Partnership Outreach Schedule**

Leonhardt's Launchpads 2020 Portfolio Class Current as of January 1, 2020 CEO Ranking

Note - Ripe for beginning strategic partnership outreach efforts is defined as having completed at least a pilot first in human feasibility study in at least 5 patients, preferably more, demonstrating reasonable trends towards efficacy and safety. The startup or Licensable Technology Platform should have also filed a number of patent claims, or licensed or optioned them, as well by this stage preferably with some U.S. issued patent claims.

### 2020

- 1. Second Heart Assist, Inc. www.secondheartinc.com
- 2. OrthodontiCell www.orthodonticell.com
- 3. MyoStim ED www.erectistim.com
- 4. HairCell www.haircellstim.com
- 5. EyeCell www.eye-cell.com

### 2021

- 1. CancerCell www.cancercellinc.com
- 2. PressureStim www.pressurestim.com
- 3. BladderCell www.bladdercell.com
- 4. Stem Cell Bra www.stemcellbra.com
- 5. SkinStim www.skin-stim.com
- 6. TestiStim www.testistim.com
- 7. ImplantStim www.implantstim.com. NEW

### 2022

- 1. BioLeonhardt www.bioleonhardt.com
- 2. LiverCell www.livercellstim.com
- 3. KidneyCell www.kidney-cell.com
- 4. Valvublator www.valvublator.com
- 5. CerebraCell www.cerebracell.com

When one of our top 30 startups exits the portfolio it will be replaced by one the startups from the "On Deck" circle or an outside applicant. The accelerator accepts approximately 1 startup/LTP for every 1000 ideas evaluated. Normally outside of the accelerator founded startups or IP platforms are only brought into our accelerator if they merge into one of our existing organ specific startups.

In the "On Deck" circle working through the CalXelerartor www.calxelerator.com 108 day create to great program to be considered to be added to long duration parent accelerator portfolio once an opening is available includes: AddictiStim, MigraineStim, NerveStim, CraveStop, PainStim, LymphStim, DepresiStim, BoneStim, SnoreStim, VirusStop, LymphStim, PolypStim, AirwayStim, Airway Arch Expander, GingavaStim, InfectiStim, DetoxStim.

### Highly subject to change, even by many years.

### 2023

- 1. PancreaCell https://leonhardtventures.com/pancreacell/
- 2. DentaCell www.dentacellaccelerator.com
- 3. OrthoStim www.ortho-stim.com
- 4. Instim www.instimcell.com
- 5. AortaCell https://leonhardtventures.com/aortacell/
- 6. TremorStim www.tremorstim.com NEW

### 2024

- 1. EarCell www.ear-cell.com
- 2. Vascustim www.vascustim.com
- 3. Biopace https://leonhardtventures.com/
- bio-pace/ www.bio-pace.com
- 4. VibroCell https://leonhardtventures.com/vibrocell/
- 5. BioLeonhardt Whole Body and BodStim
- https://leonhardtventures.com/bioleonhardt-whole-body/
- 6. RegenaLung https://leonhardtventures.com/regenalung/
- 7. MilkStim www.milkstim.com (not fully in accelerator yet)

### 2025

- 1. MemoryStim www.memory-stim.com
- 2. Second Brain www.seconbrainstim.com

Facilities, Assets, Equipment and Key Partners

Leonhardt's Launchpads NorCal has lab space and faculty support at a facility on the University of Northern California near Santa Rosa, California.

Leonhardt's Lauchpads by Cal-X Stars Business Accelerator, Inc. has office space in Santa Monica and access to labs in the Los Angeles area including animal research facilities at LABiomed and lab space at Pasadena BioScience Incubator.

Leonhardt's Launchpads Utah, Inc. has office space at the C&S Business Incubator in Salt Lake City, Utah and lab space at USTAR's BioInnovations Gateway in South Salt Lake City, Utah. The USTAR BioInnovations Gateway membership gains us access to over \$100 million of equipment at 6 facilities. We also have access to a number of labs at the U of Utah via our research collaborations.



### Leonhardt's Launchpads in California has access to office and R&D lab space at these locations...

- LABioMed Lundquist Institute, Torrance, CA
- BioLabs, Torrance, CA
- The Cove at UCI Beall Innovation Center, Irvine, CA •
- Pacific Neuroscience Institute, Santa Monica, CA
- John Wayne Cancer Institute, Santa Monica, CA
- ScaleLA, West LA, CA
- DeviceLab, Tustin, CA
- REV1 Engineering, Murrieta, CA
- Mettler Electronics, Anaheim, CA
- WeWork multiple locations
- Gharib Lab CalTech, Pasadena, CA
- Fluid Synchrony LLC, Pasadena, CA
- Institute, John Wayne Cancer Institute, UCSD and Pepperdine University.



Collaboration also with researchers at USC, UCLA, CalTech, UC Irvine, Hoag Hospital, Pacific Neurosciences



Leonhardt's Launchpads in Utah has access to office and R&D lab space at these locations...

- BioInnovations Gateway, South Salt Lake City, Utah •
- Center for Medical Innovation @ Research Park, Salt Lake City, Utah •
- Collaboration also with researchers at the University of Utah. •

# Brazil

- Access to multiple pre-clinical and clinical research resources.
- Access to suppliers, consultants and product development resources. ٠
- Access to multiple WeWork office locations. •

# Australia

- Access to multiple pre-clinical and clinical research resources. •
- Access to suppliers, consultants and product development resources. •
- Access to multiple WeWork office locations. •

# Minneapolis

- Access to multiple pre-clinical and clinical resources. •
- Access to suppliers, consultants and product development resources. •
- ٠
- Main manufacturing center location for catheter and delivery systems. •
- ٠
- Access to multiple WeWork office locations. •

# Pittsburgh

- •
- Access to advisors, consultants, intellectual property.
- Access to incubator resources.
- Access to co-working office space. •

Via all these facilities the team has access to millions of dollars worth of lab equipment and other resources.

Main center for electrical stimulation and infusion catheter development and production.

Main manufacturing center location for aortic stent assemblies for Second Heart Assist.

Collaboration with the University of Minnesota including heart valve related product testing.

Access to multiple pre-clinical and clinical resources including Allegheny Hospital researchers.

# Intellectual Property -Patents and Trademarks

- 600+ patent claims issued, pending, optioned or licensed. •
- 9 issued patents for bioelectric cancer treatment and other claims pending
- Multiple optioned or licensed patents from the California Institute of Technology (CalTech)
- Multiple licensed patents from Neuro Code Tech Holdings LLC
- Multiple licensed patents from Codes for Life LLC •
- Pioneering wireless power patent license from Vascor Pittsburgh •
- Issued patent claims for accelerated teeth straightening and stabilization
- Multiple patent claims pending for circulatory assist support
- Trademark issued for OrthodontiCell.
- Trademarks filed for Second Heart Assist, SkinStim, Stem Cell Bra, Valvublator, ErectiStim, HairCell

Risk warning: Patents licensed or optioned may not be maintained. Patents pending may not be issued. Patents issued may be invalidated. Products we produce may be found to be infringing patents of others

license covering organ regeneration and recovery.

### METHOD FOR INDUCING ANGIOGENESIS BY ELECTRICAL STIMULATION OF MUSCLES

US US6988004B2 Shinichi Kanno Bioheart. Inc. Priority 2000-05-16 • Filed 2001-05-15 • Granted 2006-01-17 • Published 2006-01-17 FIELD OF INVENTION: The present invention relates generally to the field of angiogenesis. More particularly, the present invention provides a method for inducing angiogenesis by electrical stimulation. DISCUSSION OF RELATED ART Arterial occlusive diseases cause serious ischemia in various organs.

### COMBINATION OF BIOELECTRICAL STIMULATOR AND PLATELET-RICH FIBRIN FOR ACCELERATED HEALING AND REGENERATION

### Publication number: 2020000709

Abstract: Means and methods utilizing a combination of bioelectrical stimulator and platelet-rich fibrin for accelerated tissue or wound healing and regeneration is described. The system bioelectrically stimulates the centrifuge, test tube, and/ or subject to produce enhanced levels of, e.g., SDF, PDGF, HGF, VEGF, IGF, Sonic hedgehog, klotho, and/or tropoelastin. The described system produces much higher levels of regenerative proteins delivered over an extended period of time. Type: Application Filed: July 1, 2019

Publication date: January 2, 2020

Inventors: Howard J. Leonhardt, Richard J. Miron, Valerie Kanter

### PREVENTING BLOOD CLOT FORMATION, CALCIFICATION AND/OR PLAQUE FORMATION ON BLOOD CONTACT SURFACE(S) Publication number: 20190125932

Abstract: Described is a device for preventing thrombosis formation on surfaces of a blood contact device. The device may first non-invasively scan the blood contact device and determines the highest risk thrombosis points. The device then, preferably starting with the highest risk location, delivers a succession of harmonic vibration signals or electromagnetic signals non-invasively so as to prevent clot formation at each stagnation high risk point of the blood contact device (e.g., harmonic resonance). This resonant vibration calibration tuning information is stored in an associated microprocessor. The signals are then delivered, based upon the stored information, in a loop from the signal generator, usually on a belt outside the patient, to each stagnation point in sequence from highest risk of thrombosis to lowest; again and again repeated. **Type:** Application Filed: October 26, 2018 Publication date: May 2, 2019 Inventors: Howard J. Leonhardt, Jeff Donofrio

## Leonhardt's Launchpads by Cal-X Stars Business Accelerator, Inc. and our portfolio startups have over 600 patent claims issued, pending, optioned or



### **TUMOR THERAPY**

### Publication number: 20190030330

Abstract: Described are a system and method that "reads" cancer tumors real time and custom delivers individualized bioelectric therapy to the patient. For example, the system reads a cancer tumor, and based upon this read, delivers to the subject "a confounding signal" to jam communication within that tumor. A cancer tumor may change its communication patterns and the therapy is designed to change with these patterns, attempting to always jam the relevant communication signaling pathway. The described system includes parameters not tied to communication jamming, which should also be customized to induce apoptosis to the cancer tumor. Such parameters include signals for starving a cancer tumor of blood supply and signals for changing the cancer tumor's surface proteins and/or charge so that the immune system attacks the cancer tumor.

Type: Application Filed: September 20, 2018 Publication date: January 31, 2019 Inventors: Howard J. Leonhardt, Jorge Genovese

### SYSTEM AND METHOD FOR TREATING INFLAMMATION

Publication number: 20190022389 Abstract: Described is a low voltage, pulsed electrical stimulation device for reducing inflammation in a subject, which can be useful in the treatment of concussions, traumatic brain injury, cancer, and so forth. Type: Application Filed: September 20, 2018 Publication date: January 24, 2019 Inventor: Howard J. Leonhardt

### **BIOELECTRIC BLOOD PRESSURE MANAGEMENT**

Publication number: 20190022396

Abstract: Described are a system and method that utilize bioelectric signaling to balance electrical potentials in a subject's body via neuro-hormonal circuit loops, to increase elasticity of the subject's arteries to promote protein release to dampen arterial blood pressure, and to change arterial electrical charges to reduce narrowing of the arteries. The described system is designed to localize and stimulate the fibers inside the vagus nerve without inadvertent stimulation of non-baroreceptive fibers causing side effects like bradycardia and bradypnea. The system also controls release of specific proteins known to lower blood pressures including tropoelastin (known to increase elasticity in the aorta and other peripheral blood vessels). Type: Application Filed: September 20, 2018

Publication date: January 24, 2019 Inventor: Howard J. Leonhardt

### SKIN TREATMENT SYSTEM

Publication number: 20190015661

Abstract: Described is a skin regeneration therapy. The described therapy combines precise bioelectric signals, light, and biologics for skin treatment and regeneration. Precise bioelectric signals give clear instructions to the stimulated cell DNA/ RNA to produce specific regenerative proteins on demand. Bioelectric signals give clear instructions to cell membranes on what to let in and what to let out and serve as an equivalent or surrogate of environmental stimuli to cause a cell action in response.

Type: Application Filed: September 12, 2018 Publication date: January 17, 2019 Inventors: Howard J. Leonhardt, Jorge Genovese



### **BIOELECTRIC STIMULATOR**

Publication number: 20180064935 Abstract: Described is a low voltage, pulsed electrical stimulation device for controlling expression of, for example, follistatin, a muscle formation promotion protein, by tissues. Epicardial stimulation is especially useful for heart treatment. Follistatin controlled release is also useful for treating other ailments, such as erectile dysfunction, aortic aneurysm, and failing heart valves. **Type:** Application Filed: November 14, 2017 Publication date: March 8, 2018 Inventors: Howard J. Leonhardt, Jorge Genovese

### ORTHODONTIC TREATMENT - U.S.P.T.O. Notice of Allowance has been received for primary patent claims RANKL, OPG, SDF1 Publication number: 20170274206

Abstract: Described is a bioelectric stimulating device for reducing orthodontic treatment time (braces) with post-treatment stability enhancement. The device and associated methods provide a native sustainable optimal release of an increase in the quantity of the right cells and proteins over time and in the right sequence to optimize tooth movement with the braces by accelerating bone resorption at the leading edge of the tooth during movement. This acceleration phenomenon is responsible for being able to shorten orthodontic treatment time. Following the final alignment of the teeth, the same device can utilize the native response and accelerate the tooth/bone interface stability by targeting specific cells and proteins that are responsible for bone deposition (hardening) in order to shorten the retention phase, while greatly decreasing the chance of relapse (instability). Type: Application

Filed: March 28, 2017 Publication date: September 28, 2017 Applicant: CalXStars Business Accelerator, Inc. Inventors: Howard J. Leonhardt, Jorge Genovese, John Joseph Marchetto

### **STIMULATOR, PUMP & COMPOSITION**

Publication number: 20170266371 Abstract: Described is a low voltage, pulsed electrical stimulation device for controlling expression of, for example, follistatin, a muscle formation promotion protein, by tissues. Epicardial stimulation is especially useful for heart treatment. Follistatin controlled release is also useful for treating other ailments, such as erectile dysfunction, aortic aneurysm, and failing heart valves. **Type:** Application Filed: March 15, 2017 Publication date: September 21, 2017 Applicant: CalXStars Business Accelerator, Inc. Inventors: Howard J. Leonhardt, Jorge Genovese

### DEPLOYMENT SYSTEM FOR MYOCARDIAL CELLULAR MATERIAL Patent number: 8308708

Abstract: A catheter-based deployment system for deploying cellular material (22) into the heart muscle (25). The deployment system includes a guiding catheter (19) and a needle assembly (31) capable of sliding within the guiding catheter. The needle assembly (31) terminates in a tip (34) having at least one side with an opening (43) in communication with a lumen (20) disposed within the needle assembly (31). Once the guiding catheter (19) is positioned, the needle assembly (31) is advanced until the tip (34) penetrates the muscle wall (25). At a predetermined depth the cellular material (22) may be deployed into the muscle wall (25) via a push rod (46) disposed through the lumen of the needle assembly (31). Type: Grant

Filed: February 5, 2010 Date of Patent: November 13, 2012 Assignee: Abbott Cardiovascular Systems Inc. Inventors: Howard J Leonhardt, Robert D. Lashinski



### DEPLOYMENT SYSTEM FOR MYOCARDIAL CELLULAR MATERIAL Patent number: 7686799

Abstract: A catheter-based deployment system for deploying cellular material (22) into the heart muscle (25). The deployment system includes a guiding catheter (19) and a needle assembly (31) capable of sliding within the guiding catheter. The needle assembly (31) terminates in a tip (34) having at least one side with an opening (43) in communication with a lumen (20) disposed within the needle assembly (31). Once the guiding catheter (19) is positioned the needle assembly (31) is advanced until the tip (34) penetrates the muscle wall (25). At a predetermined depth the cellular material (22) may be deployed into the muscle wall (25) via a push rod (46) disposed through the lumen of the needle assembly (31). Type: Grant **Filed:** July 13, 2001 Date of Patent: March 30, 2010 Assignee: Abbott Cardiovascular Systems Inc. Inventors: Howard J Leonhardt, Robert D Lashinski

### METHOD OF ENHANCING MYOGENESIS BY ELECTRICAL STIMULATION Patent number: 7483749

Abstract: The present invention provides a method for enhancing regeneration of the myocardium. The method comprises the steps of applying electrical stimulation to an injury site in the myocardium. The method can be used in combination with implantation of myogenic cells into the injury site. The electrical stimulation may be applied before or after the implantation. Type: Grant Filed: March 28, 2005 Date of Patent: January 27, 2009 Assignee: Bioheart, Inc.

Inventors: Howard J. Leonhardt, Juan C. Chachques

### METHOD OF PROVIDING A DYNAMIC CELLULAR CARDIAC SUPPORT Patent number: 7341062

Abstract: The present invention provides a method for repairing damaged myocardium. The method comprises using a combination of cellular cardiomyoplasty and electrostimulation for myogenic predifferentiation of stem cells and to synchronize the contractions of the transplanted cells with the cardiac cells. The method comprises the steps of obtaining stem or myogenic cells from a donor, culturing and electrostimulating the isolated cells in vitro, and implanting the cells into the damaged myocardium. Type: Grant Filed: May 17, 2004 Date of Patent: March 11, 2008 Assignee: Bioheart, Inc. Inventors: Juan C. Chachques, Howard J. Leonhardt

### **BIOLOGICAL PACEMAKER AND IMPLANTATION CATHETER** Patent number: 6690970

Abstract: A biological pacemaker and implantation catheter for restoring normal or near normal heartbeat function without a mechanical pacemaker. The biological pacemaker is provided by a bridge of implantation cells, such as nerve cells, stem cells or ganglion cells, that are introduced into an area of electrical malfunction, such as an impaired SA node or a blocked AV node. The implantation cells grow to form a conductive cell bridge around the malfunction area so that a new pathway is provided for the electrical signals responsible for triggering heart beat contractions. The implantation catheter has a central nerve cell injection needle connected to a syringe or the like via a cell injection tube, and two elongated lateral stabilizing needles. The catheter is inserted into a blood vessel in a patient's leg, arm, shoulder or the like, and advanced until the catheter's distal end is located above the malfunction area. Type: Grant

Filed: October 6, 2000 Date of Patent: February 10, 2004 Inventors: Syde A. Taheri, Howard J. Leonhardt



### **DEPLOYMENT SYSTEM FOR MYOCARDIAL CELLULAR MATERIAL** Publication number: 20040010231

Abstract: A catheter-based deployment system for deploying cellular material (22) into the heart muscle (25). The deployment system includes a guiding catheter (19) and a needle assembly (31) capable of sliding within the guiding catheter. The needle assembly (31) terminates in a tip (34) having at least one side with an opening (43) in communication with a lumen (20) disposed within the needle assembly (31). Once the guiding catheter (19) is positioned the needle assembly (31) is advanced until the tip (34) penetrates the muscle wall (25). At a predetermined depth the cellular material (22) may be deployed into the muscle wall (25) via a push rod (46) disposed through the lumen of the needle assembly (31). Type: Application Filed: July 15, 2003 Publication date: January 15, 2004 Inventors: Howard J Leonhardt, Robert D Lashinski

### METHOD TO RECORD, STORE AND BROADCAST SPECIFIC BRAIN WAVEFORMS TO MODULATE BODY ORGAN FUNCTIONING

### Patent number: 8509887

Abstract: A method for collecting, recording, and broadcasting coded human or animal body waveforms. The method consists of placing a contact, which is designed to receive electrical signals, on a portion of the body. The electrical signal is converted into a readable format and is processed and stored in a computer. The electrical signal can be adjusted and rebroadcast into the body to modulate body organ functioning. Type: Grant Filed: May 19, 2006 Date of Patent: August 13, 2013

Inventors: Eleanor Schuler, Claude K. Lee

### IMPLANTABLE METHOD TO REGULATE BLOOD PRESSURE BY MEANS OF CODED NERVE SIGNALS Patent number: 6957106

Abstract: A method and device for modulating blood pressure. The method comprises selecting waveforms from a storage area that are representative of body organ function. The selected waveforms are then transmitted to a treatment member, which is in direct contact with the body, and which then broadcasts the waveforms to a blood pressure regulatory points within the body to modulate blood pressure. A control module is provided for transmission to the treatment member. The control module contains the waveforms which are selected and transmitted to the treatment member, and computer storage can be provided for greater storage capacity and manipulation of the waveforms. Type: Grant

Filed: February 18, 2004 Date of Patent: October 18, 2005 Assignee: Science Medicus, Inc. Inventors: Eleanor Schuler, Claude K. Lee

### FREQUENCY SPECIFIC MICOCURRENT FOR TREATMENT OF DENTAL INDICATIONS Patent number: 8909346

Abstract: Protocols are provided for the use of frequency specific microcurrent in conjunction with dental or orthodontic procedures to treat or prevent inflammation induced complications. Specific protocols are disclosed for use in conjunction with gingival surgery and chronic periodontitis, implant/osseous periodontal surgery, general post operative trauma, pulpal trauma, pulpal inflammation, root canal post op, chronic osteonecrosis, osteonecrosis surgery post op, orthodontic pain prevention, and orthodontic mid-adjustment procedures. Type: Grant

Filed: February 17, 2009 Date of Patent: December 9, 2014 Inventor: Mary Ellen S. Chalmers

### **INCREASED MILK PRODUCTION**

WO WO2019191756A1 Howard J. Leonhardt Milkstim, Inc.

Priority 2018-03-30 • Filed 2019-04-01 • Published 2019-10-03

Described is a method of using a bioelectric stimulator for delivering an electrical signal to a subject's tissue, wherein the bioelectric stimulator utilizes the electrical signal to precisely control protein expression and/or release in the tissue on demand so as to increase milk production in a ...

### CATHETER ASSEMBLY FOR TREATING ISCHEMIC TISSUE

WO US AU W02002047753A1 Howard J. Leonhardt Bioheart, Inc.

Priority 2000-12-14 • Filed 2001-04-17 • Published 2002-06-20

The present invention provides for a catheter assembly for implanting cellular pellets into diseased or damaged heart muscle tissue. A guiding catheter is accurately positioned within either the left or right ventricle by means of an anchor wire so that a seeding catheter can distribute a pattern ...

### **CIRCULATORY ASSIST PUMP**

WO WO2019183247A1 Howard J. Leonhardt Second Heart Assist, Inc. Priority 2018-03-20 • Filed 2019-03-20 • Published 2019-09-26

What is claimed is: 1. A system for a circulatory assist pump, the system comprising: a stent cage of a size and shape to allow a highly open flow when placed within a subject's aorta, and further of a circumference sized to be stable against the subject's aortic wall, and a circulatory assist pump ...

### TRANSCUTANEOUS POWER TRANSMISSION AND COMMUNICATION FOR IMPLANTED HEART ASSIST ....

WO US DE US8764621B2 Kurt D. Badstibner Vascor, Inc.

Priority 2011-07-11 • Filed 2012-07-11 • Granted 2014-07-01 • Published 2014-07-01

A system includes an implantable pump system for assisting blood flow in a patient including at least one movable valve. The movable valve is in a normally open state when the moveable valve is not being powered and a drive system in operative connection with the moveable valve to move the ...

### **BIOLOGICAL PACEMAKER SCAFFOLD**

WO WO2020028809A1 Howard J. Leonhardt University Of Utah Research Foundation Priority 2018-08-03 • Filed 2019-08-02 • Published 2020-02-06

... section 112 and allows for the flushing of cells, the removal of blood and tissue debris, the introduction of new or additional pacemaker cells, and the injection of growth factors, epinephrine, hormones, other therapeutic and/or signaling agents (e.g., sonic hedgehog expression signals, Klotho

### $\label{eq:method} \textbf{METHOD} \textbf{ AND} \textbf{DEVICE FOR INCREASING TESTOSTERONE PRODUCTION IN A MALE}$

### Patent number: 8897877

Abstract: Described herein is a device and method for stimulating testosterone production in a subject. The device includes a first electrode, a second electrode, and a power source. The first electrode is configured to contact the skin in the pubic region of the subject and is electrically coupled to the power source. The second electrode is configured to contact the skin on the scrotum of the subject and is also electrically coupled to the power source. The power source is configured to deliver about 6 volts or less to the first or second electrodes. The device may further include a snug fitting undergarment for maintaining contact between the first and second electrodes and the subject's skin. The method is directed to the application of a low voltage to the testicles of a subject to stimulate the production of testosterone.

Type: Grant Filed: December 5, 2011 Date of Patent: November 25, 2014 Inventor: Robert D. Forward





## **Cancer Patents**

Docket No.	Title	Filing Date	Serial No.	Patent No.	Issue Date
1000-2640	Method and System for Processing Cancer Cell Electrical Signals for Medical Therapy	07/12/2010	12/812,576	8,656,930	02/25/2014
1000-2640 C1	Method and System for Processing Cancer Cell Electrical Signals for Medical Therapy	02/18/2014	14/182,417	9,032,964	05/19/2015
1000-2821	System and Method to Elicit Apoptosis in Malignant Tumor Cells for Medical Treatment	11/01/2010	12/936,778	8,831,738	09/09/2014
1000-2822	Hybrid Scientific Computer System for Processing Cancer Cell Signals as Medical Therapy	10/28/2010	12/936,791	8,315,712	11/20/2012
1000-3211	Encoded Bioelectronic Method and System and Calcium Treatment for Slaying Cancer by rapid Triggering of Cellular Apoptosis and Karvorthexis	02/13/2015	14/621,659	9,295,835	03/29/2016
1000-3211 C1	Encoded Bioelectronic Method and System and Calcium Treatment for Slaying Cancer by rapid Triggering of Cellular Apoptosis and Karverthevis	02/18/2016	15/046,866	9,492,478	11/15/2016
1000-3229	Rapid Destruction of Malignant Tumors by Excitotoxicity and Osmotic-shock Medical Tactics	03/12/2015	14/656,142	9,440,083	09/23/2016
1000-3229 C1	Rapid Destruction of Malignant Tumors by Excitotoxicity and Osmotic-shock Medical Tactics	05/16/2016	15/155,219	9,636,507	05/02/2017
1000-3229 CIP1	Rapid Destruction of Malignant Tumors by Excitotoxicity and Osmotic-shock Medical Tactics	08/08/2016	15/230,862	9,707,403	07/18/2017
1000-3229 C2	Rapid Destruction of Malignant Tumors by Excitotoxicity and Osmotic-shock Medical Tactics	03/21/2017	15/464,826	Pending	Pending


CIT 3804-EPO 01563186/EP-B1 5/16/2007

60313885.3

5/16/2007

CIT 3804-DE

CIT 3804-FR 03711445.1 5/16/2007

CalTed (convert	ch Exclu ing now to	sively O exclusive I	<b>ptioned Patents</b> icense stage)	CIT 3804-GB	03711445.1	5/16/2007
CIT 3708	7,998,190	8/16/2011	<b>Intravascular Miniature Stent Pump</b> Inventors: Gharib, Morteza Iwaniec -Hickerson, Anna Wolf, Richmond A	CIT 3804-P	60/428,126	11/21/200
CIT 3708-P	60/389,176	6/17/2002	<b>Intravascular Miniature Stent Pump</b> Inventors: Gharib, Morteza Iwaniec -Hickerson, Anna Wolf, Richmond A	CIT 3804-PCT	PCT/US03/06915	3/4/2003
CIT 3804	7,163,385	1/16/2007	<b>Hydroimpedance Pump</b> Inventors: Gharib, Morteza Iwaniec -Hickerson, Anna Zhou, Jijie Noca, Elavio	CIT 4114	8,197,234	6/12/2012

#### Hydroimpedance Pump

Inventors: Gharib, Morteza Iwaniec -Hickerson, Anna Zhou, Jijie Noca, Flavio

#### Hydroimpedance Pump

Inventors: Gharib, Morteza Iwaniec -Hickerson, Anna Zhou, Jijie Noca, Flavio

#### Hydroimpedance Pump

Inventors: Gharib, Morteza Iwaniec -Hickerson, Anna Zhou, Jijie Noca, Flavio

#### Hydroimpedance Pump

Inventors: Gharib, Morteza Iwaniec -Hickerson, Anna Zhou, Jijie Noca, Flavio

#### Impedance Pump

Inventors: Gharib, Morteza Iwaniec -Hickerson, Anna Zhou, Jijie Noca, Flavio

#### Hydroimpedance Pump

Inventors: Gharib, Morteza Iwaniec -Hickerson, Anna Zhou, Jijie Noca, Flavio

#### In-Line Actuator for Electromagnetic Operation

Inventors: Rinderknecht, Derek Gharib, Morteza Barbic, Mladen

CIT 4114-KR	0811037	2/29/2008	In-Line Actuator for Electromagnetic Operation Inventors:	Additional recently filed or in process pending pater
			Rinderknecht, Derek Gharib, Morteza	1. Bioelectric controlled expression of Klotho for organ reg
			Barbic, Mladen	<ol> <li>Bioelectric controlled expression of COL1/A1 for organ re</li> <li>Bioelectric controlled kidney regeneration - KidneyCell.</li> </ol>
CIT 4114-P	60/574,432	5/25/2004	Electromagnetic Actuator with Inline Coils	<ol> <li>Bioelectric controlled neuroregeneration disorder treatr</li> <li>Bioelectric essential tremor treatment - TremorStim.</li> </ol>
			Gharib Morteza	6. Bioelectric OPG treatment for bone and other cancers -
			Rinderknecht Derek	7. Improvements to heart valve regeneration technologies
			Barbic Mladen	8. Improvements to wireless power aortic stent circulatory
				9. Improvements to bioelectric oral mouthpiece.
CIT 4114-PCT	PCT/US200	5/25/2005	In-Line Actuator for Electromagnetic Operation	10. Bioelectric controlled expression of sonic hedgehog pro
	5/018592	-, ,	Inventors:	11. Bioelectric accelerated dental implant healing - Implant
			Gharib, Morteza	12. Bioelectric accelerated bone graft healing - BoneGraft.
			Rinderknecht, Derek	13. Bioelectric treatment for memory improvement - Memo
			Barbic, Mladen	14. Bioelectric treatment for gut microbiota for immune system
				15. Bioelectric treatment of gut microbiota for brain disord
CIT 4549	8,092,365	1/10/2012	Resonant Multilayer Impedance Pump	16. Bioelectric treatment brain cognitive function enhance
			Inventors:	17. Bioelectric restorative body suit - BodStim.
			Rinderknecht, Derek	18. Bioelectric treatment of obesity - CraveStop.
			Gharib, Morteza	19. Bioelectric breathing improvement treatment - BreathS
			Loumes, Laurence	20. Bioelectric and biologics bladder regeneration - Bladde
			Forouhar, Arian	21. Bioelectric and biologics hair regeneration - HairCell.
			Iwaniec -Hickerson, Anna	22. Bioelectric and biologics eye vision recovery - EyeCell.
				23. Bioelectric and biologics ear hearing recovery - EarCell
CIT 4549-JP	5147720	12/7/2012	A Resonant Multilayer Impedance Pump	24. Bioelectric and biologics lung regeneration - RegenaLu
			Inventors:	25. Improvements to mixed compositions for organ regene
			Rinderknecht, Derek	26. Bioelectrics and biologics for aorta regeneration - Aort
			Gharib, Morteza	27. Bioelectrics and biologics for heart regeneration - BioLo
			Loumes, Laurence	28. Bioelectrics and biologics for liver regeneration - Liver
				29. Bioelectrics and biologics for pancreas regeneration
CIT 4549-P	60/756,704	1/6/2006	A Resonant Multilayer Impedance Pump	30. Bioelectric treatment for dental receding gums - Gums
			Inventors:	31. Bioelectric controlled expression of HIF1a.
			Gharib, Morteza	
			Rinderknecht, Derek	Note - Many of the above indications of use have already be
			Loumes, Laurence	com/patent/20180064935 and stimulator, pump and col previous filings and are being spun out now into individual o
CIT 4549-PCT	PCT/2007/00309	1/8/2007	A Resonant Multilayer Impedance Pump	
			Inventors:	Trademarks
			Gharib, Morteza	Trademarks
			Rinderknecht, Derek	Trademark applications have been filed for the follow
			Loumes, Laurence	1. OrthodontiCell - received.
			Forouhar, Arian	2. Second Heart Assist.
			Iwaniec -Hickerson, Anna	3. SkinStim
				4 Valvublator

- 6. Stem Cell Bra
- 7. ErectiStim

#### nts and claims include....

generation. egeneration.

ment.

CancerCell. - Valvublator II. y assist pump.

rotein.

tStim.

oryStim.

vstem enhancement - Second Brain.

ler treatment including depression, anxiety and addiction.

ment - Brain-N-Hance.

Stim, ,SnoreStim and AirwayStim. erCell.

ıng. eration and recovery. taCell. eonhardt. Cell. PancreaCell. Stim.

een filed in our bioelectric stimulator https://patents.justia. pmposition https://patents.justia.com/patent/20170266371 organ focused separate patent applications now.

ving....

# Financial Progress

#### Cal-X Stars Business Accelerator, Inc. DBA Leonhardt's Launchpads

BALANCE SHEET As of December 31, 2019

	TOTAL
ASSETS	
Current Assets	
Bank Accounts	
BUSINESS CHECKING (7321)	31,303.17
Total Bank Accounts	\$31,303.17
Accounts Receivable	
Accounts Receivable (A/R)	47,000.00
Total Accounts Receivable	\$47,000.00
Other Current Assets	
Due to/from Leonhardt's Launchpads	118,398.96
Due to/from Second Heart Assist	-47,079.45
Loans to Leonhardt Ventures	39,732.93
Prepaid Expenses	0.00
Total Other Current Assets	\$111,052.44
Total Current Assets	\$189,355.61
Fixed Assets	
Accum Depr-Computers	-561.27
Fixed Asset Computers	2,244.72
Intangible Assets	2,000,000.00
Total Fixed Assets	\$2,001,683.45
TOTAL ASSETS	\$2,191,039.06



LIABILITIES AND	EQUITY
Liabilities	
Current Liabilitie	S
Accounts Paya	ble
Accounts Paya	able (A/P)
Total Accounts	Payable
Other Current L	iabilities
Payroll Tax Pa	yable
Wages Payabl	e - Howard Leonhardt
Total Other Cu	rent Liabilities
Total Current Lia	abilities
Long-Term Liab	ilities
Interest Payable	e Howard Leonhardt Loan
Interest Payable	e-Other
Loan Payable t	o Howard Leonhardt
Metheven Paya	ıble
Total Long-Term	1 Liabilities
<b>Total Liabilities</b>	
Fourity	

Common Stock	
Leonhardt's Launchpads	
Retained Earnings	
Net Income	
Total Equity	

TOTAL LIABILITIES AND EQUITY

7,013.64 \$7,013.64 0.00 758,333.32 \$758,333.32 \$765,346.96 526,424.40 250,249.99 1,704,670.23 80,638.61 \$2,561,983.23 \$3,327,330.19 1,937,400.00 47,000.00 -1,034,096.05 -2,086,595.08 \$-1,136,291.13 \$2,191,039.06

### Cal-X Stars Business Accelerator, Inc. DBA Leonhardt's Launchpads

PROFIT AND LOSS

January - December 2019

	TOTAL
Income	
Total Income	
GROSS PROFIT	\$0.00
Expenses	
Auto Expense	4,248.99
Bank Charges	554.98
Building Rent	
BioLabs San Diego	1,960.00
Church & State	0.00
LA Biomedical Research Institute	9,235.00
Playa Visa Rent	21,918.69
Salt Mine Rent	0.00
Utah Lab Rent	0.00
We Work Rent	3,072.57
Total Building Rent	36,186.26
Charitable Contributions	2,605.00
Conference Events	1,370.69
Contract Labor	112,121.90
Orthodonticell Contract Labor	45,644.52
Total Contract Labor	157,766.42
Dues and Subscriptions	4,829.02
Entertainment	4,825.01
Health Insurance	10,056.42
Insurance	15,560.32
Interest Expense	506,980.03
Legal and Professional Fees	99,774.69
Marketing	32,652.08
Meals 50% deductible	11,852.89
Office Expense	2,176.18
Payroll	106,211.17
Payroll Processing Fees	1,173.65
Payroll Tax	18,376.92
Postage & Shipping	27,262.89
R&D and Quality-Motor Controller & Alarm Box	0.00
Recruiting	436.26
Regulatory Legal and Professional Fees	15.00
Research and Development	134,563.63
Research Materials	128,143.32
Sponsorship	5,000.00
Storage	969.00
Tax	79.58
Travel Expense	51,099.94

### Cal-X Stars Business Accelerator, Inc. DBA Leonhardt's Launchpads

	TOTAL
Utilities	4,122.81
Wages	725,833.33
Total Expenses	\$2,094,726.48
NET OPERATING INCOME	\$ -2,094,726.48
Other Income	
Interest Income-SH	8,692.67
Total Other Income	\$8,692.67
Other Expenses	
Depreciation Expense	561.27
Total Other Expenses	\$561.27
NET OTHER INCOME	\$8,131.40
NET INCOME	\$ -2,086,595.08



#### PROFIT AND LOSS

January - December 2019

### Leonhardt's Launchpads Utah, Inc.

### Profit and Loss

December 2019	
	Total
INCOME	
Billable Expense Income	17,700.00
Total Income	17,700.00
GROSS PROFIT	17,700.00
EXPENSES	
Building Rent	
Kiln Lehi	195.00
Utah Lab (Granite SD)	1,087.50
Total Building Rent	1,282.50
Charitable Contributions	90.00
Finance and Tax Legal and Professional Fees	350.97
Payroll	12,414.17
Payroll Fees	131.76
Payroll Taxes	910.81
Research and Development	
R&D Travel and Marketing	138.62
Total Research and Development	138.62
Research Materials	900.42
Software Subscriptions	276.43
Total Expenses	16,495.68
NET OPERATING INCOME	1,204.32
OTHER EXPENSES	
Depreciation Expense	794.65
Interest Expense	103.05
Total Other Expenses	897.70
NET OTHER INCOME	-897.70
NET INCOME	\$306.62

#### **Balance Sheet**

As of December 31, 2019

#### ASSETS

Current Assets
Bank Accounts
<b>BUSINESS CHECKING (5762)</b>
EyeCell Checking 0176
Total Bank Accounts
Total Current Assets
Fixed Assets
Vehicle Cal-X/LLU
Accum Depr-Auto
Total Vehicle Cal-X/LLU
Total Fixed Assets
TOTAL ASSETS
LIABILITIES AND EQUITY
Liabilities
Current Liabilities
Other Current Liabilities
Accrued Expenses
<b>Total Other Current Liabilities</b>
Total Current Liabilities
Long-Term Liabilities
Cal-X Vehicle Loan
Due to/from Cal-X
Due to/from Second Heart
Total Long-Term Liabilities
Total Liabilities
Equity
Common Stock
Equity in Second Heart Assist
Howard Leonhardt Equity
Retained Earnings
Net Income
Total Equity
TOTAL LIABILITIES AND EQUITY

Total
490.17
-20.00
470.17
470.17
30,586.70
-20,367.18
10,219.52
10,219.52
\$10,689.69

149.79
149.79
149.79
12,900.17
118,398.96
-387.12
130,912.01
131,061.80
157,000.00
35,000.00
-3,324.78
-216,058.37
-92,988.96
-120,372.11
\$10,689.69

#### Statement of Cash Flows

December 2019

	Total
OPERATING ACTIVITIES	
Net Income	306.62
Adjustments to reconcile Net Income to Net Cash provided by operations:	
Vehicle Cal-X/LLU:Accum Depr-Auto	794.65
Accrued Expense-Payroll	-14,097.42
Accrued Expenses	149.79
Total Adjustments to reconcile Net Income to Net Cash provided by operations:	-13,152.98
Net cash provided by operating activities	-12,846.36
FINANCING ACTIVITIES	
Cal-X Vehicle Loan	-546.67
Due to/from Cal-X	1,080.14
Net cash provided by financing activities	533.47
NET CASH INCREASE FOR PERIOD	-12,312.89
Cash at beginning of period	12,783.06
CASH AT END OF PERIOD	\$470.17



#### **YTD Profit and Loss**

January - December 2019

#### INCOME Billable Expense Income Total Income **GROSS PROFIT** EXPENSES Bank Charges **Building Rent** Church & State Rent Kiln Lehi Rent-Center for Medical Innovation Salt Mine Rent Utah Lab (Granite SD) **Total Building Rent** Charitable Contributions Contract Labor Dues and Subscriptions Finance and Tax Legal and Professional Fees Health Insurance Insurance License and Registration Marketing Office Supplies Operations Parking Payroll Payroll Fees Payroll Taxes Research and Development Product Development Legal and Professional Fees R&D Travel and Marketing R&D working staff meals **Total Research and Development Research Materials** Software Subscriptions Taxes Paid

	Total
Jan - Dec 2019	Jan - Dec 2018 (PY)
132,000.00	104,200.00
132,000.00	104,200.00
132,000.00	104,200.00
285.00	437.50
	5,551.76
445.50	
1,847.62	
200.00	
616.88	
11,963.19	
15,073.19	5,551.76
1,130.00	
433.50	13,274.38
400.00	0.00
11,952.34	6,196.69
	6,764.70
1,023.00	
345.52	30.00
	60.00
13.96	174.08
	2,337.50
8.00	
148,793.40	99,371.60
792.26	
10,629.19	23,753.55
11,337.82	1,248.92
109.88	
1,447.88	4,320.79
115.52	272.21
13,011.10	5,841.92
5,950.87	11,781.80
4,020.62	4,311.52
	994.46

		Total	
	Jan - Dec 2019	Jan - Dec 2018 (PY)	
NET OTHER INCOME	-11,127.01	0.00	
NET INCOME	\$ -92,988.96	\$ -76,681.46	



	TOTAL
SSETS	
Current Assets	
Bank Accounts	
Bill.com Money Out Clearing	0.00
BUSINESS CHECKING (8960)	244,865.78
Clearing account	0.00
Total Bank Accounts	\$244,865.78
Other Current Assets	
Due to/from Cal-X	47,079.45
Due to/from Leonhardt's Launchpads	-387.12
Prepaid Insurance	1,901.49
Prepaid Rent Expense	0.00
Shareholder Loan-Howard Leonhardt	0.00
Total Other Current Assets	\$48,593.82
Total Current Assets	\$293,459.60
Fixed Assets	
Automobile	51,429.54
Accum Depr - Auto	-6,600.00
Total Automobile	44,829.54
Technology	9,755.82
Accumulated Depreciation	-9,755.76
Total Technology	0.06
Total Fixed Assets	\$44,829.60
OTAL ASSETS	\$338,289.20
IABILITIES AND EQUITY	
Liabilities	
Current Liabilities	
Accounts Payable	
Accounts Payable (A/P)	184,706.47
Total Accounts Payable	\$184,706.47
Other Current Liabilities	
Accrued Expenses	0.00
Accrued Expense-Payroll	0.00
Accrued Expenses-Contract Labor	0.00
Total Accrued Expenses	0.00
Total Other Current Liabilities	\$0.00

### Second Heart Assist, Inc.

BALANCE SHEET As of December 31, 2019

### Second Heart Assist, Inc.

	TOTAL
Long-Term Liabilities	
Auto Loan	31,061.28
Interest Payable-Wages	44,966.66
Loan Payable-Patel	200,000.00
Notes Payable-Metheven	45,181.91
Wages Payable	170,000.00
Total Long-Term Liabilities	\$491,209.85
Total Liabilities	\$675,916.32
Equity	
Common Stock	4,044,193.99
Retained Earnings	-2,014,386.47
Net Income	-2,367,434.64
Total Equity	\$ -337,627.12
TOTAL LIABILITIES AND EQUITY	\$338,289.20



inc T	;ome
10	tal income
GF	IOSS PROFIT
Ξx	penses
A	luto Expense
A	luto Insurance
E	ank Charges
E	uilding Rent
(	Church & State Rent
	Kiln Rent
	Playa Vista Rent
;	Salt Mine Rent
	Jtah Lab Rent (Granite SD)
_	We Work Rent
T	otal Building Rent
E	susiness Licences and Permits
E	business Meals 50%
C	haritable Contributions
C	onsulting Fees
C	contract Labor
C	contractor payments- Leonhardt Entities
C	Jues & subscriptions
F	inance and Tax Legal and Professional Fees
+	lealth Insurance
	Isurance
	iterest Expense-Cal-X
N	
F	ayroll Bouroll Hourby
	-ayroll-nourly
т	
	aylon laxes Regulatory Legal and Professional Fees
	Accepted and Development
Г	Product and Development Legal and Professional Fees
	R & D - Clinical/Regulatory
	R & D Catheter
	R&D/Quality Control-Motor Controller/Alarm Box
_	fotal Research and Development

#### PROFIT AND LOSS

January - December 2019

#### TOTAL

\$0.00
401 92
698.01
1 063 17
125.88
148.50
420.88
21.918.67
205.62
3,974.40
1,637.89
28,431.84
20.00
1,026.99
2,500.00
8,600.83
202,611.81
132,000.00
6,053.59
47,603.72
9,563.51
5,704.51
8,692.67
48,148.80
6,921.50
1,621.14
-3,199.98
5,559.93
484,929.61
487,289.56
27,426.71
293.75
178,780.13
500.00
80,000.00
420,147.66
215,825.71
895,253.50
192,370.18

	TOTAL
Shipping & Delivery	2,438.99
Telephone Expense	4,647.74
Travel Expense	63,468.78
Utilities	1,103.54
Wages-Not Paid	170,000.00
Total Expenses	\$2,355,956.76
NET OPERATING INCOME	\$ -2,355,956.76
Other Expenses	
Depreciation Expense	11,477.88
Total Other Expenses	\$11,477.88
NET OTHER INCOME	\$ -11,477.88
NET INCOME	\$ -2,367,434.64





### Len Lanzi

Senior Advisor Finance

#### **Experience and Education**

- Managing Director, The Preccelerator® by Stubbs Alderton & Markiles LLP, Dec 2019 - Present
- Principle Owner, Topanga Ventures, LLC
- **Executive Director**, Los Angeles Venture Association
- Sep 2007 Dec 2019

University of Rochester, BA Psychology, 1980 - 1984 Activities and Societies: NROTC, Theta Chi Fraternity, Inter-Fraternity Council

Pepperdine University, The George L. Graziadio School of Business and Management Certificate, Private Capital Markets, 2012 – 2012



Advisor since 2001

Serial entrepreneur with multiple successful exits. The entrepreneurial bug bit Mr. Brown and in 1979 he founded his first business, BrownCor International. During the first seven years in his ownership, the business grew to employ a staff of 120 and accumulated 200,000+ active customers throughout the U.S. Mr. Brown sold BrownCor to a multi-national public company in 1986. In 1988, Mr. Brown founded G. Neil Companies, a business to business direct marketing, e-commerce firm that provides an extensive line of supplies to make personnel and human resource managers' job easier. G. Neil also experienced dynamic growth. Eventually the firm accumulated 1.2 million active customers with facilities in the U.S. and U.K. G. Neil was ranked amongst the largest direct marketing, e-commerce firms in the U.S. while owned by Mr. Brown.

In 1998, Mr. Brown sold majority interest in G. Neil which was merged into Centis, Inc. Mr. Brown was appointed Chairman of the Board of the combined business that, in total, employed a staff of 2,700 people in offices, distribution centers and manufacturing plants located in the U.S., Ireland, Mexico, Canada and the United Kingdom. Since 1999 Mr. Brown has served as an investor and advisor to a multitude of companies.



### **Steven Kann**

Senior Advisor Finance

### Background

Steven Kann has more than 25 years of experience in corporate finance, buy and sell-side equity research, operations, marketing, consulting and has been a founder, advisor, agent, banker, and investor in dozens of companies over the years. This breadth and depth of experience gives him a uniquely integrated perspective on the issues and challenges - as well as the opportunities affecting investment banking and advisory clients, and the wellcoordinated work that needs to be done to address them. Steve holds a B.A. from George Mason University in Virginia, which he attended on a baseball scholarship.



# Innovation

### Background

Ron Waksman, MD, FACC, is Associate Director, Division of Cardiology at the MedStar Washington Hospital Center and Director of Experimental Angioplasty and Emerging Technologies for the Cardiovascular Research Institute (CRI) at MedStar Washington Hospital Center. With nearly 30 years of experience in leading-edge medical technologies, Dr. Waksman is a worldrenowned interventional cardiologist and is a highly sought after Principal Investigator for pre-clinical and clinical studies conducted in the United States and abroad.

### **Gary Brown** Senior Advisor Finance & Business

#### Background

### Dr. Ron Waksman

Senior Advisor Cardiovascular



### **David Saloff**

Senior Advisor Cell Health Business Senior Advisor PEMF Senior Advisor Arteriology

### **Background and Experience**

Hands-on leader with extensive entrepreneurial background having initiated 3 start-up healthcare technology companies, two of which were successfully taken public (IPO), and the third sold to a leading public healthcare products company. Solid accomplishments in fund raising (i.e.\$50 million), negotiation of high-level partnerships,

corporate contracts and distribution agreements, (e.g., Stryker Medical, Amsco, Lumex, Allergan, Wyeth Pharmaceutical, Select Medical). Extensive experience in regulatory matters with FDA and CMS (Medicare) reimbursement. Personally secured 510-K clearance and directed counsel in a successful effort to mount an official appeal and ultimate reversal of a "final" non-substantially equivalent determination by the FDA.

- Executive Vice President, Transparent Health Marketplace Apr 2016 Present
- Executive Director and President, Institute of Arteriology, Jan 2015 Present
- Managing Partner, Palisades Partners LLC Sep 2003 Present



### Background

- Received his diploma from the Hahnemann Homeopathic College in Albany, California in 1995
- Became certified by the Council of Homeopathic Certification in 2000
- Became Doctor of Homeopathic therapeutics (DHt) in 2002
- Dr. Kondrot has an active medical license in Arizona, California, Florida and Pennsylvania



### **Dr. Barry Katzen**

Senior Advisor Vascular Therapies Advisor since 1994

#### Background

Barry T. Katzen, MD, is the founder and Medical Director of Miami Cardiac & Vascular Institute. At the Institute since 1987, he has been a leader in the development of interventional radiology and multi-disciplinary models for delivering cardiovascular care.



# Advisor since 2000

### Background

- Medicine

- 2005 2017 Director, Cardiac Cell-Based Endovascular Therapies
- Present Associate Professor in Clinical Medicine

### Dr. Ed Kondrot

Senior Advisor EyeCell

Clinical Investigator EyeCell

 Has practiced ophthalmology for over 20 years and classical homeopathy for over 15 years.

• Received his MD in 1977 from Hahnemann Medical College in Philadelphia, Pennsylvania

Completed his residency in Ophthalmology at the Scheie Eye Institute in Philadelphia, Pennsylvania and at St. Francis General Hospital in Pittsburgh, Pennsylvania, becoming a board certified Ophthalmologist in 1981

### **Dr. Warren Sherman**

Senior Advisor Cardiovascular Cell Therapies

• Former Director, Stem Cell Research and Regenerative

Center for Interventional Vascular Therapy

Columbia University Medical Center

Director, Cardiac Cell-Based Endovascular Therapies

Columbia University Medical Center / New York-Presbyterian Hospital Positions and Appointments

Columbia University Medical Center / New York-Presbyterian Hospital, New York, New York 2005 -

Columbia University College of Physicians and Surgeons New York, New York Clinical Specialties Interventional Cardiologist Education and Training 2004 – 2005 Interventional Fellow, Cardiology

Executive Chairman's Financial Analysis For the Financial Year Ended December 31st, 2019 and 1Q 2020

The Executive Chairman presents this report, including financial statements of Cal-X Stars Business Accelerator, Inc. DBA Leonhardt's Launchpads, Leonhardt's Launchpads Utah, Inc. and Second Heart Assist, Inc. as prepared by Ledgergurus LLC whom is lead by CPA Brittany Brown with lead bookkeeper Kim Medina. Financials for all portfolio innovations, Licensable Technology Platforms (LTPs) and startups are including in the Cal-X Stars Business Accelerator, Inc. DBA Leonhardt's Launchpads with the exception of Second Heart Assist, Inc. which has been separated out into a stand alone C corporation with its own bank account and Board of Directors. Leonhardt's Launchpads Utah, Inc. is considered a subsidiary of Leonhardt's Launchpads by Cal-X Stars Business Accelerator, Inc. but keeps its own separate financials and bank account and has its own board of directors. Leonhardt's Launchpads Australia PTY is newly formed and will have its own financial statements in 2020. Leonhardt's Launchpads NorCal, Pittsburgh, Minneapolis and Brazil are simply branch offices of the parent company Cal-X Stars Business Accelerator, Inc. DBA Leonhardt's Launchpads at this time but do have their own cap tables designed for local share option plan participation for local advisors, research collaborators and in some cases employees.

Leonhardt Ventures LLC (Leonhardt Vineyards LLC DBA Leonhardt Ventures) is the venture creation and invention commercialization arm of founder Howard J. Leonhardt that has been active in this space since the early 1980's. The LLC in the legal form it exists in today was officially formed in 2005 but was preceded by H.J. Leonhardt & Co. that operated as a sole proprietorship since the early 1980's. Leonhardt Ventures LLC owns 50.1% controlling interest in Cal-X Stars Business Accelerator, Inc. DBA Leonhardt's Launchpads and at this time all of its startups with the exception of Second Heart Assist and OrthodontiCell where it holds approximately 20 to 30% ownership positions which are subject to dilution as each new investor comes into those startups. Leonhardt Ventures LLC tax returns are filed under the personal tax returns of Howard J. Leonhardt since it is a single owner LLC.



### Our full year end financial statements have been included in our annual report.

### Key highlights...

- In 2019 Cal-X Stars Business Accelerator, Inc. DBA Leonhardt's Launchpads posted a loss of \$2,086,595 this included \$506,000 in accrued interest on loans so the actual loss was \$1,580,595. We also have on our balance sheet over \$785,000 in deferred wages that will not be paid until we have a substantial exit event.
- In 2019 Leonhardt's Launchpads Utah, Inc. lost \$224,989
- In 2019 Second Heart Assist, Inc. lost \$2,367,435

### **Office and Lab Rent Costs**

- The California offices and (3) labs cost about \$3,000 a month last year or \$36,000 total.
- The Utah offices and (2) labs cost us about \$1250 a month last year or \$15,000 total.
- The Second Heart Assist offices and labs cost us about \$2333 a month last year or \$28,000 total.
- Rents for 2020 are running about 30% less due to some cutbacks in space usage.

### **Payroll Costs**

- California net payroll was \$106,000 for the year 2019. Contract labor was \$158,000 more.
- Utah net payroll was \$148,793 for the year 2019. Contract labor was only \$433 more.
- Second Heart Assist net payroll for all employees for the year 2019 was \$490,000. Contract labor was an additional \$202,000.

These amounts are substantially below our industry comparables (see below) for our level of progress by a large margin. Most our competitors spend well over 10X the amount annually as we do with a similar or lesser level of progress in product development, patent claims acquired and pre-clinical and clinical data gathered.

Statement of Board Directors' Responsibilities Related to Financial Statements led by the Executive Chairman with oversight and assistance from Audit Committee Chair, Compensation Committee Chair, Financial Advisors, CPA, Accountants, Tax Preparers, Bookkeepers and Legal Counsel.

#### In overseeing the preparation of these financial statements, the directors are required to:

- select suitable accounting policies and personnel and then apply them consistently;
- · make judgments and estimates that are reasonable and prudent;
- state that the financial statements of the Group comply with accounting principles generally
  accepted as appropriate for our stage of development and in compliance with all applicable
  state and federal regulations which may apply.
- prepare the financial statements on the going concern basis, unless it is inappropriate to presume the Group will continue in business.

#### The directors are responsible for keeping adequate accounting records that are sufficient to:

- correctly record and explain the transactions of the Company;
- enable, at any time, the assets, liabilities, financial position and profit or loss of the Company to be determined with
- · reasonable accuracy; and
- enable the directors to ensure that the financial statements are accurate and timely as required by federal and state laws

The directors working through our Audit Committee Chair are also responsible for safeguarding the assets of the Company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

The directors delegating to our shareholder ratified CPA Brittany Brown are responsible for the maintenance and integrity of the corporate and financial information. Legislation in California governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

#### **Accounting Records**

The measures taken by the directors to secure compliance with the Company's obligation to keep adequate accounting records are the use of appropriate systems and procedures and employment of competent persons. The accounting records are kept at Ledgergurus in American Fork, Utah by CPA Brittany Brown. Tax return copies are kept by Mina Vallabh tax return preparer at Westside Income Tax in Los Angeles, California.

#### **Directors' Compliance Statement**

The directors acknowledge that they are responsible for securing compliance by the Company with its Relevant Obligations as defined by applicable state, federal and international laws. The directors confirm herby confirm in this document a compliance policy statement setting out the Company's policies that, in the directors' opinion, are appropriate to the Company respecting compliance by the Company with its Relevant Obligations for its current stage of development.

A review of the arrangement and structures in place to ensure compliance with the Company's relevant obligations has been conducted in the financial year to which this report relates.

#### **Basis of Presentation**

The following discussion and analysis provides information the directors believe to be relevant to understanding the financial condition and results of operations of the Group. The directors have elected to have Brittany Brown CPA and Kim Medina of Ledgergurus prepare the financial statements in accordance with good accounting practices, which provides that a true and fair view of the assets and liabilities, financial position and profit or loss may be given by preparing the financial statements in substantial best reasonable efforts accordance with U.S. GAAP.

We report our results based on a 52/53 week year, ending the last day of the year 2019 and the last day of the 1Q 2020 March 31st. The financial years ended December 31st, 2019 (fiscal year 2019) was a 52 week year and March 31st, 2020 (1st quarter 2020) as a 91 day quarter.

#### **Principal Activities**

Leonhardt's Launchpads by Cal-X Stars Business Accelerator, Inc., headquartered in Irvine, California south of Los Angeles about 50 minutes is an emerging leader in integrating bioelectric signaling based regenerative protein expressions and mixed biologic compositions for organ regeneration and recovery. Its primary mission is to help people keep their own organs by regenerating them.

With innovation leadership, we have pioneered advances in medical technology in all of our product groups and startups with over 600 patent claims issued, pending, optioned or license related to organ regeneration and recovery.

Our extended history at Leonhardt Ventures LLC is one of many world first breakthroughs....

1986 - Howard Leonhardt launches collaboration with Labcor Laboratories in Brazil developers of implantable heart valves and DMG Brazil developer of an oxygenator.

1987 - Howard Leonhardt initiates collaborative research discussions with Dr. Robert O. Becker Author of the Body Electric.

1988 - Dr. Race Kao and Dr. George Magovern two research collaborators in Pittsburgh complete world first muscle satellite cell repair of a damaged heart in animals.

1988 - Patented and launched the world's first predicatably compliant polyurethane balloon cardiovascular catheter - PolyCath.

1990 - Acquired patent rights to world's first biological pacemaker filed in 1990 by Wendell King.

1995 - Leonhardt and Taheri file patent for first conforming aortic stent graft for aortic aneurysm repair.

1995 - Leonhardt working with Dr. Ken Thomson complete's world first percutaneous repair of an aortic aneurysm without surgery in a clinical patient.

1995 - Leonhardt files patent for world's first stem cell delivery catheter system - ProCell.

**1996** - Leonhardt files first patent for vibrational energy to prevent blood clot formations and to improve gas exchange in intravascular lungs.

1997 - Leonhardt files patent for one of the first percutaneous heart valves (original developed in 1988).

1997 - Leonhardt working with Dr. Cristoff Neinaber complete's world first case of repair of an aortic type b dissection without surgery.

1998 - Leonhardt files patent for radiation delivery catheter - RadiCath.

2000 - Leonhardt and Taheri file patent for improved biological pacemaker and method.

2001 - Leonhardt working with Dr. Patrick Serruys, Dr. Pieter Smits, Dr. Doris Taylor, Dr. Warren Sherman and Dr.

Kumar Ravi complete landmark first ever muscle stem cell repair of a human heart without surgery.

2001 - Leonhardt files pioneering patent on bioelectric stem cell homing and myogenesis.

2010 - Leonhardt sponsored team with Dr. Felipe Prosper in Spain publishes in European Heart Journal first study with repeat injections of myoblasts for heart recovery.

2001 - Leonhardt and Chachques filed pioneering patent on bioelectric stimulation and stem cell based biologics mixed composition for organ regeneration (heart first organ example cited).

2011 - Leonhardt led team publishes positive results from Phase II/III study of muscle stem cell therapy for heart failure.

2017 - Leonhardt files pioneering patent for combination bioelectric stimulator + re-fillable micro infusion pump + mixed composition for organ regeneration.

2018 - Leonhardt files pioneering patent on bioelectric inflammation management.

2018 - Leonhardt files pioneering patent on bioelectric blood pressure management.

2018 - Leonhardt files pioneering patent on multi-modality bioelectric cancer tumor treatment.

2019 - Leonhardt working with Dr. Adrian Ebner, Dr. Leslie Miller and Alex Richardson complete historic landmark first ever placement of a true aortic stent based circulatory assist pump.

2019 - Leonhardt, Marchetto and Genovese granted patent for bioelectric protein expression controlled accelerated teeth straightening.

Leonhardt's Launchpads develops products and startup in these product area groups.

#### Heart & Cardiovascular Group

The Heart & Cardiovascular Group is made up BioLeonhardt for heart regeneration, AortaCell for aorta regeneration, Valvublator for heart valve regeneration, Vascustim for lower limb healing, PressureStim for bioelectric blood pressure control, BioPace biological pacemaker, VibroCell for energetic systems for preventing clots, plaque and calcification and Second Heart Assist an aortic stent based circulatory assist pump.

#### **Brain Group**

The Brain Group is made up of CerebraCell for brain regeneration, MemoryStim for bioelectric memory improvement, TremorStim for bioelectric essential tremor treatment and Second Brain for bioelectric gut microbiota brain axis treatment.

#### **Cosmetic, Personal Care and Reproductive Health Group**

The Cosmetic, Personal Care, Reproductive Health Group is made up of HairCell for hair regeneration, SkinStim for skin regeneration, Stem Cell Bra for breast tissue generation, MyoStim ED for bioelectric erectile dysfunction treatment, TestiStim for bioelectric testosterone and infertility treatment, DentaCell Accelerator for dental bioelectric and biologics innovations, OrthodontiCell for bioelectric teeth straightening and stabilization and ImplantStim for bioelectric and biologics based accelerated healing of dental implants.

#### Major Organ Regeneration Group

The Major Organ Regeneration Group is made up of EyeCell for vision recovery, OrthoStim Accelerator for joint recovery and other orthopedic innovations, PancreaCell for pancreas regeneration, LiverCell for liver regeneration, KidneyCell for kidney regeneration, EarCell for hearing recovery, BladderCell for bladder regeneration, RegenaLung for lung regeneration, BioLeonhardt Whole Body for whole body regeneration with BodStim bioelectric recovery suit and InStim for bioelectric inflammation management.

#### **Cancer Group**

The Cancer Group is made up of just CancerCell that is focused on bioelectric customized cancer treatment.

#### The accelerator strives to limit to maximum 30 startups in each portfolio class.

In 2019, Leonhardt's Launchpads by Cal-X Stars Business Accelerator, Inc. completed the divestiture of our Regenerative Economy portfolio of three startups; The California Stock ExchangeTM, Kindheart Lionheart Media & Publishing and Lionheart Food and Beverage to the Cal-Impact www.cal-impact.com Social Good Impact Accelerator in order to maintain an intense focus only on organ regeneration and recovery based on a common IP platform.

#### **Key Performance Indicators**

- 800 patients enrolled in clinical studies.
- Running about 83% treatment success across all studies. •
- No serious adverse events reported to date.
- 600+ patent claims issued, pending, optioned or licensed.
- 17 products at clinical stage of development.
- 13 products at pre-clinical stage of development.
- \$6.5 million capital raised for the current portfolio of startups.
- 9 issued bioelectric cancer treatment patents. •
- Patent issued for SDF1 and PDGF based stem cell homing via bioelectric signaling.
- Patent issued for bioelectric RANKL and other protein expression for accelerated teeth straightening.
- Patent issued for bioelectric OPG expression for improving teeth position stabilization.
- Multiple pre-clinical studies published.
- Multiple clinical studies published.

#### **Operations by Geography**

- California access to multiple R&D labs, suppliers, research collaborators, offices and personnel.
- Utah access to multiple R&D labs, suppliers, research collaborators, offices and personnel.
- Brazil multiple active clinical studies. •
- Pittsburgh access to research collaborators and other resources such as IP.
- Australia access to research collaborators, offices and suppliers. •
- Minnesota access to research collaborators, offices, suppliers.
- South Africa multiple active clinical studies. •

#### **Typical Equity Structure Leonhardt Ventures Founded Startups in Portfolio**

- 50.1% Leonhardt Ventures non-dilutable unless waived
- 9% Cal-X Stars Business Accelerator, Inc DBA Leonhardt's Launchpads with 9% floor on dilution and pre-emptive right to purchase 20% equity up to exit at market prices.
- 3 to 9% Leonhardt's Launchpads Utah, Inc. subject to dilution
- 31.9 to 48% for outside investors, advisors, management, employees, suppliers

#### Typical Equity Structure Anticipated IF Outside Founded Startup is Taken into Accelerator

- Original founders 50.1%
- Cal-X Stars Business Accelerator, Inc. DBA Leonhardt's Launchpads 9% with floor on dilution at 9% and pre-emptive right to purchase 20% equity at market prices.
- Leonhardt's Launchpads Utah, Inc. 9% no dilution protection
- Others 31.9%

Note: The most common way for Leonhardt's Launchpads to take in outside IP, outside data or outside startups is to merge them into existing startups and to compensate them primarily in share options sometimes with obligations for sponsoring pre-clinical and clinical studies and sometimes with additional obligations to sponsor them to present our shared data at international conferences. This has been done again and again as a strategy to acquire a substantial amount of data and IP.

#### How does other branches of Leonhardt's Launchpads earn equity? Brazil, Australia, Pittsburgh etc.

- Up to 3% equity for providing highly valuable IP
- clinical.
- Up to 3% equity for providing highly substantial capital > \$1 million from local investors, partners or research grants.

#### How does IP work within the accelerators?

Any IP developed by any member or startup in the accelerator automatically belongs by organ to each organ specific startup that can use that IP. By example BioLeonhardt developed the original bioelectric signaling sequences for klotho expression with intent to regenerate muscle but it was found that klotho is also very useful for regenerating many other organs such as kidneys so KidneyCell and every other startup that can use bioelectric klotho expression automatically gets full ownership rights for that organ. This applies right up to the day the startup or innovation exits the accelerator. Howard Leonhardt and Leonhardt Ventures is obligated to grant to any startup that needs any of its IP filed before or during the acceleration of the startups as long as they maintain their original equity ownership position without those firms paying any fees or royalties above their original equity stake. If Howard Leonhardt or Leonhardt Ventures gives up their original equity stake by waiving anti-dilution then compensation for IP licenses should be at market rates similar to licensing from any comparable similar outside patent license provider (like Vascor or Caltech) and can be paid fully in shares or share options or deferred until a cash exit to be paid in cash.

• Up to 3% equity for providing highly valuable data. Generally 1% for pre-clinical and 2% for

#### **Total and Research and Development Expenses**

We remain committed to the intense FOCUS of accelerating the development of meaningful organ regeneration and recovery innovations to deliver better patient outcomes at appropriate costs that lead to enhanced quality of life and may be validated by clinical and economic evidence. We in simple terms want to lead the world in helping people to keep their own organs by regenerating them allowing them to return to a full quality of life. Our entire expenses in 2019 were directed basically toward Research and Development in one form or another and those total expenses for the year 2019 were \$2,367,435 for Second Heart Assist and \$1,500,000 for Cal-X Stars Business Accelerator, Inc. DBA Leonhard't Launchpads (subtracting accrued interest on the books). The actual categorized for R&D tax credits R&D spending was \$895,254 for Second Heart Assist, Inc. and \$600,000 for Cal-X Stars Business Accelerator, Inc. DBA Leonhardt's Launchpads.

Approximate aggregate cash expenditures in the development of our products over full course of development (not just 2019) ...

- 1. Product development, testing and manufacturing for studies \$1,200,000
- 2. Lab R&D, Supplies, Labor & Patents = \$1,000,000
- 4. Animal studies \$600,000
- 5. Clinical studies \$550,000
- 6. Legal, professional, regulatory, accounting \$525,000
- 7. Labor Non Lab \$500,000
- 8. Building rent = \$300,000

The accelerator has on average invested about \$2500 cash and \$13,717 in share options total (includes all internal and external preparation costs to enter the studies) for each patient enrolled in clinical studies across all the studies including acquiring rights to independent studies. The industry average is \$41,117 total cost per patient enrolled in clinical studies just for the studies themselves (does not include preparation costs) https://www.clinicalleader.com/doc/getting-a-handle-on-clinical-trial-costs-0001 so we are being very efficient with our use of capital by this standard.

#### Comparables

- developing its products and pushing them through clinical studies
- and- \$131 million) annually http://2018.novocure.com/selected-financials.html
- https://finance.yahoo.com/quote/PLSE/financials/

#### **Accelerator Comparison**

- Y Combinator in their early years provided \$6K capital per founder participating up to 3 They provided no IP, lab or other resources to the companies.
- Cedar Sinai Healthcare Accelerator invests \$100K in each startup for a 6% equity stake healthcares-really-like
- Leonhardt's Launchpads by Cal-X Stars Business Accelerator, Inc. provides access to a waived (has been waived for OrthodontiCell and Second Heart Assist).

 Cytori Therapeutrics develop adipose tissue based organ regeneration and recovery products for a few indications of use in San Diego, California averages about (-\$18 million) in loses annually as it is developing its products and pushing them through clinical studies. Capricor Therapetuics of Los Angeles developed biologics therapies for just one or two indications of use loses annually between (-\$7.4 and -\$18.1 million) annually as it is

Procyrion has raised raised \$64.7 million since 2005 to develop its products and is a very similar stage of development as Second Heart Assist that has raised about \$4.5 million since 2017. Novocure our nearest competitor to CancerCell has lost on average between (-\$61 million

Pulse Biosciences another near competitor to CancerCell lost about (-\$47 million) in 2019

= \$18,000. They accelerated for 12 weeks only with primarily only 1 one on one mentor meeting a week and took 6% equity in the company with a bunch of VC type protections.

and only accelerates them for 12 weeks - https://csaccelerator.com/program + https:// csaccelerator.com/blog/2017/7/24/cedars-sinais-accelerator-teaches-startups-what-

full estate of IP (over 600 patent claims in inventory and growing) to all of its startups and staffed labs in Utah and California to build, test and develop their products and millions of dollars of capital support over many years. Some startups in our accelerator have been under our services since 2013 over 7 years. We are committed to accelerate all startups through first in human studies even if that takes a decade to accomplish. We provide access to manufacturing facilities, animal lab, clinical investigators and over 100 advisors and mentors. We write grant applications for them and showcase them in multiple ways including innovation showcases, DEMO days, press releases and more. We build web sites for them, executive summaries, videos, slide decks, newsletter, social media compaigns and more. For all this we receive 9% equity with a pre-emptive right to purchase up to 20% equity before exit at market prices prevailing at time of purchase. We receive common stock with no special privileges other than a floor at 9% for dilution which is sometimes

### Why LTP legal structure for early stage innovations and formative startups instead of C corporation right out of the gate?

Licensable Technology Platform (LTP) is chosen as the legal structure to house and package organ specific treatment innovation assets within the innovation and startup launch accelerator Leonhardt's Launchpads by Cal-X Stars Business Accelerator, Inc. Here is a list of reasons why this is part of our business model and a few important related facts.

Background: When we first opened up Leonhardt's Launchpads in 2008 and Cal-X Stars Business Accelerator, Inc. in 2013 (before they merged into one) we started filing C corporation filings for startups like MyoStim Pacers, Inc., BioLeonhardt, The California Stock Exchange, Kindheart Lionheart Media & Publishing right out of the gate. We quickly learned that this diverted resources away from what we really wanted to do in the early stage of development which was 1. File patents. 2. Build and test prototypes. 3. Build a solid advisory board with organ specific and industry specific experts. 4. Gain opinion leader endorsements. 5. Prepare for and complete pre-clincial and clinical studies. Every time we filed a new C corp filing this triggered the need for a new private placement memorandum, new contract for financials, a separate bank account and tax return, separate blue sky filings, separate annual meetings, separate board of directors, separate checking account balancing reconciliations, city, county, state and federal flings all of which took time and money away from our early stage core focus. The cost of money and time for do all of these things to remain in full compliance for each startup approached \$50,000 annually. \$50,000 x 30 for every portfolio startup = \$1,500,000 annually or \$10,500,000 over an average 7 years of acceleration time, a very substantial sum. We wanted instead for that \$10,500,000 over that time to go into patents and product testing which we felt would bring more value to stakeholders than all of the bureaucratic related costs. So based on the careful advice of our tax and financial accountants led by Mina Vallabh and legal counsel led by Bruce Methven we adopted the Licensable Technology Platform (LTP) and Pre-Incorporation Rights (PIR) model for early stage innovations and formative stage startups.

The LTP structure in every way is treated a security instrument including having its own well kept electronic cap table clearing recording percent ownership rights of that asset. The LTP structure in every way is treated a security instrument including having its own well kept electronic cap table clearing recording percent ownership rights of that asset. Furthermore, the divestiture of the technology could be structured in the form of an asset sale vs. a sale of stock. While each divestiture would be fact specific and based upon the structure proposed by the buyer, an asset divestiture could serve as a viable alternative to a sale of stock by effecting a sale of the relevant assets, and assumption of relevant liabilities, relating to the technology, while still retaining the core shared intellectual property which could be licensed to the buyer in connection with the divestiture if necessary. An asset divestiture could potentially result in a shorter timeline towards closing, as the buyer would be focusing its due diligence on the transferred assets and assumed liabilities as opposed to conducting due diligence on the overall enterprise.







What assets are included in the organ specific innovation Licensable Technology Platforms (LTP) with Pre-Incorporation Rights (PIR)?

A Licensable Technology Platform (LTP) is a basket of assets formed into a security instrument specific to an organ specific application.

#### **Definition of SECURITY INSTRUMENT in our use:**

A security is a tradable financial asset in our case a Licensable Technology Platform (LTP) with built in Pre-Incorporation Rights (PIR).

Securities may be represented by a ownership certificate statement or, more typically, that is in electronic (dematerialized) or "book entry" only form in a controlled electronic cap table such as CapShare or Shareworks. In this cap table the name of the stakeholder is recorded, the date they invested in the security, OR acquired shares or share options for any reason, and the share units ownership they received. Although the LTP is not a corporation all unit share interests are treated in every way identical to how common stock ownership positions are held in C and S corporations via cap table management. eCertificates or electronic cap table entries may be bearer, meaning they entitle the holder to rights under the security (LTP with Pre-Incorporation Rights) merely by holding the security, or *registered*, meaning they entitle the holder to rights only if he or she appears on a security register maintained by the issuer or an intermediary. This include shares and stock options or other options, limited partnership units, LTP ownership units, pre-incorporation rights and various other formal investment instruments that are negotiable and fungible. Fungible by dictionary definition means being something (such as an ownership interest of a basket of IP and other assets such as a Licensable Technology Platform with Pre-Incorporation Rights) of such a nature that one part or quantity may be replaced by another equal part or quantity in paying a debt or settling an account. In our case any percent ownership in an LTP with pre-incorporation rights is fully transferrable to cash, or our acquirers stock, in the case of an asset sale or into common stock shares in the case of a C corporation spin out and perhaps a subsequent IPO or company sale. Whether LTP or C corporation the ownership stake in the sale and thus the proceeds received will be exactly the same. LTP ownership stakes are subject to dilution just like any common stock ownership unless a special anti-dilution covenant has been authorized in writing in advance.

By law in the United States, a security is any tradable financial asset of any kind. Securities are broadly categorized into owning a piece of anything where risk of loss or gain is possible and the instrument is fungible in any form.

#### Example = LiverCell LTP

- 1. All intellectual property (patents and know how) owned, optioned or licensed by Leonhardt apply to liver regeneration, recovery or treatment.
- 2. All lab, pre-clinical and clinical supporting data that in-directly or directly relates to liver treatment.
- and FDA and CE Mark market clearances as well as ISO certifications.
- 4. All key supplier vendor contracts.
- 5. All drawings, specs, prototypes associated with liver in-directly or directly.
- 6. Any trademarks owned or filed or in line to be filed.
- 7. All liver related marketing materials ie; web sites, videos, executive summaries, slide decks.

#### What does unit share ownership of an LTP mean?

Owners of Licensable Technology Platform share units own a precise percentage ownership of the asset. Example that can be understood - 3 roommates that share 33 and 1/3rd ownership interest in a home decide together to purchase a wall painting and each pay 1/3rd of the \$1000 painting purchase price. On purchase they agree and document that each has a 33 and 1/3rd ownership interest in that painting and acknowledge mutually that the painting as security has risk to drop to nearly no value, may be destroyed or damaged and may have a slim chance to increase modestly in value and an even slimmer chance to increase greatly in value. The further agree to abide by a majority vote on issues of how to handle the asset including protections for preserving its value and if and when to sell the painting. This also includes votes on whether to let in any other investors. Somewhere along the way after 2 years the painting ownership group gets a quote for \$1000 to apply a protection over the painting to reduce the risk it would be damaged by fire or water or any other source plus an insurance policy tied to that protection covering that will pay \$10,000 if the painting is damaged or destroyed and 2 of the 3 owners vote to take in a 4th investor Johny Comelately putting up \$1000 to cover this needed painting protection expense. The majority stakeholders establish that the new owner coming in will have 10% ownership interest in exchange for their \$1000 stage stage investment. So this now means the 3 original owners have diluted to 30% ownership to give room for the new investor Johny Completely coming in at 10% ownership. In his hypothetical example the painter of the painting becomes world famous and the painting value increases to \$100,000 and 2 of the 4 owners holding 30% ownership interest each of the painting, or 60% majority together, vote to sell the painting and the other 40% stakeholders who voted to wait have to abide by the majority stakeholder decision to sell at that time. When the proceeds of the \$100,000 painting sale are received each 30% stakeholder that invested early in the painting years ago gets \$30,000 and the 10% stakeholder Johny Comelately that put up just recently \$1000 gets \$10,000 back in quick return.

Ventures and Cal-X Stars Business Accelerator, Inc. DBA Leonhardt's Launchpads as it may

3. All FDA and other regulatory and quality systems documentation including design controls

All LTP stakedholders have Pre-Incorporation Rights (PIR) which clearly establish that if they have 5% ownership interest in an organ specific LTP they will have precisely 5% ownership in the spin out C corporation on the day of formation. Any LTP stakeholder on our organ specific innovation cap tables may request to receive a separate Pre-Incorporation Rights Agreement in writing by emailing us at howard@leonhardtventures.com. The Pre-Incorporation Rights (PIR) are fully in affect whether a stakeholder has a separate agreement in writing or not as stated in our private placement memorandum.

#### Reasons for LTP model...

- Saves about \$50,000 annually for each startup x 30 = \$1,500,000 x 7 years = \$10,500,000 in ppm, financials, board, shareholder, accounting, legals and city, county, state and federal filing costs.
- 2. Allows available investment funds and perhaps even more importantly **STAFF TIME RESOURCES to be primarily focused into patents and data which really build the value.**
- 3. Most organ specific innovations will be sold under an Asset Purchase Agreement anyhow and even if a C corporation was in place it would be dissolved in this transaction anyhow. So the LTP model avoid this un-necessary expense and time.
- 4. Asset Purchase Agreement sales take 30 to 90 days for due diligence on average while due diligence to purchase an entire company can take up to 9 months and has much more potential that one line of one agreement or one pending corporation dispute may hold up an entire transaction. When an acquirer purchases an asset instead of a company they do not inherit any corporate liabilities other than product liability or patent infringement. By example when Patrick Soon-Shiong the biotech entrepreneur in Los Angeles recently bought the LA Times newspaper shortly thereafter a former sports writer of the newspaper got a \$15.4 million age discrimination award against the company (which was later over turned after very high legal costs). In other examples acquiring companies got stuck with company EPA pollution fines after making an acquisition of a whole company instead of just the product. When an acquirer buys just the product instead of the company they avoid substantial associated risks and thus can move more quickly to complete a purchase.
- 5. By using the LTP model all of the innovations may be funded via a single accelerator Form D PPM filed in numerous states. If an innovation or startup is spun out of the accelerator and formed into separate corporation separate legal capital raising filings have to be made and maintained at great cost of preparation, filing and maintenance. This alone can cost multiple thousands of dollars a year and eats up enormous amounts of staff time. Just developing and making all the filings for the Leonhardt's Launchpads by Cal-X Stars Business Accelerator, Inc. PPM and accompanying annual report(s) took hundreds of hours of labor time and substantial legal and accounting expense.
- 6. More easily permits the organ specific innovation development teams to utilize ALL the resources of the accelerator un-inhibited including our 2 R&D labs in Utah and access to multiple R&D labs and offices in the Los Angeles area, our cadre of suppliers, consultants, advisors, mentors, tax preparers, financial accountants, patent attorneys, web site developers, slide deck developers and our animation team and more.

By example - Investors that invested with us under 2:1 terms meaning by example they invested \$300,000 they then received (1) \$300,000 worth of the parent accelerator, Leonhardt's Launchpads by Cal-X Stars Business Accelerator, Inc. DBA Leonhardt's Launchpads, shares at \$0.36585 a share AND also received (2) a warrant valued equally at \$300,000 to acquire any of the shares of any of the 30 startups/LTPs in our accelerator **at no extra charge**. So if they distributed their investment warrant across all 30 startups/innovations they will receive 30 proceeds checks as we sell each startup/LTP and 30 more return checks from the accelerator for their pro-rate portion owned by the accelerator in each startup/innovation - 60 return checks/wires all together. If there are milestone payments or royalties on sales from patents they will receive more proceed payments as these come in to our account. Most of our exit sales to strategic buyers/partners will be under an Asset Purchase Agreement for our organ specific Licensable Technology Platforms (LTPs) which speeds up the due diligence process compared to buying a whole company and all their contingent liabilities. **All proceeds are distributed to shareholders on or near day of closing of the sale of any asset**.

So far our team has had 30 meetings with 15 prospective buyers/strategic partners for just the top three startups on our 2020 ripe for strategic partnership engagement list.





## BOARD COMMITTEES

The AUDIT & FINANCE COMMITTEE oversees risks related to the Company's financial statements, the financial reporting process, accounting, legal matters, investments, access to capital and capital deployment, currency risk and hedging programs, information security (including risks related to cyber security), and data protection. The committee oversees the internal audit function, reviews a risk-based plan of internal audits, and reviews a risk-based integrated audit of internal controls over financial reporting. The committee meets separately with the Vice President of Corporate Audit and Chief Risk Officer, representatives of the independent registered public accountants, and senior management.

The **COMPENSATION COMMITTEE** oversees risks and rewards associated with the Company's compensation philosophy and programs, management succession plans, and executive development.

**EXECUTIVE COMMITTEE** - Small group led by CEO that may act quickly when it is not practical with timing constraints to convene repeated full board meetings in succession with actions taken primarily by majority stockholder consent. All actions should be reported to the full board in a timely manner.

#### **AUDIT & FINANCE COMMITTEE**

CHAIR: John Paglia

MEMBERS: Kim Medina, Cynthia Tsai, Kurt Kruger, Brittany Brown CPA

**ROLES AND RESPONSIBILITIES:** The Audit & Finance Committee provides assistance to the Board in fulfilling its legal and fiduciary obligations with respect to:

- material impact on the results of operations or the financial position of the Company.
- + tax preparers.
- documents and is well qualified to serve as Audit Committee Chair.

Accounting Firm = LegerGurus led by CPA Brittany Brown **Tax Preparer** = Westside Income Tax led by Mina Vallabh



Matters involving the Company's accounting, auditing, financial reporting, internal controls, information security (including risks related to cyber security), data protection, and overseeing the financial policies and activities of the Company that may have a

The integrity of the Company's financial statements, the compliance with legal and regulatory requirements, the accounting teams gualifications, and the performance of the Company's internal audit functions and quality of performance of independent accountants

Considering long-term financing options, long-range tax, financial regulatory and foreign currency issues facing the Company, and management's recommendations concerning capital deployment strategy, major capital expenditures, and material acquisitions or divestitures. The Board has determined that each member of the Audit & Finance Committee meets financial literacy requirements applicable to audit committees at our stage of development and size of operation. The Board has also determined that Mr. John Paglia is an "audit committee financial expert" as defined by applicable guidance

#### COMPENSATION COMMITTEE

**CHAIR:** Jeremy Koff

**MEMBERS:** Ken Evans, Paul Norman, Cynthia Tsai, Jeff Donofrio

**ROLES AND RESPONSIBILITIES:** Duties include the following:

- Establish compensation for and evaluate the performance of the CEO especially related to bonus awards.
- Provide recommended guidance to the CEO on the compensation of executive team and other key members at various levels including external advisors. Create uniform standard recommended ranges for compensation in both cash and share options + benefits for levels of the organization from CEO down to Supervisors including President, VPs, Directors, Department Chiefs, Managers, Bioengineers and Biologists. Committee will review and create a short basic report of pay compensation for similar positions for comparison purposes at similar companies preferably in the same geographic region ie; Southern California and Utah. Since private company data is very hard to come by and verify it is acceptable to use public company data which is more readily sourced.
- Grant equity incentive awards under our Stock Plan, and recommend to the CEO targets and bonus awards. Ensure CEO stays within the Stock Plan defined pool of 30% of authorized shares available for stock option awards.
- Review and provide guidance to management regarding Company policies, programs and practices related to talent management, training and development for executive officers and senior management including retention incentives, and
- Make recommendations to the Board regarding the compensation of directors. The Board has determined that the members of the Compensation Committee should consult with independent outside parties for guidance as needed.

#### **EXECUTIVE COMMITTEE**

**CHAIR:** Howard Leonhardt

**MEMBERS:** Ken Evans or Jeff Donofrio or Jeremy Koff

**ROLES AND RESPONSIBILITIES:** Duties include the following:

- The Executive Committee is authorized to act on behalf of the Board on all corporate actions for which applicable law does not require participation by the full Board.
- · In practice, the Executive Committee acts in place of the full Board when time is of advantage.
- All actions taken by the Executive Committee must be reported at the next Board meeting, or as soon thereafter as practicable.
- The Executive Committee may take action by majority shareholder or unanimous written consent. Majority shareholder actions are a common tool used to move quickly.



the essence importance. Leonhardt's Launchpads core competitive advantage over large corporations is an ability to move quickly especially on matters of breakthrough innovations and to turn change course, direction and focus on a dime when necessary. This Executive Committee is designed to help the company maintain that competitive



### Dr. John Paglia

Board Director Leonhardt's Launchpads

Audit Committee Chair 2020 Senior Finance Advisor

Dr. John K. Paglia is senior associate dean of academic affairs and professor of finance at Graziadio Business School.

He is also an independent corporate director (board member) and audit committee chair for Simulations Plus Inc. (NASDAQ: SLP), and advisor to several startups. He previously served PGBS in a number of leadership roles over his eighteen year tenure at Pepperdine. Most recently, as inaugural executive director of the Dan and Coco Peate Institute for Entrepreneurship, he led pre-launch initiatives around entrepreneurial education, business incubation, and venture funding to ultimately help student entrepreneurs launch and accelerate their business ventures. He also served as associate dean for part-time (fully employed) programs, director of accreditation, chair of the accounting and finance department, and founding director of the Pepperdine Private Capital Markets Project.

### Background

A recognized expert on the topics of small business financing, business valuation, and financing and deal trends, Dr. Paglia has delivered over fifty presentations, including over a dozen keynote addresses, at key investment banking, private equity, accounting, small business, exit planning, and valuation events. He was also honored by the National Association of Certified Valuators and Analysts with the "Industry Titan" Award in 2016, the Alliance for Mergers & Acquisitions Advisors and Grant Thornton with a "Thought Leader of the Year Award" in 2012, and the Association for Corporate Growth with an "Excellence in M&A Award" in 2011. In 2016, he was also awarded with a consultancy contract with the Library of Congress Federal Research Division as a private equity and venture capital expert to conduct research on the economic impacts of the Small Business Administration's Small Business Investment Company (SBIC) private equity program. His research has been covered in The Wall Street Journal, CNBC, USA Today, Businessweek, TIME, Bloomberg, Reuters, Inc., Forbes, Entrepreneur, MSNBC, ABC News, Huffington Post, Crain's New York, The Los Angeles Times, The Washington Post, Financial Times, and The New York Times, among many others.

His research has been published in a number of journals including Journal of Banking and Finance, Journal of Entrepreneurial Finance, Journal of Accounting and Finance, Journal of Business Valuation and Economic Loss Analysis, Business Valuation Review, The Value Examiner, Journal of Wealth Management, The RMA Journal, Graziadio Business Review, and cited in Congressional testimony and SBA reports.

Dr. Paglia holds a PhD in finance, an MBA, a BS in finance, and is a Certified Public Accountant and Chartered Financial Analyst. He serves on the boards of a number of companies and has substantial experience as an Audit Committee Chair.

#### **Education**

- Doctor of Philosophy, University of Kentucky. 2000
- Master of Business Administration, Gannon University. 1995
- Bachelor of Science, Gannon University. 1990

r. 2000 University. 1995 0



### Kurt H. Kruger

### Chief Financial Advisor Leonhardt's Launchpads & Second Heart Assist

On the Leonhardt's Launchpads bioelectric regeneration and healing platform...

"Bioelectric medicine is an emerging field that has high potential

to dramatically improve healthcare. It harnesses natural level bioelectric signals to control the release of regeneration-promoting proteins to stimulate the body to heal itself working in synergy with neurological and immune systems. Our Leonhardt's Launchpads team has developed aportfolio of organ specific innovations and startups. We have also built a large patent estate of bioelectric signaling sequences for a number of medical applications including: promoting organ regeneration, controlling inflammation and blood pressure, multiple cosmetic applications, and vision and hearing recovery. Our cancer startup, with 9 issued bioelectric cancer treatment patents and dozens of new patent claims pending, has the potential to bring forward an alternative treatment to radiation and chemotherapy that is less toxic and has lower side effects. A few years ago, that vision may have seemed unreachable but recently multiple research labs around the world have published successful results using electromagnetic therapies for cancer. It seems the age of bioelectric medicine is here to stay and I am proud to be part of this team helping to the lead this movement."

### Background

33 years medtech industry experience

#### **Experience**

- 2018-2019 CFO, Emmaus Life Sciences
- 2014-2018 -- Head of Healthcare Investment Banking WR Hambrecht + Co.
- · 2013-2014 -- Navigant Managing Consultant
- 2010-2013 -- Managed personal investments and various medtech industry consulting engagements
- 2009-2010 -- Kruger Capital
- 1996-2003 -- Managing Director Research, Bank of America Equities Research
- 1987-1996 -- Managing Director Research, Hambrecht & Quist (now JP Morgan Chase)
- 1984-1987 -- Cardiac Pacemakers Inc. (now Boston Scientific) Marketing Manager



"Over my 33 year career in the medtech industry I have been most closely involved with following, reporting on and financing the cardiovascular sector. As a biomedical engineer I can clearly see the design advantages of the Second Heart Assist pipeline of products featuring pumps with low RPMs, high flow, strong fixation stability, maintenance of pulsaltility and rapid improvement of renal output. If the team succeeds in delivering a wireless power alternative to systems that are tethered to external boxes, this will likely establish Second Heart Assist, or its strategic acquirer, as the market leader."

#### Education

- BS -- Biomedical Engineering Brown University
- MS -- Bioengineering University of Michigan
- MS -- Finance and Management of Innovation Massachusetts Institute of Technology (MIT) Sloan School of Management
- Postbaccalaureate-PreMed Columbia University

#### https://www.linkedin.com/in/kurt-kruger-5851281b/





### Sukaina G. Alarakhia, Ph.D.

Senior Advisor Corporate Finance Senior Financial Analyst Senior Financial Modeling Advisor

Leonhardt's Launchpads is addressing very large unmet markets with the technologies of its portfolio companies. My role since 2013 with the organization

has been to help guide them in the financial modeling process for determining reasonably accurate forecasts for future sales and profitability for review by potential acquirers and investors."

#### **Background and Experience**

Sukaina G. Alarakhia, PhD, is an Associate at Moore Venture Partners. Prior to Moore Ventures, she was an Analyst at Tech Coast Angels where she was involved in sourcing, screening, preliminary due diligence and deal execution of early stage life science and high tech companies. Sukaina was also actively involved in advising start-ups and entrepreneurs at CONNECT - a regional program that catalyzes the formation and development of innovative technology and life science companies, spun out of University of California at San Diego.

Dr. Alarakhia also continues to remain as Senior Consultant and Post-Doctoral Researcher at General Informatics LLC, an International Economic Development and Research Policy Consultancy. Her recent roles at General Informatics involved projects with the U.S Environmental Protection Agency in its water technology innovation cluster-building initiative, and with the Innovation Fund in reviewing early-stage innovative start-ups across wide industries in Serbia, a project financed by European Union and World Bank to stimulate technological development and encourage innovative entrepreneurship.

Sukaina holds a doctorate in Strategic Management with a Finance emphasis in Mergers and Acquisitions and Corporate Governance, and a B.S and M.S in International Business Administration, and has co-authored a Kansas Life Science Cluster Report, as well as a paper on "The Triple Helix Model of Innovation: International Cases and Critical Summary," presented at a UNESCO-World Technopolis Association International Training Workshop.



"Getting the CMS and insurance reimbursement pathway right is critical to any medtech startup and can make or break their finances. Leonhardt's Launchpads and Second Heart Assist, Inc. are committed to getting this right. They have addressed reimbursement up front and have done the research needed to get it correct. I myself have over 20 years of circulatory assist support reimbursement experience. We have developed a plan and manual to guide our investigational centers and future customers professionally through the reimbursement process. This adds value."



### **Todd Seiger**

### Chief Advisor Reimbursement

Leonhardt's Launchpads & Second Heart Assist, Inc.



### **Brittany Brown, CPA**

**Board Advisor** CEO of LedgerGurus Contract Accounting Firm

"Leonhardt's leading competitors developing just one or two products are burning through \$13 to \$20 million cash annually. Leonhard't Launchpads is developing more than

30 products with under 1/10th that burn rate. This is achieved via nondilutive to shareholders grant support and over 140 advisors, suppliers and employees working for shares or options instead of cash."

"Our cost savings is achieved by our bootstrapping model that reduces overhead by utilizing shared resources such as the BioInnovations Gateway research labs where we pay only \$500 a month and have access to over \$30 million of equipment, resources and personnel. Our relationships with Biomerics for manufacturing + engineering + quality assurance, QIG Greatbatch for micro stimulator development and production and Fluid Synchrony for micro pump development serve this purpose as well. We align with numerous universities to prove out our technologies at low cost. We launch our pilot clinical trials most often OUS which keeps costs down."

### **Education & Experience**

- CEO Founder LedgerGurus
- CFO DSB Utah
- · Advisory Professional Squire & Co. Public Accounting
- Intern KPMG Accounting
- Certified Public Accountant
- Master of Science Accounting Brigham Young University
- Bachelors of Science Accounting Brigham Young University





### **Jon Dillon**

VP Merger & Acquisitions Leonhardt's Launchpads

Senior Advisor Business Development Second Heart Assist, Inc.

Leonhardt's Launchpads "The team focuses all day every day on developing and testing products in studies and filing patent applications. I was brought aboard to have a person

with singular focus on securing strategic mergers and acquirers for our startups. We have a target reach goal to have five startups secure strategic partnership acquisitions each year for the next 6 years in a row and I am committed to help the organization reach this goal."

"After taking a many-year hiatus having a semi-retirement from previous successful startup exits, the decision to join this excellent team whom are the leaders in regenerative technologies based on bioelectric stimulation was an easy one. Bioelectric stimulation based healing, in my opinion, is the wave of the future as we are looking to eradicate diseases that pills just can't do, from heart failure to cancer to erectile dysfunction."

### Background

Jon Dillon has over 30 years experience in the pharma/med arena starting as a representative for top companies and evolving into an entrepreneur in the same field. He was responsible for several exits in the companies he owned.

#### **Education**

B.S. Degree, School of Allied Health, East Carolina University

#### **Experience**

30+ years of Pharma/Med experience.

Bought, built and sold several pharmaceutical/medical supply companies with the most recent being Sun Belt Medical/Emergi-Source, the Nation's largest EMS pharmaceutical supplier.





### Mina Vallabh

Tax Specialist and Tax Return Preparer Leonhardt's Launchpads Lead Corporate Entity Compliance Specialist

20+ years experience -Entity Specialist, Accounting, Business Startup Documentation, Tax Preparation and Notary Public



### Background

Westside Income Tax & Business Svcs., Dec 1999 – Present Independent bookkeeping. Works closely with CPAs. Formation of Corporate Entity and corporate compliance as required by IRS and FTB.





# Board of Directors & **Executive Compensation**

### **Board of Directors**

#### Leonhardt's Launchpads by Cal-X Stars Business Accelerator, Inc.

- Howard Leonhardt Executive Chairman & CEO
- Dr. Leslie Miller Chief Medical Officer
- Jeff Donofrio Director, President Second Heart Assist, Inc.
- Alex Richardson Chief Technology Officer, VP Engineering & Product Development
- Dr. Stuart Williams VP Biologics Research
- John Paglia Independent Director Chair Audit Committee
- Ken Evans VP Corporate Development, President EarCell
- Jeremy Koff Chair Compensation Committee
- Paul Norman Managing Partner Leonhardt's Launchpads
- Cynthia Tsai Board Director
- Dr. Mark Cunningham Director, CSO Valvublator (non voting seat)
- Brittany Brown Board Advisor, CEO of LedgerGurus Contract Accounting Firm

#### Leonhardt's Launchpads Utah, Inc.

- Howard Leonhardt Executive Chairman & CEO
- Dr. Dinesh Patel Independent Director
- Dr. Brett Burton VP R&D and Startup Launches
- Jeremy Koff Chair Compensation Committee
- David Robinson Independent Director
- Brittany Brown Board Advisor, CEO of LedgerGurus Contract Accounting Firm

#### Leonhardt's Launchpads Australia PTY

- Howard Leonhardt Executive Chairman & CEO
- Paul Niederer Managing Director
- Dr. Leslie Miller Chief Medial Officer

#### Leonhardt's Launchpads Brazil

- Howard Leonhardt Executive Chairman & CEO
- Dr. Leslie Miller Chief Medical Officer
- Dr. Cristiane Carboni Research Coordinator Brazil
- Dr. Hans Dohmann Cardiologist

#### Leonhardt's Launchpads Pittsburgh

- Howard Leonhardt Executive Chairman & CEO
- Dr. Leslie Miller Chief Medical Officer
- Phil Patton VP Business Development

#### Leonhardt's Launchpads NorCal

- Howard Leonhardt Executive Chairman & CEO
- Paul Norman Managing Partner Leonhardt's
  Launchpads
- Derek Kahn Director, President HairCell

#### Leonhardt's Launchpads Minneapolis

- Howard Leonhardt Executive Chairman & CEO
- Dr. Patrick Johnson Chief Medical Officer EyeCell
- Dr. Leslie Miller Chief Medical Officer Leonhardt's Launchpads

#### DentaCell Accelerator

- Howard Leonhardt Executive Chairman & CEO
- Dr. Valerie Kanter Chief Scientific and Medical
  Officer
- Tom Newman President

#### Second Heart Assist, Inc.

- Howard Leonhardt Executive Chairman & CEO
- Jeff Donofrio President and Audit Chair
- Ken Evans VP of Corporate Development
- Alex Richardson CTO and VP Engineering and Product Development
- Dr. Leslie Miller Chief Medical Officer
- Dr. Mark Cunningham Chief Cardiac Surgery Advisor
- Dr. Ghannam Al-Dossari Board Director.
- Paul Norman Managing Partner Accelerator (non voting seat)
- Brittany Brown Board Advisor, CEO of LedgerGurus
   Contract Accounting Firm

























### **Cynthia Ekberg Tsai**

**Board Director** Leonhardt's Launchpads Senior Finance Advisor

"Leonhardt's Launchpads at the convergence of bioelectric and stem cell based organ regeneration is leading the way to a better future in healthcare."



### Background

Ms. Tsai comes to Leonhardt's Launchpads with more than 30 years of experience in global biotechnology and medical technologies. Ms. Tsai spent 16 years on Wall Street as a Vice President with Merrill Lynch and Kidder Peabody. She currently is CEO of Tana Systems, a global software and IT company based in the U.S. and India. Ms. Tsai is the former Founder and CEO of HealthExpo, the largest consumer healthcare event in the US, where she grew the enterprise from concept to execution, attracting more than 50 million consumers to HealthExpo. Previously, Ms. Tsai was a General Partner in MassTech Ventures, a multimillion-dollar equity fund focused on technology development at Massachusetts Institute of Technology. Ms. Tsai currently serves on the Board of Selectors for the Jefferson Foundation Awards and is on the board of the Prix Galien Foundation. In 1999, the Harvard Business School Alumni Chapter in New York recognized Ms. Tsai with an Early Stage Honor Roll Award for Entrepreneurship. In 2004, she also received a "Leading Woman Entrepreneur of the World" Award from the Star Foundation in Overland Park, Kansas. She earned a B.A. in Psychology from the University of Missouri. She participated in the Stem Cell Summit at the Vatican in Italy.

#### **Experience**

- CEO, Tana Systems (Jan 2016 Present)
- CEO, HEALTHQUEST (May 1995 Present)
- CEO, Executive Action, LLC. (Jul 2006 Jul 2013)
- Vice President, Kidder Peabody (GE) (Aug 1982 May 1995)

### Education

- University of Miami, Coral Gables and University of Missouri, Columbia Psychology
- University of Miami Coral Gable and University of Missouri Psychology

Healthquest video interview: https://www.youtube.com/watch?v=fHd\_wMnVQLQ

Funding Innovation Panel Video https://www.youtube.com/watch?v=-4cajlGtfJl&feature=youtu.be



### **Executive Compensation**

Executive officers on cash payroll...

- Howard J. Leonhardt Executive Chairman & CEO \$130,000
- Alex Richardson Chief Technology Officer \$130,000
- Dr. Leslie Miller Chief Medical Officer = \$130,000
- Dr. Brett Burton VP R&D & Startup Launches = \$115,000
- Board Directors \$80,000 value of warrants annually (only applicable to LTP early stage startups not C corp. stage)

Note - No officers received cash payroll pay from Cal-X Stars Business Accelerator, Inc. DBA Leonhardt's Launchpads 2012 through 2017. In 2018 Howard Leonhardt received gross cash wages of \$19,425 from Cal-X Stars Business Accelerator, Inc. DBA Leonhardt's Launchpads. From 2013 forward through 2019 \$130K of pay was recorded on the books as an account payable with an interest rate ranging from 8% to 13% for the portion of pay not paid in cash for those years and remains on the books as an account payable. These unpaid wages amounts and other loan debt can either later be converted to equity at the prevailing full market per share price at the time of conversion or may be paid in cash with interest when the company can afford to do so. By agreement if ever needed due to family financial needs demonstrated to be important combined with nest egg savings being exhausted from other liquid sources for meeting basic essential needs of rent, food, transportation, children related expenses or family health bills Leonhardt reserves the right to capture up to 18% of incoming cash to pay down this specific debt and other debt principal obligations owed to him. Leonhardt reserves the right to collect interest in reasonably staggered payments, so not to deter progress on research substantially or detrimentally, on this owed debt at any time, regardless of financial standing. In nearly every year since our founding most of our executive officers have not taken their full authorized salary in cash opting instead to take share options instead. Share options with strike price per share matching the full market price at the time they were earned. The same is expected for 2020.



As of January 1, 2020 Leonhardt's Launchpads has engaged 58 members all but 7 of which are in an independent contractor capacity of service. For team bios click on photos on this TEAM web site page - https://leonhardtventures.com/team/

As of January 1, 2020 Leonhardt's Launchpads has engaged formally or informally 40+ Scientific Advisory Board Members https://leonhardtventures.com/team/ and has engaged approximately 15 Expert Panel Advisory Session Contributors - click on photos on this page to see bios - https://calxstars.com/scientific-advisory-board/

About a dozen independent regulatory, legal, patent, web site development, prototype design, CAD drawings, animation specialists, slide deck and executive summary writers, scientific and technical writers including white paper preparers, tax return preparers, accountants, financial services, guality systems, M&A and accounting service providers, consultants and advisors receive cash compensation at their prevailing market rates. The amounts paid in cash to these service providers may be found in our financial statements. Total contract labor expense in 2019 was about \$158,000. Legal and professional fees were \$99,775. Total external Marketing related expenses were \$32,652 in 2019 for participation in booth and poster exhibits, innovation showcases, Demo Days, startup pitch contests, Bench to Bedside competition, the JP Morgan Healthcare Conference, Expert Panel Meetings, LABiomed Innovation Showcase, First Look LA Showcase, ScaleLA Showcases, web site development, logo development, slide decks, executive summaries and other marketing related materials.

Typical compensation for advisory board members is 50,000 share options annually at prevailing market strike price per share with a maximum cap of 150,000 share options over time that can be earned by any advisor in any given startup including the accelerators. This is exchange for a minimum of 14 hours of annual advisory services and agreement to introduce us to a minimum of three potential angel investors or qualified strategic partners in their network of contacts. There is no condition that these potential investors actually invest or potential collaborative partners actually collaborate with us. The minimal condition is met simply via the arms length introductions. Any advisor in continuous active engagement has 15 years to exercise their options. Advisors that end engagement with us have 90 days after the end of their engagement to exercise their stock options. All advisors with base 50,000 share option annual compensation agreement are eligible to earn bonus stock option awards from individual startups or Licensable Technology Platforms within the accelerator for contributions providing significant value to those developments.



# Advisory Board & Management Team

Leonhardt's Launchpads and Leonhardt Ventures has over 60 experienced team business mentors/advisors https://leonhardtventures.com/team/ and over 50 World Class Scientific Advisory Board Members, Collaborating Research Investigators and Expert Panel Participants https://calxstars.com/scientific-advisory-board/

(most but not all listed on these link pages with bios - many not signed to formal contracts)

## 2020 General Goals

- Gather positive supporting data, pre-clinical and clinical, across all of our products.
- Obtain additional patent claims.
- · Secure additional key opinion leader endorsements.
- Gain positive press.











### **Ken Evans**

Board Director Leonhardt's Launchpads Board Director Second Heart Assist

Vice President Corporate Development President EarCell www.ear-cell.com

"The Leonhardt team exhibited world leadership in cardiovascular balloon catheters in the 1980s, stent grafts and percutaneous heart valves in the

1990's, stem cell based organ regeneration in the early 2000's and now in the past decade has been building world leadership in aortic stent based circulatory assist device development and bioelectric + biologics based regeneration and healing. I could not be more proud then I am to be associated with this all-star team that has been assembled. My primary role is to keep the focus of the organization on getting strategic partnership acquisition deals done one after another in succession as the organ specific startups in the portfolio are ripe to be sold."

"EarCell has the opportunity to lead the way in restoring full quality hearing to millions of people in need with a patent pending innovative combination bioelectric and biologics technology platform."



### **Background & Experience**

A pro-active, hardworking sales and sales management professional with more than twenty years experience within the medical device and capital equipment arena. Hands-on knowledge and experience in all aspects of new business development, account management, and sales negotiation. A strong decision maker with the ability to think out of the box in creating new opportunities and strategies to achieve sales goals. A team player, willing to go the extra mile to achieve successful results. Excellent communication and presentation skills. Strong Work Ethic.

Areas of Strength: Sales Management, Capital Sales, Marketing, Advertising, Negotiation Clinical Trials, New Product Development, Training

#### Sales & Marketing Expertise:

- Salesman of the Year 7 times with 3 different companies
- Demonstrated track record of success in medical device and capital equipment sales for established and start-up companies.
- Commitment to expanding account base, increasing sales revenues, and forging professional relationships through personal account management and extensive travel.
- Ability to build excellent rapport with key physicians and medical personnel.
- Experience in hiring, training, and managing successful sales teams.
- Continuing education includes: Sales Development and Negotiating Skills for the Professional, Dale Carnegie Sales Course, and Xerox Sales Training.
- Medical Marketing Association.

Account Executive, MAKO Surgical Corp. (2009 – Present)

Area Sales Manager, Intuitive Surgical/Computer Motion (2000 – 2009)

#### Education

California State University-Long Beach Master of Business Administration (MBA) Business, Management, Marketing, and Related Support Services

University of California, Irvine Bachelor of Science (BS) **Biological Sciences** 



### **Larry Stevens**

Senior Advisor FDA Affairs Senior Advisor Regulatory Senior Advisor Quality Systems

"The Leonhardt team is committed to doing things right with sound science, well designed studies, solid preparation and putting patient safety

first. They recruit top notch experienced people to fulfill key roles. They listen and follow expert advice on remaining in highest compliance with all regulations. They thoroughly mitigate risks associated with their devices. It is a pleasure to work with this organization."

> I started with FDA in 1972 and worked for them for 10 years. In 1982 I entered the medical device industry, in the role of a Manager of Regulatory Affairs. I rose through the ranks in industry eventually becoming a VP of RA/QA/Clinical for several large and small cardiovascular companies. In 2000 I returned to FDA and served as medical device specialist and director. I retired from FDA in 2011 with a total of 21 years of service. I then became a consultant to the medical device industry.

> Specialties: Planning, creating and auditing quality systems. Creating clinical plans including protocol development, case report form development, implementing and managing clinical trials. Design control to meet FDA requirements. I am a professional speaker who can train persons on all aspects of FDA requirements, and practical and successful solutions to FDA problems, I regularly serve as an Expert Witness in cases involving FDA regulation of medical devices.

#### **Background & Experience**

The FDA Group, LLC Senior Regulatory and Quality Consultant (Contractor), May 2012 - Present Principal Consultant, Nov 2011 - Present

**Principal Consultant**, One Way Consultants, LLC, FDA Regulatory Experts Nov 2011 - Present

Supervisory Investigator, Food and Drug Administration Apr 2009 – Sep 2011

Director, Import Operations, Los Angeles Nov 2003 – Apr 2009

Founder, President and CEO, Medical Device Development Corporation Jan 1998 - Nov 2000

Endicor, VP RA/QA, 1998 - 1999

Vice President, RA/QA/CP, Cordis-Webster Johnson & Johnson, 1996 - 1998

#### **Education**

Golden Gate University, Partial MBA Business, 1983 - 1984

California State University-Fullerton, BA Biology, 1966 - 1970

#### **Licenses & Certifications**

**RAC-** Regulatory Affairs Certified, Issuing authority: Regulatory Affairs Professionals Society (RAPS)


#### J. Peter McBride Senior Advisor Valvublator

More than 40 years of healthcare feasibility assessment, business development, management, marketing, technology consulting, clinical operations and Faculty Professor at Loma Linda University.



## **Dr. Michael Beaubaire** President InStim

Dr. Michael Beaubaire is an established life sciences executive with extensive experience in early stage drug development and how it relates to the regulatory world and commercial markets, as well as financial expertise in capital

markets and venture capital. He earned his BS with Honors in Finance from the Wharton School, and his BA with Honors in Biological Basis of Behavior from the College of Arts & Sciences, both at the University of Pennsylvania. He received his Medical Doctorate degree from Northwestern University Medical School.



Investigator and innovator for multiple cell therapy clinical studies and developments. Experienced Director with a demonstrated history of working in the higher education industry. Skilled in Biotechnology, Clinical Research, Medical Devices, Life Sciences, and Healthcare. Strong professional graduated from Case Western Reserve University School of Medicine. Translation from bench to patient with scalable manufacturing and regulatory compliance.

#### **Experience**

- Founder at JadiCell LLC, Jadi Cell LLC, Jan 2007 Present
- Founder, xogenex now Triple Gene, Dec 2014 Present
- Director of Biologic Innovation, University of Miami, Miller School of Medicine
- Surgery, Director Cardiac Regeneration Program, University of Utah

#### **Education**

Case Western Reserve University School of Medicine **Doctor of Medicine** (M.D.)

## **Dr. Amit Patel**

Senior Advisor Cardiovascular Cell Therapies

Heart & Lung Surgeon -Innovator of advanced therapies and healthcare analytics

2007 – Present 4 – Present of Miami, Miller School of Medicine gram, University of Utah



## **Dr. Timothy Henry**

Senior Advisor Cardiology Senior Advisor Regenerative Medicine

A cardiovascular interventionist, Dr. Timothy Henry serves as the Lindner Family Distinguished Chair in Clinical Research and Medical Director of The Carl and Edyth Lindner Center for Research at The Christ Hospital. Dr.

Timothy Henry is the former chief of cardiology at Cedars Sinai Medical Center in Los Angeles, one of the country's most prestigious medical institutions, and is a pioneer in the treatment of myocardial infarction. Prior to that he as Director of Cardiology at the Minneapolis Heart Institute at Abbott Northwestern Hospital in Minneapolis.



#### Background

Dr. Henry has published over 350 manuscripts and book chapters and has served on the Emergency Care Committee for the ACC, the AHA Mission: Lifeline Advisory Committee, the AHA Acute Cardiac Care Committee and the ACC Interventional Subcommittee. His research interests include interventional cardiology, acute myocardial infarction, and novel therapies, including stem cell and gene therapy, for patients who are not candidates for standard revascularization techniques.

He has served as principal investigator and steering committees of multiple large, multicenter research trials in acute myocardial infarction and refractory angina. He is principal investigator for 1 of 7 NIH Clinical Cardiovascular Stem Cell Centers and has one of the largest research programs in the world for cardiovascular stem cell therapy. He is a fellow at ACC and master SCAI and a member of Alpha Omega Alpha and the AHA Council on Clinical Cardiology.

Dr. Henry graduated from medical school at University of California, San Francisco, in 1982 and internal medicine residency and chief residency at University of Colorado Health Sciences Center from 1982 to 1986. He completed his training as a cardiology fellow, chief cardiology fellow, and interventional cardiology fellow at University of Minnesota in 1991. Among other awards, Henry has been named to the Best Doctors in America list each year between 2007 and 2017, became a master fellow for the Society for Cardiovascular Angioplasty and Interventions in 2015, received the American Heart Association's Heart and Stroke Hero Award in Research in 2013 and was granted the LUMEN Global Lifetime Achievement Award in MI in 2012.



### **Dr. James Margolis**

Senior Advisor Cardiology Senior Advisor Valvublator Senior Advisor BioLeonhardt

As the sixth person in the World - and the first in the Southeastern United States - to perform angioplasty, Dr. Margolis has been on the forefront of the field for 42 years. With nearly 100

publications, he has lectured on five continents and for 33 years directed a prestigious Interventional Cardiology course attended by doctors from more than 25 countries. Throughout his career he juggled a busy clinical practice with academics and clinical research. This has given him a unique perspective as to where interventional cardiology has been and where it should (and should not) be going. Over the years he has worked closely with industry in the development and evaluation of new products. For seven years, he served as de facto CMO of Vessix Vascular (formerly Minnow Medical), which was acquired by Boston Scientific. As a senior adviser his greatest strengths are his vast experience, common sense and his ability to think outside the box.

#### Experience

President, South Florida PES, Inc. 2006 – Present

Together with my wife, Marja Pauliina Margolis, MD PhD, we provide cardiovascular consulting services to various companies, and expert witness services to doctors and the legal profession.

Cardiologist, Miami Heart Institute 1993 – 1995

#### Experience

University of Illinois School of Medicine MD, Medicine 1964 - 1968

University of Wisconsin-Madison Bachelor of Arts (B.A.) Mathematics 1961 – 1964





## **Dr. Harish Kapoor**

#### President PancreaCell

"We at PancreaCell were very proud to recently make it as a finalist in the American Diabetes Association National Innovation Pitch Challenge. We are working hard to prepare for clinical studies we hope to start later this year. Our team believes no other technology platform known

today is better suited for total pancreas regeneration than ours."

#### PancreaCell Video - https://vimeo.com/172771846

Press on ADA Innovation contest - https://mysocialgoodnews. com/leonhardts-launchpads-startup-pancreacell-makes-finalsamerican-diabetes-association-national-pitch-contest/

VatorNews Silicon Valley Coverage of our American Diabetes Association Pitch Contest Event - https://vator.tv/news/2018-09-26-startup-competitions-seeking-diabetes-companies

#### Background

Innovator, investor, entrepreneur and lifelong learner. A visionary and strategic thinker with over twenty five years of healthcare related technology experience. Operating and managing companies from start-up through their growth phases. Combined proficiency & commitment to medicine with background in engineering to develop tools dedicated to empowering consumers, health plans and physicians. Started three technology companies, and several new projects Guided the successful development, launch, and marketing of dozens of web products Grew revenues, and created innovative products by leading executives, marketing professionals, developers, support experts, and manufacturing teams. Negotiated rewarding agreements with Motorola, Lucent and others. Identified and mitigated risk activities across programs. Patented intellectual properties across medical devices domain. Familiar with FDA interactions, strategy, and Inspections Developed sales, marketing JV agreements with distributors, and resellers Crafted award winning advertising campaigns Thoughtful, decisive entrepreneur and operating executive with a successful track record of building new technology, medical and web companies. Deep experience creating and building teams, products, and solutions in emerging and evolving markets. Leadership or direct involvement in several notable industry "firsts." Leadership expertise spans startups.

Hands-on, goal-oriented executive with diversified experience in marketing, business development, strategic planning, product development, turnarounds, finance and operations. Highly motivated, detail-oriented, concise, and well organized. Proven ability to assess situation and develop & implement creative solutions.

#### **Experience**

- Venture Partner, FundRx, Aug 2018 Present
- President, PancreaCell, Apr 2016 Present
- Founder, CEO, Dedicated Diabetic Care DDC, Dec 2010 Present
- Founder, Director, Quantum Therapeutics, Mar 2005 Present
- Strategic Advisor, KASI, Apr 2013 May 2018

#### Education

- University of Miami, Master of Science (M.S.), Biomedical Engineering
- All India Institute of Medical Sciences, Bio-Medical Engineering
- Florida Atlantic University, Business Administration
- Indian Institute of Technology, Delhi, Ph.D. Program, Speech Compressor



# Risks & Warnings

Investment in our innovation & startup accelerators(s) and our startups are deemed extremely risky. This type of investment is not suitable to inexperienced investors. This type of investment is not suitable for nest egg savings. We are attempting technological achievements that have never been accomplished before by anyone else. We are operating with no where near the amount of capital and personnel resources deemed normally necessary to develop and bring to market these products. All of our agreements in all directions are subject to conditions, often financial, which may not be met. Although we attempt to ensure all information is accurate and up to date across over 10,000 pages on over 40 web sites it is highly likely there are mistakes and outdated information. By entrepreneurial inclination we accentuate the positive in our news developments and reduce attention to the negatives. Our team has failed in the past to have full commercial success with products and return on investment to investors where we thought commercial success was possible and even probable. By experience with new early stage innovations of our 30 startups we realistically can expect most to fail to reach their set goals and at best only a few of them, if any, to reach great success.

We are operating with far less funds and a smaller staff than all the competitors we know of in the fields we operate in today. We may not have sufficient capital or personnel resources to bring our products through first-in-man studies as is our goal. We have nowhere near the capital to bring any of our products all the way to market through all phases of clinical trials normally required.

- **1.** Our patents and patent options + licenses are all subject to conditions, maintenance fees and other requirements that may not be met or may be lapsed due to cash flow difficulties.
- **2.** We may be sued for patent infringement by other patent holders.
- **3.** Our strategic partnerships and research agreements are all subject to conditions and requirements which may not be met.
- 4. Our technologies are not proven to be either safe or effective and are all early stage in nature.
- 5. The disease states we are addressing, such as heart failure, have a history of failed attempts at new technologic breakthroughs.
- 6. A disproportionate to normal substantial portion of our capital goes to breakfasts. lunches and existing employees and board members and potential strategic partners.
- 7. Howard J. Leonhardt has at this time complete voting majority of shares for nearly all startups in our his control of ownership through exit sale.
- 8. Howard J. Leonhardt and our entire core staff is spread thin across not only the 30 startups in our accelerator but other endeavors.
- 9. Most of our management team and board have other jobs other than working just for us.
- **10.** No stem cell based organ regeneration startup that we know of has become a commercial success yet.
- **11.** The goal to fully regenerate damaged or diseased organs back to full health and function has not been accomplished by anyone ever before our attempt.
- **12.** We may be sued for mis-leading investors although we attempt not do so.
- **13.** We may be sued for injuring patients although we attempt not to do so.
- **14.** We are entering industries with high regulatory obstacles and may not meet all those obligations to remain in compliance considering in particular our small staff and low amount of funds.
- **15.** We generally utilize substantially less legal, accounting and regulatory outside help than most counterparts in our industry. This puts us in position of greater risk.
- **16.** We generally purchase substantially less insurance coverage than most counterparts in our industry.
- **17.** Our labs and research may be in violation of environmental regulations.
- **18.** Our labs and research may be in violation of animal ethics regulations.
- **19.** We do not have control of our manufacturing quality or continuity of supply since we work 100% with external manufacturers.
- **20.** Competitors with more resources may be able to copy our products and bring them to market more quickly.

dinners with advisors, investigators, potential and existing investors, researchers, potential and

accelerator(s) and the accelerator itself. In many cases he has special voting rights for him to maintain



Our framework for driving growth and creating shareholder value = focus on the right things.

# FOCUS

- 1. Focus on new applications for our core IP platform and technologies.
- 2. Focus on the launch stage where we are most skilled and experienced.
- **3. Focus** on gaining patents on pioneering technologies.
- **4. Focus** on developing research collaborations with top tier institutions and individuals.
- 5. Focus on gaining opinion leader endorsements.
- 6. Focus on gaining positive press and trade show exposure.
- 7. Focus on gathering positive supporting data.
- 8. After first-in-human clinical data is received seek a strategic partner/ acquirer.
- Develop and nurture an innovation culture. Rapid prototyping. Try a lot of stuff and keep what works. Constant experimentation.
  Do. Try, Fix, Try again.
- Minimize dilution by keeping overhead low. Focus spending on patents, product, people, positive press, opinion leader endorsements and data; not on overhead. Do more with less. Bootstrap even when we do not have to bootstrap.
- **11.** Cross fertilize learning and IP between organ specific applications of core platform technologies = organ regeneration and recovery.



## **Bruce Methven**

#### **Corporate Securities Attorney**

Advisor to Board of Directors, Leonhardt's Launchpads by Cal-X Stars Business Accelerator, Inc.

"Our team is committed to taking the steps to appropriately inform investors of risks and to stay in compliance with all applicable securities regulations."



### **Background & Experience**

#### Owner MethvenLaw

- Admitted to the State Bar of California 1980
- Author Book Raising Money Legally: A Practical Guide to Raising Capital 2012/13

#### **Practice Areas**

Corporations and partnerships, leases, contracts, intellectual property, international business, real estate, litigation

#### Affiliations

- 1. Alameda County Bar Association
- 2. Bar Association of Los Angeles
- 3. American Bar Association
- 4. American Arbitration Association
- 5. EFF Electronic Frontier Foundation
- 6. CPSR Computer Professionals for Social Responsibility
- 7. ERN Entrepreneurs Resource Network-founder and president
- 8. Founder and Former Chair Alameda County Bar Association,
- 9. Intellectual Property and Computer Law Committee
- 10. Former Chair Intellectual Property Committee, BAMTA
- 11. Former President High Technology Entrepreneurial Council
- 13. Former Director Junior Achievement, Legal Counsel

#### Education

- Boalt Hall School of Law, University of California at Berkeley
- BA, University of California at Berkeley
- Two years of undergraduate work at Massachusetts Institute of Technology MIT

Cambridge, MA He founded and for three years chaired the Intellectual Property and Computer Law Committee for the Alameda County Bar Association. Previously he was the President of the Entrepreneurs Resource Network

- 12. Former Director MDG.org Multimedia Development Group, Legal Counsel



## Ken Funashahi

#### Chief Mergers & Acquisitions (M&A) Counsel

Lead Term Sheet Writer and Negotiator Startup and Innovation Asset Sales

Ken helps entrepreneurs, corporations, strategic investors, angel investors, capital funds, venture and private equity funds engaged business in operations throughout

the world. In addition to practicing in California's technology clusters for over two decades, Ken has studied and worked abroad and has extensive experience in cross-border transactions in Asia (including China, Korea and Japan) and Europe. He has handled more than \$10 billion in financings, mergers and acquisitions, joint ventures, and IPOs.

Ken works on a wide range of corporate finance matters, from startup companies obtaining angel financing to multi-billion dollar transactions for multinational and Fortune 500 companies. Ken's practice focuses on technology (AI, AR/VR, CPG, CRT, cyber security, e-commerce, esports, IoT, mediatech, fintech, blockchain, SaaS) and life sciences (biologics, digital health, diagnostics, genomics, medical devices, pharmaceuticals).

#### Background

WSGR is the premier legal advisor to technology, life sciences, and growth enterprises worldwide, as well as the venture firms, private equity firms, and investment banks that finance them. We:

- Advise more than 300 public enterprises and 3,000 private companies
- Consistently named one of "America's Best Corporate Law Firms" by Corporate **Board Member**
- Represent more companies that receive venture financing than any other U.S. law firm
- Completed more than 100 public equity and debt offerings over the past five years, helping clients raise more than approximately \$50 billion
- Have advised more U.S. companies in their initial public offerings than any other law firm since 1998
- Annually rank among the top 10 M&A advisors in the U.S. and represent more technology enterprises in mergers and acquisitions than any other U.S. law firm
- Ranked among the top 15 percent of all law firms for both IP litigation and securities and finance litigation based on feedback from corporate counsel at the world's largest companies

#### **Education**

- University of Wisconsin Law School, JD, 1993 1997
- Wisconsin School of Business, MBA, 1993 1997
- University of Pennsylvania, BA, 1989 1993

https://www.wsgr.com/en/people/kenji-l-funahashi.html.



## Allen C. Turner

#### Chief Patent Counsel

Has filed over 300 patent claims on our behalf so far Patent issued for stem cell homing via SDF1 & PDGF Patent issued for accelerated teeth straightening RANKL Patent issued for teeth position stabilization OPG

Allen began his legal career at TraskBritt starting as a law clerk. He then spent three years in The Netherlands as in-house counsel for

Akzo Pharma (later Akzo Nobel) before rejoining TraskBritt, where he is now a Director and Shareholder. His practice involves all areas of IP law, with special emphasis on obtaining patent protection for inventions in the areas of pharmaceuticals, cosmetics, vaccines, medical devices,

biotech, and other related areas. Allen has participated in litigation in the US and in Europe, and has extensive experience in conducting due diligences. Allen was recognized as the 2016 Best Lawyers® Lawyer of the Year Patent Law in Salt Lake City, Utah. He is also regularly listed in Utah's Legal Elite, IP Stars, IAM Patent 1000 – The World's Leading Patent Professionals 2016, and in Best Lawyers<sup>®</sup>.





Brian Hardy, owner of FizzPop Media, a full-service marketing and advertising agency providing web and graphic design to businesses of all sizes from planning and strategy to design and creation. A life-long entrepreneur, Brian started his first design and marketing company at the age of 18 in Fort Lauderdale, Florida. Among the businesses that Brian has successfully owned and operated are a trade show exhibit house, a full-service sign company and a fully-automated printing company. Wanting to experiment with a new business concept, he created FizzPop Media, a completely unique marketing agency helping companies get Explosive Results.

#### **Experience**

- Special Agent in Charge, FizzPOP Media, Feb 2015 Present
- Coworker, CalXelerator, 2012 Present
- **Owner,** 4 Color Displays, Jan 2009 Present
- Marketing Director, California Stock Exchange, Jan 2008 Present
- Marketing/ Web Master, Startup California, Jan 2011 Present

#### Education

• Graphic Design, EVIT, 1998 – 2000

## **Brian Hardy**

Director of Marketing Leonhardt's Launchpads

# 2020 Target Reach Goals

# Major Business Goals

- 1. Get 5 startups sold into strategic partnerships/ acquisitions.
- 2. Move 5 more startups into position to secure strategic partnerships in 2021.
- 3. Raise \$13 million more in capital to fund research and product development.

# **Clinical and Pre-Clinical Goals**

- partner.
- Complete Second Heart Assist wireless power animal study with miniaturized coil.
- Complete PressureStim clinical study and secure strategic partner.
- Complete 2nd animal study CancerCell and raise capital for additional studies.
- Complete BladderCell study and secure strategic partnership.
- Complete OrthodontiCell fixation and aligner studies. File new 510K application with FDA. Sell company.
- patients in studies.
- Complete CerebraCell stroke recovery studies. Secure funding for more studies.
- Complete EyeCell clinical studies. Sell EyeCell.
- Complete HairCell clinical studies. Sell HairCell.
- Complete SkinStim clinical studies. Sell SkinStim.
- Complete Valvublator animal studies. Secure funding for clinical pilot study.
- Complete KidneyCell clinical study. Secure funding for invasive study.
- Complete Stem Cell Bra efficacy pilot study. Secure strategic partnership. Prepare for CES 2021.
- Complete OrthoStim pilot clinical study. Secure funding for additional studies.
- Complete DentaCell Accelerator innovations clinical studies. Secure funding for additional studies.
- Complete PancreaCell clinical pilot study. Secure funding for additional studies.
- Complete LiverCell clinical pilot study. Secure funding for additional studies.
- Complete EarCell clinical pilot study. Secure strategic partner.
- Complete TestiStim pilot clinical study. Secure strategic partner.
- Complete VibroCell animal study. Secure funding for additional studies.
- Complete Vascustim 3rd clinical study. Secure strategic partner.
- Complete AortaCell animal study. Secure funding for additional studies.
- Complete InStim additional clinical patients. Complete pilot clinical study.
- Complete DentaCell > BoneGraft pilot clinical study.
- Find research partner for RegenaLung. Complete animal study. File new patent claims.
- BioPace Secure research grant. Complete animal study.
- Complete ImplantStim pilot linical study.
- Complete TremorStim pilot clinical study.
- Complete MemoryStim pilot clinical study.
- Complete Second Brain pre-clinical and pilot clinical studies.

Complete BioLeonhardt heart regeneration animal study and prepare to launch pilot clinical study. Complete Second Heart Assist cardio renal syndrome pilot clinical study and secure strategic buyer/

Sell MyoStim ED based on data on over 100 patients enrolled in studies. To continue to enroll more

# 2020 Target Reach Goals by Innovation and Startup



- Discover bioelectric signaling sequence(s) for a key identified regenerative protein expressions at rate of 2 per month or 24 for year.
- Source and test mixed organ regeneration composition components for studies stem cells, stromal fraction, PRF, amnio fluid, selected growth factors, exosomes, micro RNA gel, selected alkaloids suchy as tetraharmine, oxygenated nanoparticles, nutrient hydrogel, organ specific matrix fragments.
- Develop and test organ interface devices for organ specific studies ie; eye mask, face mask, head cap, pacing infusion catheter, aorta interface, external pulse electro magnetic field belts, wireless power belts.

## **Heart & Cardiovascular**

https://leonhardtventures.com/heart-and-cardiovascular/



#### Second Heart Assist

#### www.secondheartinc.com

Prepare for cardio renal syndrome pilot study. File additional patent claims. Complete FDA filings packaging, transport, shelf life, missing needed biocompatibility test results, electrical safety, risk analysis, benefit clinical risk review summary. Complete Texas Heart Insitute large animal studies. File for Breakthrough Designation. Complete cardio-renal syndrome clinical study. Complete wireless power pulsatile flow model and animal studies. Develop new animation video. Sell company.

## **Bio-Leonhardt**

#### **BioLeonhardt**

www.bioleonhardt.com

Complete large animal study at Texas Heart Institute. Finalize publication of small animal study at U of Utah with Dr. Selzman team. Prepare for clinical trials in 2021.



#### **PressureStim**

www.pressurestim.com

Complete clinical study OUS Brazil. Finalize agreement with UC Irvine 150-+ U.S. patient data + patents. Build slide deck. Update web site. Write executive summary.



#### Valvublator

#### www.valvublator.com

Build and test Valvublator II prototypes. Update web site. Complete Elastrin patient license and animal data access. File new patent claims for Valvublator II. Complete large animal study University of Minnesota.



#### Vascustim

#### www.vascustim.com

Complete 3rd clinical study in Mexico this time bioelectrics + biologics. Launch clinical study in Eastern Europe. See strategic buyer.



#### **BioPace**

www.bio-pace.com Update web site. Prosecute NIH grant application. Complete animal study.



#### VibroCell

https://leonhardtventures.com/vibrocell/ Update web site. Complete animal studies. File additional patent claims, .



**AortaCell** 

https://leonhardtventures.com/aortacell/

Update web site. Complete Elastrin patent license and animal data access. Secure funding for animal study.







"Second Heart Assist, Inc. has developed

what we believe to be an unmatched technology platform pipeline for circulatory assist support. We are confident our design will maximize cardio and renal function recovery while minimizing risk of thrombosis, hemolysis, mechanical breakdown and heart valve damage. We are entering well controlled studies at esteemed institutions to prove this out."



## **Jeff Donofrio**

President & Board Director Second Heart Assist, Inc.

Board Director Leonhardt's Lauchpads by Cal-X Stars Business Accelerator, Inc.

Board Director BioLeonhardt

Board Director HeartScore

## **Brain**

https://leonhardtventures.com/brain/



#### CerebraCell

#### www.cerebracell.com

File additional patents. Complete stroke clinical study Brazil. Write full business plan in LivePlan - in progress. Update web site. Add related study articles to web site. Complete animal studies with biologics.



#### **TremorStim**

#### www.tremorstim.com

File additional patents. Build and test prototypes. Complete pilot clinical study. Build web site. Write executive summary. Build slide deck.



#### MemoryStim

www.memory-stim.com File patent claims. Build web site. Write executive summary. Complete slide deck. Initiate clinical study.



#### Second Brain

#### www.secondbrainstim.com

File patent claims. Build web site. Write executive summary. Complete slide deck. Complete pre-clinical studies.





## **Cosmetic, Personal Care & Reproductive Health**

https://leonhardtventures.com/cosmetic-and-personal-care/



#### HairCell

www.haircellstim.com Complete and publish clinical study. Find strategic buyer. Update web site.



#### SkinStim

www.skin-stim.com Complete and publish clinical study. Enroll more patients. Find strategic buyer.

GorthodontiCell

#### OrthodontiCell www.orthodonticell.com Complete and publish clinical study Mexico. Complete Hoag Irvine study. Secure funding for studies. Find strategic buyer.







#### **MyoStim ED with ErectiStim**

#### www.erectistim.com

Publish new clinical stiudy. Enroll in registry study more patients. File more patents. Find strategic buyer. Test at home use device.



#### Stem Cell Bra

#### www.stemcellbra.com

Complete pilot efficacy clinical study Brazil and South Africa. Raise capital. Find a strategic buyer. Update web site. Update executive summary.



#### **DentaCell Accelerator**

#### www.dentacellaccelerator.com

Compile the 2000+ patients treated into a publication. File additional patent claims. Update web site. Launch bone graft healing studies.



#### TestiStim

#### www.testistim.com

Enroll more patients in pilot clinical study. File additional patent claims. Update web site. Write executive summary. Build slide deck.



#### ImplantStim

#### www.implantstim.com

Complete clinical pilot study. File additional patent claims. Build web site. Write executive summary. Build slide deck



## **Major Organ Regeneration**

https://leonhardtventures.com/major-organ-regeneration/



#### KidneyCell

#### www.kidney-cell.com

Complete 2nd clinical study in Brazil. File additional patent claims. Look for additional research partners. Apply for grants. Secure funding for studies. Secure strategic partner.



#### EarCell

https://ear-cell.com Complete clinical study in Brazil. Add scientific related articles to web site. Complete bioelectric and biologics animal study. Secure strategic partner.



#### BladderCell

#### www.bladdercell.com

Complete 2nd clinical study in Brazil. File additional patent claims. Search out additional research partners and opinion leader endorsements. Secure strategic partner.



#### InStim

#### https://instimcell.com

Complete pilot clinical study in Brazil. Plan other inflammation related studies. Find research partners. Raise capital for inflammation product development and studies. Write executive summary. Build slide deck. File patents.



#### https://leonhardtventures.com/regenalung/ Update web site. Write executive summary. Build slide deck. Find research partner already active in area. Complete animal study.



# **QEYECELL**

#### EyeCell

#### www.eye-cell.com

Complete two new clinical studies with Dr. Chaikin and Dr. Kondrot. File additional patent claims. Update web site. Write executive summary. Update slide deck. Find strategic buyer.



#### PancreaCell

https://leonhardtventures.com/pancreacell/ Update web site. Launch clinical study OUS.



#### LiverCell

#### https://livercellstim.com

Find research partner. Add related scientific articles to web site. File new patent claims. Complete animal study.



#### OrthoStim

https://ortho-stim.com + www.orthostimaccelerator.com Launch clinical studies in Mexico, Brazil and at Hoag Hospital. Update web sites. Finalize Liu patent license. Seek out collaborators active in field.







"EyeCell utilizing a combination of bioelectric regeneration promoting signals and also biologics in the more serious cases has the potential to revolutionize vision recovery. We are implementing careful well controlled studies in small steps emphasizing patient safety first. The early data is encouraging but larger statistically significant studies need to be completed before firm conclusions on safety and efficacy can be fully determined."

#### **Experience and Education**

Dr. Johnson has been an eye surgeon at North Surburban Eye Specialists a unit of Twin Cities Eye Consultants for over a dozen years. He completed his undergraduate degree in Chemistry at the University of Minnesota. He then moved to Duluth to start his medical training. The last two years of his medical school were completed at the University of Minnesota in Minneapolis. He completed a year of internship at

Hennepin County Medical Center. He was a standout in his residency at the University of Minnesota.

## **Dr. Patrick K. Johnson**

Chief Medical Officer EyeCell

Scientific Advisory Board Leonhardt's Launchpads





# Our Mission

Discover and develop innovative organ regeneration and recovery therapies, leveraging our core IP at the convergence of bioelectrics and biologics, that extend quality of life. We are committed to helping people keep their own organs by regenerating them using bioelectric signaling and biologics similar to how they are built in the first place.

## Cancer

https://leonhardtventures.com/cancer-treatment/



#### CancerCell

#### www.cancercellinc.com

Complete animal studies and launch pilot clinical study. File patents for bioelectric OPG expression for fighting back bone cancers.



# Key Figures 2020

#### **800+**

number of patients enrolled in clinical studies across all products (includes independent studies rolled into our program).

#### 83%

treatment success rate across all products in all studies so far.

#### 0%

serious adverse events reported in clinical studies so far.

#### 500,000

patients have been treated with Leonhardt inventions worldwide since the 1980's.

#### 600+

number of patent claims issued, pending, option or license for organ regeneration and recovery.

#### 9

issued patents for customized bioelectric treatment of cancer - https://cancercellinc. com/list-of-the-issued-cancer-patents/ and dozens of new patent claims pending.

#### **\$7 Billion**

approximate total sales of Leonhardt inventions and Leonhardt incubated/accelerated technologies worldwide since the 1980's.

#### 35

world opinion leading scientists and clinicians on our Scientific Advisory Board & collaborative research team.

#### 250

the approximate number of people working on Leonhardt's Launchpads portfolio projects and research worldwide on any given day.

#### 20

U.S. heart failure department chairs from leading institutions attended our design review and clinical trial planning meetings at the A.C.C. and HFSA.

### \$6,500,000

new capital raised for the current 2020 portfolio of innovations and startups within the Leonhardt's Launchpads accelerator.

#### 5

average number of portfolio startups expected to have completed pilot first in human clinical studies and to be ripe for entering strategic partner discussions each year for next 6 years.

#### \$3,000,000

estimated value of R&D lab, prototype development and manufacturing equipment available to us for our developments through our affiliations, partnerships, leases and partners.

#### 60%

percent of patients which perfectly straight teeth @ 3 months in our OrthodontiCell pilot clinical study compared to only 14.3% in control patients.

#### **90%**

percent of patients with full recovery of penis enlargement in our MyoStim ED II ErectiStim erectile dysfunction study compared to 0% un-treated.

#### 400%

increase of urine output in our Second Heart Assist pilot first in human clinical study patients. An important precursor for use in helping heart failure patients rapidly remove excess fluids.

#### 63

years our primary stimulator OEM manufacturing partner Mettler Electronics in Anaheim, California has been building ultrasonic and bioelectric therapy stimulation devices for health recovery.

# Major Historical Milestones

1982 - Leonhardt Ventures founded as H.J. Leonhardt & Co.

1983 - Built out numerous cardiac cath labs and ICU's in eastern hemisphere with American General Medical Corp.

1985 - Began research collaboration with Dr. Robert O. Becker the author of Body Electric for improving blood flow.

1986 - World Medical Corp. formed to help small cardiovascular device manufacturers reach export markets.

1987 - \$3.2 million in sales. Developed WorldMed brand of cardiovascular catheters.

1987 - Worked with Labcor and DMG to develop heart valve and oxygenator systems.

1988 - World Medical Manufacturing Corporation formed to produce cardiovascular devices.

1988 - Developed full lineup of patented predictably compliant cardiovascular balloon catheters - PolyCath<sup>™</sup>.

1988 - Working with Dr. Race Kao completed first stem cell repair of heart tissue study in dogs.

1988 - Developed and patented first percutaneous heart valve.

1990 - FDA 510K commercial authorization received for PolyCath<sup>™</sup>. Developed campaign to end use of latex balloons in hospitals.

**1990** - PolyCath<sup>™</sup> rights sold to Nippon Zeon Co. of Japan for combination of investment plus pre-paid orders.

1991 - Developed and patented first commercially successful endovascular stent graft the TALENT (Taheri-Leonhardt)<sup>™</sup>.

1992 - Supplied patented balloon catheters to Cordis Corp., Nippon Zeon and C.R. Bard.

1993 - Supplied patented balloon catheters to NASA.

1994 - Developed and patented first stem cell delivery catheter - ProCell<sup>™</sup>.

1995 - Developed and patented first electro magnetic radiation delivery catheter - RadiCath™.

1995 - Developed and patented with Penn State the PENSIL<sup>™</sup> intravascular lung catheter.

**1995** - Developed and patented vibrational energy devices for preventing blood clots and improving gas exchange.

1995 - Completed world's first percutaneous repair of an aortic aneurysm in Australia with Dr. Ken Thomson.

1997 - Signed letter of intent to merge WorldMed with Arterial Vascular Engineering of California.

1998 - AVE World Medical Mfg. Corp. merger closes and Medtronic. Inc. in November announces acquisition of combined companies for \$3.7 billion in stock and \$600 million cash to cover AVE debt.

1999 - Bioheart, Inc. formed first stem cell company for heart repair.

1999 - Published in New England Journal of Medicine first 2008 - Opened up research offices and lab in Southern paper of percutaneous repair of aortic dissections with Dr. California and Northern California working with the C. Nienaber. University of Northern California School of Biomedical Engineering.

1999 - Published in CIRCULATION first paper of successful

2009 - Helped ope up Science & Technology Innovation Center and Leonhardt's Launchpads NorCal at the University of Northern California School of Biomedical Engineering in Santa Rosa (UNC STIC). Enrolled first three startups in UNC STIC incubator program - Sapheon, Tissugen and Osseon. Sapheon was acquired by Medtronic Covidien in 2014 for \$238 million providing 63X return to seed stage investors.

bioelectric stimulation treatment of ischemia. 1999 - Developed world's first biological pacemaker and completed successful dog study - BioPace<sup>™</sup>. 2000 - Founded Leonhardt Vineyards in Sonoma County, California with purchase of first 15 acre property converted 50% to vineyards in Dry Creek Valley.

2000 - Began filing series of over 13 patent applications for combination bioelectric and cell+growth factor therapies for organ regeneration.

2011 - Published in American Heart Journal Phase II/ III results Bioheart MyoCell - treated pts 95.7 meters 2001 - Introduced on U.S. market very first cardiovascular improvement 6 minute walk. Placebo control minus 4 genetic test - Pla2 to determine heart attack risk. meters decline. 84% of treated pts improved. 16% worsened. 69% of control or placebo pts. worsened across all studies.

2001 - Completed world's first non-surgical stem cell repair of a human heart in The Netherlands.

2003 - Published Phase I study muscle stem cell repair of hearts study in the Journal of the American College of 2014 - Working with Wetling DK completed 47 patient Cardiology. microcurrent successful clinical study in Germany and Switzerland treating diabetic foot ulcers - published in 2003 to 2009 - Bioheart, Inc. completed Phase I Myoheart, International Wound Journal. 95% healing of all patients Phase II SEISMIC and Phase II/III MARVEL interim results wounds at 8 weeks.

studies. Gained first FDA authorization for combination cell

+ gene therapy trial REGEN = myoblasts + SDF-1. 2014 - DentaCell research collaborator Dr. Mary Ellen Chalmers receives patent for frequency specific 2004 - PressureStim co-inventor Eleanor Schüler files microcurrent for treatment of dental indications - https:// pioneering patent for bioelectric blood pressure control patents.google.com/patent/US8909346B2/en https://patents.justia.com/patent/20040236238

2014 - TestiStim co-inventor Bob Forward receives patent 2004 - BladderCell co-inventor Eleanor Schuler files for electrical stimulation for testosterone management pioneering patent for bioelectric bladder control - https:// https://patents.google.com/patent/US8897877B2/en patents.justia.com/patent/20050113879

2005 - Bioheart, Inc. gains investments from Boston Lake City, Utah near University of Utah campus. Scientific Guidant (\$2 million) and St. Jude Medical (\$2 million). Sells stem cell delivery catheter patent license 2015 - Launched the California Stock Exchange<sup>™</sup> Cal-X 30 to Abbott Laboratories (\$900,000). Closes collaborative Social Good Impact Fund powered by Motif Investing. clinical trial agreement with Cordis Johnson & Johnson.

2015 - Launched The Kindheart Lionheart TV Network 2008 - Completed \$76 million valuation IPO for Bioheart, www.kindheartlionheartty.com of curated inspirational and Inc. on NASDAO. healthy living programming.

2010 - Published in European Heart Journal first repeat cell therapy injections study with Dr. F. Prosper in Spain.

2013 - Opened up Cal-X Stars Business Accelerator, Inc. DBA Leonhardt's Launchpads in Los Angeles area.

2015 - Opened up Leonhardt's Launchpads Utah, Inc. in Salt

2015 - CancerCell co-inventor Eleanor Schuler receives first of series of 9 patents for bioelectric cancer treatment - https://patents.justia.com/patent/9032964

2015 - EveCell research collaborators Chaikin et. al publish study on microcurrent therapy for vision recovery - https:// www.ncbi.nlm.nih.gov/pmc/articles/PMC4689270/

2016 - Filed over 120 new provisional patent claims for organ regeneration technologies.

2016 - Completed pilot sheep study for Stem Cell Bra in Argentina with successful results. 20% healthy tissue growth with only 1 hour of stimulation of 3 signals every other day for 4 weeks.

2016 - Independent team in Brazil publishes electrical stimulation bladder control study - https://www.jpurol. com/article/S1477-5131(16)30017-1/abstract following Schuler patents.

2016 - Leonhardt files patents for "Brain Saving Helmet" https://leonhardtventures.com/cerebracell-unveils-brainsaving-helmet-rapid-stroke-recovery/

2016 - Leonhardt and Genovese file patent for bioelectric controlled expression of PDGF - https://www.biospace. com/article/releases/-b-leonhardt-b-and-b-genovese-bfile-patent-for-bioelectric-controlled-expression-of-pdgf-apowerful-organ-regeneration-cytokine-/

2016 - Leonhardt files patent for heart valve regeneration https://www.biospace.com/article/releases/-b-leonhardtventures-b-files-patent-for-heart-valve-regeneration-/

2017 - PancreaCell makes it to finals of American Diabetes Association National Pitch Contest - https:// leonhardtventures.com/leonhardts-launchpads-startuppancreacell-makes-finals-american-diabetes-associationnational-pitch-contest/ + https://vator.tv/news/2018-09-26-startup-competitions-seeking-diabetes-companies

2017 - Leonhardt & Donofrio filed patent for vibration harmonic resonance for preventing blood clot, plague and calcification formations https://patents.google.com/patent/US20190125932A1 /en?q=circulatory+assist&inventor=Leonhardt&oq =Leonhardt+ circulatory+assist+

**2017** - OrthodontiCell research collaborators Santamaria et. al publish study on electrical stimulation to accelerate teeth straightening - https:// www.ncbi.nlm.nih.gov/pubmed/26917494

2017 - Leonhardt signs exclusive option agreement with CalTech for full series of circulatory assist pump patents https://www.biospace.com/article/releases/-b-leonhardtb-s-launchpads-expands-patent-estate-with-option-toexclusive-license-agreement-with-b-caltech-b-/

2017 - Leonhardt files patent for bioelectric controlled expression of HIF1a - https://mysocialgoodnews.com/ leonhardt-adds-hif-1-alpha-estate-bioelectric-controlledrelease-regenerative-proteins/

2018 - Independent team in China publishes electrical stimulation brain stroke recovery study - https://www. hindawi.com/journals/bn/2018/8923520/

2018 - Leonhardt files patent for bioelectric blood pressure management - https://patents.justia.com/ patent/20190022396

2018 - MyoStim ED research collaborators Carboni et. al publish study on electrical stimulation treatment for erectile dysfunction - https://www.ncbi.nlm.nih.gov/ pubmed/29785045

2018 - Leonhardt files patent for bioelectric cancer tumor therapy with multi-modality treatment https://patents. justia.com/patent/20190030330

2018 - KidneyCell research collaborators Plentz et. al publish study on electrical stimulation to reduce DNA damage associated with kidney failure - https://www.ncbi. nlm.nih.gov/pubmed/29529880

2018 - Leonhardt files patent for circulatory assist pump -https://patents.google.com/patent/WO2019183247A1/ en?q=circulatory+assist&inventor=Leonhardt&oq= Leonhardt+circulatory+assist+

2018 - Second Heart Assist acquires rights to pioneering wireless power patent - https://www.prdistribution.com/ news/second-heart-assist-announces-wireless-powerpatent-license-agreement-with-vascor-for-powering-aortapositioned-circulatory-assist-device.html

2018 - PressureStim research collaborators Plentz et. 2019 - Second Heart Assist working with Dr. Adrian Ebner al published study on electrical stimulation treatment complete landmark first ever placements of a true aortic of high blood pressure https://www.ncbi.nlm.nih.gov/ stent based circulatory assist pumps in 4 clinical patients pubmed/29658440 - https://mysocialgoodnews.com/second-heart-assistannounces-landmark-successful-first-in-human-non-2018 - Leonhardt files patent for bioelectric surgical-placement-of-an-aortic-stent-based-circulatory-

inflammation management - https://patents.justia.com/ assist-pump/ patent/20190022389

2019 - HairCell collaborating researcher Dr. Catherine 2018 - Leonhardt and Axolotl Biologix announce research Davies from South Africa presents before and after results and commercialization collaboration - https://skin-stim. on pilot study patients for bioelectric and bioogics based com/leonhardt-ventures-and-axolotl-biologix-announcehair regeneration - https://haircellstim.com/clinicalpartnership-to-study-combination-bioelectric-andresults-before-and-after/. First cases published in Follicle biologic-therapies/ Thought - https://www.folliclethought.com/haircell-pilottrial-results/

2019 - Second Heart Assist completes successful DEMO of wireless power 2nd generation device - https://www. 2019 - Leonhardt's Launchpads files patent for bioelectric biospace.com/article/second-heart-assist-announcescontrolled expression of COL17A1 protein known to fight successful-first-demo-of-wireless-powered-circulatoryskin aging and wrinkles - https://www.discovermagazine. assist-pump-aortic-stent/ com/health/scientists-uncover-a-protein-that-seems-tofight-aging-in-our-skin

2019 - Leonhardt, Miron, Kanter filed patent for bioelectric platelet rich fibrin combination product -https://patents. 2019 - OrthodontiCell completes enrollment of 44 clinical justia.com/patent/2020000709 patients in accelerated tooth movement study with positive results. Manuscript prepared for publication in 2020.

2019 - Stem Cell Bra completes successful low dose safety study in Brazil and South Africa prepares for first efficacy 2019 - OrthodontiCell receives Letter of Allowance from study. USPTO for pioneering patent claims for bioelectric controlled expression of RANKL, OPG key proteins for 2019 - Leonhardt et. al file patent for bioelectric controlled accelerated teeth straightening and stabilization - https:// expression of anti-aging protein klotho - https:// www.orthodonticproductsonline.com/industry-news/ www.biospace.com/article/leonhardt-s-launchpadscompany-news/orthodonticell-patent-application-movesannounces-filing-of-patent-for-bioelectric-stimulationforward-acceleration-system/

controlled-klotho-expression-powerful-anti-aging-and-2020 - MyoStim ED completes enrollment of 105 patients regeneration-promoting-protein-/

2019 - CancerCell completes pilot feasibility animal study at UCLA.

2019 - BladderCell launches new clinical study in Brazil for bioelectric bladder control.

2020 - KidneyCell launches new clinical study in Brazil 2019 - Pioneering 301 patient study for electro-acupuncture for kidney recovery adding Klotho expression - https:// for knee osteoarthritis published by independent team leonhardtventures.com/kidneycell-announces-launch-ofin China - https://arthritis-research.biomedcentral.com/ new-bioelectric-stimulation-study-to-attempt-to-reversearticles/10.1186/s13075-019-1899-6 following Liu patents. kidney-failure/

for electrical stimulation treatment of erectile dysfunction with positive results. Manuscript prepared for publication.

2020 - ImplantStim successfully treats first patient for bioelectric acceleration of dental implant healing.



## **Dr. Mark Cunningham**

#### Board Director Leonhardt's Launchpads

Board Director Second Heart Assist (voting)

Board Member Leonhardt's Launchpads (non-voting)

CSO Valvublator and Senior Advisor BioLeonhardt

Senior Advisor Valvublator, Second Heart Assist, Inc, BioLeonhardt

Assistant Professor of Clinical Surgery University of Southern California Keck School of Medicine

Director of the Mechanical Circulatory Support Program, Surgical

"I am truly excited to be actively involved with three projects with the Leonhardt team (1) Valvublator for heart valve decalcification and regeneration, (2) BioLeonhardt for heart regeneration and (3) Second Heart Assist a revolutionary circulatory assist pump. All three projects have potential to dramatically improve care of cardiothoracic patients."

"The Leonhardt-Donofrio invention of administering harmonic resonant vibration to prevent blood clot, plaque and calcification formation on implantable devices could be a breakthrough that is a desperately needed by patients. I look forward to being involved with the evaluation of this technology."



#### **Experience**

- NASA Langley Research Center, Space Directorate
- Aerospace Engineer 1982 1988
- Boston Medical Center, Boston University, Boston, MA
- General Surgery 1992-96
- Boston Medical Center, Boston University, Boston, MA
- General Surgery, Chief Resident 1996-97
- · Keck School of Medicine at the University of Southern California
- Los Angeles, CA
- Cardiovascular Surgery 1997-2000
- Assistant Professor of Clinical Surgery
- · University of Southern California,
- Keck School of Medicine
- Chief of Staff Keck Medical Center
- Director of the Mechanical Circulatory Support Program USC Keck Medical Center
- Surgical Director of the Heart Transplant Program USC Keck Medical Center

#### Education

- Embry Riddle Aeronautical University, Daytona, FL 1984
- The College of William and Mary, Williamsburg, VA 1986
- George Washington University, Washington DC 1986
- Old Dominion University, Norfolk, VA 1986
- University of Miami School of Medicine, Miami, FL, 1992



### Laurelle F. Johnson

Interim President BladderCell Advisory Board Leonhardt's Launchpads

"One of my first actions as an advisory board member in 2015 with Leonhardt's Launchpads was to encourage the group to pursue bioelectric treatment of bladder dysfunction which they acted on immediately. I then joined the BladderCell LTP

startup launch team in 2016 as President with special focus to seek to aid in particular the over 30 million women in the USA who live with urinary incontinence. The condition also reduces the quality of life for wheelchair-bound patients with spinal cord injuries, Multiple Sclerosis and Muscular Dystrophy. Our team is committed to develop a better solution for these patients. We are very proud of the alliances we have created with independent investigators that have already published positive bioelectric treatment studies. BladderCell has been enrolling rapidly in our own sponsored new clinical study with new bioelectric signaling sequences including those for controlling expression of klotho, follistatin, tropoelastin and other key regeneration promoting proteins. We hope to share results from this landmark pioneering study the early fall of 2020."

#### **Background, Education & Experience**

- MBA Pepperdine University
- Bachelors Degree Speech Communications California State University Northridge
- Founding Member Women in LAVA Los Angeles Venture Capital Association, promoting access to venture capital for women owned startups
- Co-Founder MyExpat.US
- Creative President Strategies for Growth
- Helped startups raise more than \$40 million since 2009

"We believe we are on the brink of definitively proving that we can reduce brace and aligner wearing time from 18 months to 6 months. In addition to that we have demonstrated with our proprietary

bioelectric signals we can increase OPG release more than 1000%. OPG has been proven in previous studies to help stabilize teeth positions so they stay straight after alignment."



## **Dr. John Marchetto**

Chief Medical Officer & President

OrthodontiCell



### **Ben Boytor**

#### President, LiverCell

Advisor Biomedical Engineering & Biology Leonhardt's Launchpads

"The liver is the most important metabolic organ in the body and crucial for optimal health. There are over 100 different types of liver diseases which combined are a leading cause of death globally. However, relatively little is

known about these diseases compared with other chronic conditions. Many of these diseases have few or no approved treatments available and mortality rates are expected to continue to increase until new treatments are discovered.

To address the unmet needs of patients worldwide we are developing a potent treatment solution for reversing the affects of liver disease through liver regeneration. Our approach utilizes bioelectric stimulation + a micro infusion pump + the LC-15 fifteen component cell-based composition.

Bioelectric stimulation controls stem cell homing, proliferation and differentiation as well as controlled release of more than a dozen regeneration promoting growth factors. Our micro infusion pump provides repeat deliveries of the LC-15 composition of stem cells, growth factors (including amniotic fluid), exosomes, micron RNAs, nutrient hydrogel, anti-inflammatory agents and selected alkaloids that we believe are necessary to fully regenerate a failing liver. We are excited about the enormous potential of our technology and are moving forward with carefully designed studies to prove this out."

#### Education

- Master of Science Biomedical Engineering Florida International University 2001 to 2003
- Bachelor of Arts Pre-Med Biology Augustana College 1994 to 1998

#### **Background & Experience**

- Director of Quality BD Technologies and Innovation
- Quality Leader BD Diagnostics
- · Director of Quality Control Cytonet
- · Senior Quality Engineer Bioheart, Inc. a Leonhardt Ventures co. (heart regeneration muscle stem cells)
  - Helped guide Bioheart (A Leonhardt founded company) muscle stem cell based heart regeneration therapies through Pilot, Phase I, Phase II and Phase II/III clinical trials at over 40 leading centers worldwide(33 in the USA) and helped gain first ever FDA clearance for clinical trials for a combination cell and gene (SDF-1) therapy for heart regeneration.
- Research Associate University of Miami Molecular and Immunology Department





## **Phil Patton**

Board Member Leonhardt's Launchpads Pittsburgh www.leonhardtpittsburgh.com

President- KidneyCell



*"KidneyCell is proud to have launched clinical studies of our 2nd generation product to help revive failing kidneys. There is an enormous patient need for an alternative to kidney transplants and our team is committed to lead the way."* 

#### Experience

Have over 21 years of bringing new innovative medical device and specialty pharmaceutical products to market. Areas of focus are clinical education during product launch, buy and bill, reimbursement, patient access, and contracting. Work with key large Teaching Health systems like, UPMC, Allegheny Health Network, Cleveland Clinic, West Virginia University, Hershey Medical Center, and Geisinger Medical Center. Ongoing key roles in product access with many IDN, GPO, and Specialty Pharmacy outlets. Many roles included- Sr Sales specialist, District and Regional Training, Director of Business Development, and President of Business Development. Awards included multiple president clubs, and other sales driven awards around formulary/contracting achievements.

Therapeutic Focus: Cancer- Oncology/Hematology, Critical care, Kidney and Liver Disease, Regenerative Medicine Stem Cell Research, End organ transplant, Neuro-surgery, Orthopedic surgery, Cardiovascular disease, and Cardiac Surgery.

Graduate of Temple University Fox School of Business- Double majored in International Business and Marketing

**PittMcGowan** 







## Dr. William T. Abraham

#### Chairman Scientific Advisory Board

Director Division Cardiovascular Medicine, Ohio State University

"The Leonhardt team has had the endurance to spend the time and effort to get heart regeneration right with their BioLeonhardt platform. Their Second Heart Assist device to

relieve the heart of workload during bioelectric and stem cell based regeneration and to improve renal output has a real place in heart failure treatment. I look forward to being involved with the clinical evaluation of both these products."



#### **Background & Experience**

- Professor of Medicine, Physiology, and Cell Biology Chair of Excellence in Cardiovascular Medicine
- Director, Division of Cardiovascular Medicine
- Associate Dean for Clinical Research
- Director, Clinical Trials Management Office
- Deputy Director, Davis Heart and Lung Research Institute

### **Education & Postdoctoral Training**

- University of Pittsburgh, Pittsburgh, Pennsylvania
- B.A. Magna Cum Laude with Departmental Honors in Philosophy received April 21, 1982
- Harvard Medical School, Boston, Massachusetts
- M.D. received June 5, 1986
- University of Colorado Health Sciences Center, Denver, Colorado
- Intern in Medicine, 1986-1987
- Resident in Medicine, 1987-1989
- Chief Medical Resident, 1989-1990
- Fellow in Cardiology, 1990-1993
- Heart Failure/Cardiac Transplantation Fellow, 1991-1992
- Research Fellow in Cardiology, 1992-1993
- University of Utah Affiliated Hospitals, Salt Lake City, Utah
- Visiting Fellow in Heart Failure/Cardiac Transplantation, April-June 1991



## **Dr. Nicolas Chronos**

#### Chief Advisor Product Development

Leonhardt's Launchpads, Second Heart Assist, Inc, BioLeonhardt, PancreaCell

"I have been working with the Leonhardt team in developing and evaluating regeneration and recovery technologies for 20 years. No other group has put as has much effort into

understanding all the mechanisms of regenerating diseased organs. The combination of bioelectric stimulation, a re-fillable micro infusion pump and a multi-component stem cell based mixed composition makes sense. We are now on the final leg of applying everything we have learned into a vibrant platform for organ recovery."



#### **Background & Experience**

- Dr. Nicolas Chronos is an interventional cardiologist well known for his pioneering research in the treatment of heart disease.
- Dr. Chronos received a Bachelor's degree in medicine and surgery from the Royal Free Hospital School of Medicine at the University of London in 1987.
- Trained in cardiology and interventional cardiology at the Royal Brompton National Heart and Lung Institute in London.
- In 1992, Dr. Chronos was awarded a British Heart Foundation International Fellowship and moved to the United States to continue his research in interventional cardiology at Emory University School of Medicine.
- Director of Research at the Andreas Gruentzig Cardiovascular Center at Emory University Hospital in 1997.
- Dr. Chronos joined Atlanta Cardiology Group in 1999 where he developed and served as CEO of the Saint Joseph's Translational Research Institute until 2012.
- Formed Cardiology Care Clinics
- Dr. Chronos has held academic appointments at Duke University
- Currently on the faculty of Stanford University as a consulting professor of medicine and cardiology.
- Most recently, he established Cardiology Care Clinic at Lake Oconee in 2012 with his wife and cardiology physician's assistant, Heather Chronos.
- Dr. Chronos is a Fellow of the American College of Cardiology, the European Society of Cardiology and the Royal College of Physicians of London.
- He has published several books and more than 200 peer-reviewed articles.
- Adjunct faculty at Stanford until 2016



## **Dr. Nicolas Peters**

#### Chief Clinical Advisor, BioPace

Faculty of Medicine, National Heart & Lung Institute Professor of Cardiac Electrophysiology Imperial College London

"Most of us have natural pacemakers made of living cells that work very well to keep our heart on beat 24 hours a day 7 days a week and adjust naturally to changing work

demands. We are on a path at BioPace to develop this same natural technology for patients currently receiving steel cans, steel leads and electronic bulky hardware implants powered by batteries. Just as very few of you with good natural pacemakers would trade yours in for battery powered steel can, we believe the same will be true for patients and their care physicians in the future choosing instead a natural pacemaker made of living cells alternative."

#### **Background & Experience**

Dr. Nicholas Peters Expanded Bio - Professor of Cardiology and Head of Cardiac Electrophysiology, Imperial College London, and Consultant Cardiologist at Imperial College Healthcare NHS Trust (St Mary's Hospital). His other appointments include Adjunct Professor, Department of Pharmacology, Columbia University, New York and Co-Director EP Research, St Joseph's Cardiovascular Research Institute in Atlanta. He is on the Board of Trustees, The Founding Research Committee, and Board Liaison for Research of Heart Rhythm Society, USA. Professor Peters is also director of the ElectroCardioMaths Programme.

He is a Clinical Academic, performing ablation and device-implant procedures in the management of arrhythmias, forming the basis of the clinical component of the program of research into myocardial conduction ranging from sub-cellular morphological determinants of cell-cell coupling, to conduction properties of human myocardium in health and disease, and funded principally by the British Heart Foundation. He has more than 100 peer-reviewed papers and holds patents in the field. He has a number of international research collaborations, is on the Scientific and Medical Advisory Boards and is Consultant to a number of academic, publishing and commercial entities in Europe and the USA and is co-founder of the European Cardiac Arrhythmia Society and Symphony Medical, Inc.



"There is not a single social good

impact movement I can think of bigger or more important than helping people to regenerate their own organs with natural like methods instead of taking chemical drugs or getting artificial implants and thus extending their life at a high quality level with less side effects. The CancerCell initiative using personalized bioelectric therapy instead of chemo or radiation to fight cancer also shows great promise. I am very proud to be guiding advisor to this organization led by hard working people with good hearts. I am delighted that I had a part in recruiting them to open up an R&D lab in my beloved state of Utah back in 2015 which has turned out to be a win win for the company and the state."

#### **Experience and Education**

- Candidate for Congress Utah.
- Forbes Magazine Social Good Business Writer.
- CEO Mark on The World Center.
- Executive Director Community Foundation of Utah.
- Managing Director USTAR Technology Outreach and Innovation.
- Managing Director Thorpe Capital Group.
- MBA Cornell University.
- BS Finance University of Utah.

## **Devin Thope**

#### Senior Financial Advisor

Leonhardt's Launchpads Utah, Inc.



## **Tricia Nordby**

#### Senior Advisor Brand Development

Former Board Director Leonhardt's Launchpads 2013 to 2016

"My role at Leonhardt's Launchpads since 2013 has been to help them deliver a clear brand message of who they are and what they stand for not only today but for the future and what that may mean for their patients."

#### **Background & Experience**

In Tricia's words... Helping leaders in fulfilling their ultimate potential - and the ultimate potential of the brands they lead - is the first step in rebuilding American confidence and American opportunity.

Tricia has created, reappraised, and expanded the horizon of corporate brands since 1992. She does not have an industry focus or signature style, as every brand's needs are different. She has partnered with the leaders and mavericks of med-tech, restaurant/hospitality, architecture, consumer technology, health and wellness, and more. Though her clients range from multi-nationals to indie startups, she has always been passionate about entrepreneurship, and now runs an Entrepreneurship Accelerator within her largest company, UPFRONT. She is well known for having a key role in developing the famous Caribou Coffee brand.

- **Ernst & Young Entrepreneur of the Year Finalist**
- Young Alumna of the Year, University of Wisconsin-Madison
- Forty Under 40: 40 People to Watch in Minnesota
- Minnesota Fast 50: 50 Fastest Growing Private Companies in Minnesota
- STEP Inside Design: Best Idea of the Year
- Featured in Communication Arts
- Featured in PRINT
- Featured in AIGA



"As a storyteller, I can't imagine a more exciting story to share than that of Leonhardt's Launchpads. This "innovation accelerator" is revolutionizing healthcare by helping people regenerate their own organs, instead of relying on artificial implants or drugs. This pioneering work will allow people to harness their bodies' own remarkable regenerative abilities, using living cells and bioelectricity – the natural processes by which our bodies are built in the first place."

#### **Background & Experience**

I combine deep content creation skills, strategy and leadership with extensive media experience, and use best-practice digital marketing techniques to propel the success of leading-edge technology brands.

- CrowdStrike, Director, Executive Communications and Digital Content, Director, Content & Digital Marketing, Jan 2015 - Present
- InformationWeek, Contributing Editor, 2008 - Present
- XETV, Technology Correspondent, 2005 - 2016
- Websense, Senior Manager, Digital Media, 2012 – Jan 2015

## **Steve Kovsky**

#### Storyteller in Chief

Senior Advisor Marketing Communications Senior Advisor Digital Medial









## **Dr. Susan Baloul**

Senior Orthodontist Advisor

#### Experience

**Orthodontist**, ELEGANT ORTHODONTICS

#### **Education**

Hult International Business School **Executive MBA Candidate** Business, 2018 - 2020

#### **Boston University**

DScD, CAGS, Orthodontics & Dentofacial Orthopedics 2006 - 2011 Activities and Societies: Class President

#### Tufts University School of Dental Medicine

DMD, CAGS, MSD, Dental, Periodontology, Masters 1997 - 2005

Activities and Societies: Amercian Dental Association. ASDA Class Representative. Alpha Omega Dental Fraternaty. Hispanic Dental Assocition: Secretary. American Association of Women Dentist: Class Rep. Massachusetts Periodontal Society. American Academy of Periodontology. Accademy of Osseointegration. Massachusettes Dental Society.

- **Class President position during** periodontal training 2001-2004
- Dental Resident Faculty, Tufts Univ Dept of Periodontology 2002-2004
- Clinical Instructor; Tufts University, Dept of Periodontology 2004-2009.



"Leonhardt Ventures is totally committed to serving the 96% of the world's population living outside the U.S.A. From our founding forward over 50% of all our sales have been outside of the U.S.A. We also have a history of developing valuable research collaborations and strategic partnerships around the globe for product development, distribution and both preclinical and clinical studies. Leonhardt Ventures is truly international and growing with this diversity."

#### **Background & Experience**

Multicultural, multilingual senior executive and serial entrepreneur with over 30 years international hands on experience in both startups and multinationals in consumer/lifestyle, media/entertainment, tech/ innovation and healthcare/life science products, solutions and services.



## **Henk Abbink**

#### **Executive Vice President**

International Market Development

Leonhardt Ventures Management Principles Since 1982

- We are committed to World Class consistent quality in our products and services.
- is for reading. We never work Sundays.
- around the globe. Positive spirit and communication are the keys.
- what really needs to get done at any particular time.
- WORK at improvement.
- wasted time. We are bootstrappers stretching every dollar out.
- of tries, evaluated comprehensively. Innovation is work!

- Profits from export sales fuel R&D and U.S. clinical trials.
- are the customers.
- from a fire hose. We all learn to speed read.
- 14. Networking with others allows us to develop and get our products to market more guickly.
- 16. Every member is a co-stakeholder in the business.
- 17. Work should be made fun at times to relieve tension. You must have fun, that's an order. :)
- 18. Weekly responsibilities and goals are clearly defined in our Monday Morning Meetings.
- implementation and it had better be fast and right.
- 20. Our work environment is one of honesty, integrity and mutual respect.
- 21. We focus on developing best in class breakthrough technologies in organ regeneration and recovery.
- research efforts.
- of shots on goal equals more goals.

Our Leonhardt Ventures Theme Song - Do Something by Mathew West > https://www.youtube.com/watch?v=b\_RjndG0IX8

2. LUCK FAVORS THE PERSISTENT. This simple truth is a fundamental cornerstone of successful company building.

3. Monday through Friday is one quick blurred together workday. Saturday and Sunday are two long rest days. Saturday

4. Our success depends on our ability to quickly bring to bear the talents of people and bits of organizations dispersed

5. Speed and agility are two of our most important strategic assets. We cannot be weighed down with large overhead and bureaucracy. We have flexibility to adjust quickly to changing market needs and to shift resources and focus to

6. We believe in **continuous improvement**. Never is something perfect right from the beginning. We improve our products and our organization a little bit everyday. We use feedback from the "real world" market to drive improvement. We

7. We operate lean with a small flexible staff focused on customers and products. WE DO MORE WITH LESS! We reduce

8. We believe in gaining widespread feedback on new designs early in the development process. Lots of prototypes, lots

9. No internal functional barriers. We want everyone involved in doing what needs to get done when it needs to get done.

10. Work simplification. Do not over complicate tasks. Get to the heart of the matter and get it done NOW. Keep things simple.

11. We are committed to developing export sales to the 96% of the world's population that lives outside of the U.S.A.

12. We believe superior customer service and responsiveness are critical to sustaining our success. Employees that exhibit the attitude "This would be a great business if it weren't for the damn customers and their irritating demands," must be corrected to the awareness that our customers pay our bills. The only people called "boss" in our organization

13. We believe continuous organizational learning is a key asset of our company. We read everything we can get our hands on! We uncover every stone. We hunger for knowledge. We take in information at rapid rates like drinking water

15. We are passionate and compassionate about what we are doing. We care! We believe in what we are doing!

19. We have a bias for speed and action. Analysis and reflection are all well and good, but we are nowhere without

22. Our regenerative economy portfolio companies are designed to feed funds to our organ regeneration and recovery

23. We believe "if you want to be original the most important thing you can possibly do is DO A LOT OF WORK, create a large volume of work." - Ira Glass. Breakthrough innovations are the by-product of volume of work. In innovation, lots









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