

The background of the cover is a dark blue color with a repeating pattern of stylized, overlapping leaf or petal shapes in a slightly darker shade of blue. The text is centered in the upper half of the page.

# **Leonhardt Ventures**

**2017 Annual Report**

# Leonhardt Ventures Annual Report Table of Contents



I. Letter to Shareholders - 2016 Year in Review .....	5
II. Forward Looking Statement .....	13
III. Corporate History & Background.....	14
IV. Business Model .....	16
V. Overview of Business Units .....	16
VI. Facilities, Equipment & Assets .....	17
VII. Intellectual Property, Key Agreements, Grant Awards & Research Collaborations .....	18
VIII. Financial Progress.....	19
IX. Board of Directors & Corporate Governance .....	20
X. Advisory Board & Management Team.....	23
XI. 2017-2019 Goals .....	23
XII. Progress Report by Startup / Licensable Technology Platform.....	24
• Regenerative Medtech .....	25
• Regenerative Economy .....	33
• Our Mission.....	35
XIII. Key Figures 2016 .....	36
• Major Historical Milestones.....	38

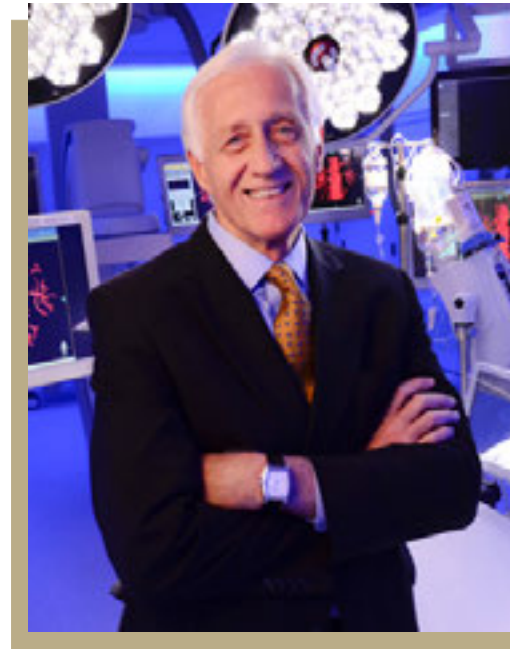
# 2017, An Exciting Year of Progress

## Letter to Shareholders

This year marked enormous progress in all our business groups. Across all groups we filed more than 100 new patents claims for organ regeneration. Our estate of IP for bioelectric stimulation controlled regenerative protein release includes SDF-1, IGF-1, EGF, HGF, PDGF, eNOS, VEGF, Activin A+B, RANKL/OPG/TNF A, Follistatin and Tropoelastin. Our **Heart and Cardiovascular Group** landed grant funding for heart regeneration studies via BioLeonhardt and the USTAR UTAG grant program at the University of Utah. MyoStim Peripheral completed 7 successful limb salvage patients in a row in the start of a clinical study in Mexico. BioPace filed an NIH grant application with hope to soon start biological pacing studies at U of Utah. Valvublator filed over 30 patent claims for minimally invasive heart valve decalcification and regeneration. AortaCell developed pre-clinical and clinical study protocols and is working to secure funding to complete these studies. Our **Cosmetic and Personal Care Group** launched clinical trials for HairCell hair regeneration in Mexico and Argentina. Stem Cell Bra completed a successful sheep study in Argentina. MyoStim ED teamed up with researchers at Harbor UCLA to move forward erectile dysfunction studies and filed for grant funding. Our SkinCell Stimulator by MyoStim Skin team is gearing up to launch skin regeneration studies in Los Angeles. OrthodontiCell filed over 20 new patent claims for accelerated tooth movement and stabilization and is preparing to launch studies at Tufts University. Our **Major Organ Regeneration Group** landed a major grant for EyeCell for eye regeneration studies at the University of Utah. PancreaCell presented at the Pancreas 2016 national meeting and initiated collaborative research with the Diabetes Research Institute in Miami with Dr. Camillo Ricordi and filed a USTAR grant application which is currently pending. RegenaLung held meetings with intent to launch lung regeneration studies at Cedars Sinai UCLA and Mayo Clinic Florida. LiverCell is working to begin research at Duke University. Our **Brain Group** presented CerebraCell at the North Bay Innovation Summit and the Neuro Tech Leaders Forum and filed more than 30 new patent claims including for a "brain saving helmet" we hope to be in all public places in the future for stroke victims. CerebraCell spun out CerebraCell Brain-N-Hance™ our first product for guiding cognitive function improvement. CerebraCell twice met with the UCLA Brain Institute with hope to file joint grant applications for continued research. CerebraCell signed aboard Dr. Santosh Kesari of the Pacific NeuroSciences Institute in Santa Monica, California a Providence St. Johns Hospital affiliate. Our **Cancer Group** filed over 12 new patents claims for dissolving cancer tumors with bioelectric stimulation and we teamed up with the brilliant scientist Eleanor Schuler in New Mexico and secured an option to her patents for reading the electrical communication signals within tumors and custom delivering the precise bioelectric signals to stop tumor growth. Our **Regenerative Economy Group** had a great year of progress as well especially with The Kindheart Lionheart Inspirational Works TV Network that surpassed 3 billion views across all content programs. We formally incorporated **Leonhardt's Launchpads Utah, Inc.** to focus on accelerating organ regeneration startups working in close collaboration with the University of Utah. Via our grant supported entry into the USTAR BioInnovations Gateway laboratories we have access to over \$100 million worth of biomedical research equipment and a cGMP certified clean room for clinical production. We concluded a major patent license and research collaboration agreement with CalTech. We partnered with Biomerics Utah and Biomerics Advanced Catheter Minnesota for product engineering, development, quality control and manufacturing. This agreement gives us access to over 100,000 sq. feet of space and \$50 million plus value of equipment and engineering talent.

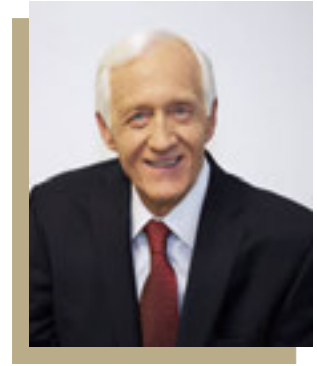
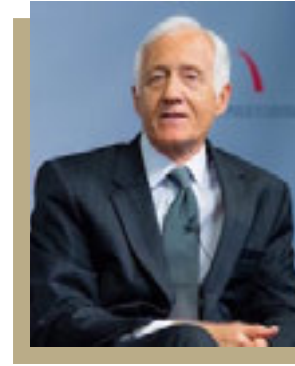


**Howard J. Leonhardt**  
Executive Chairman



## **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



## Michael R. Angerbauer

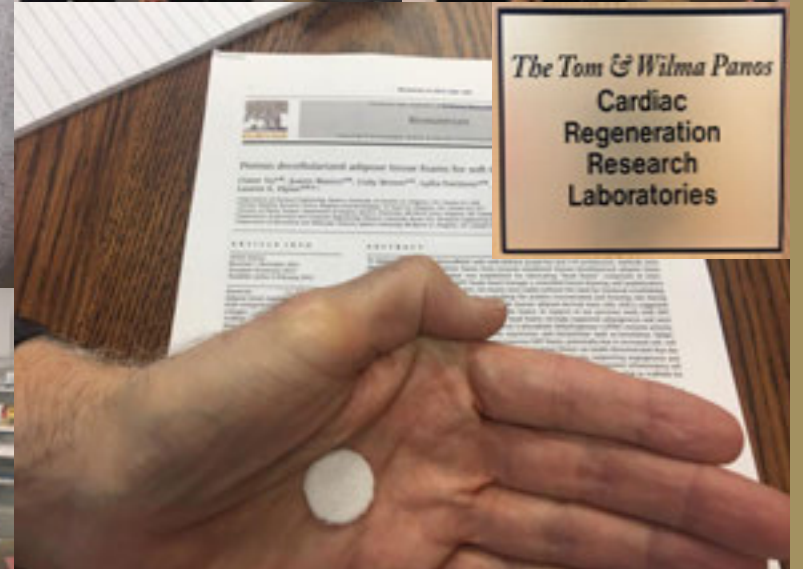
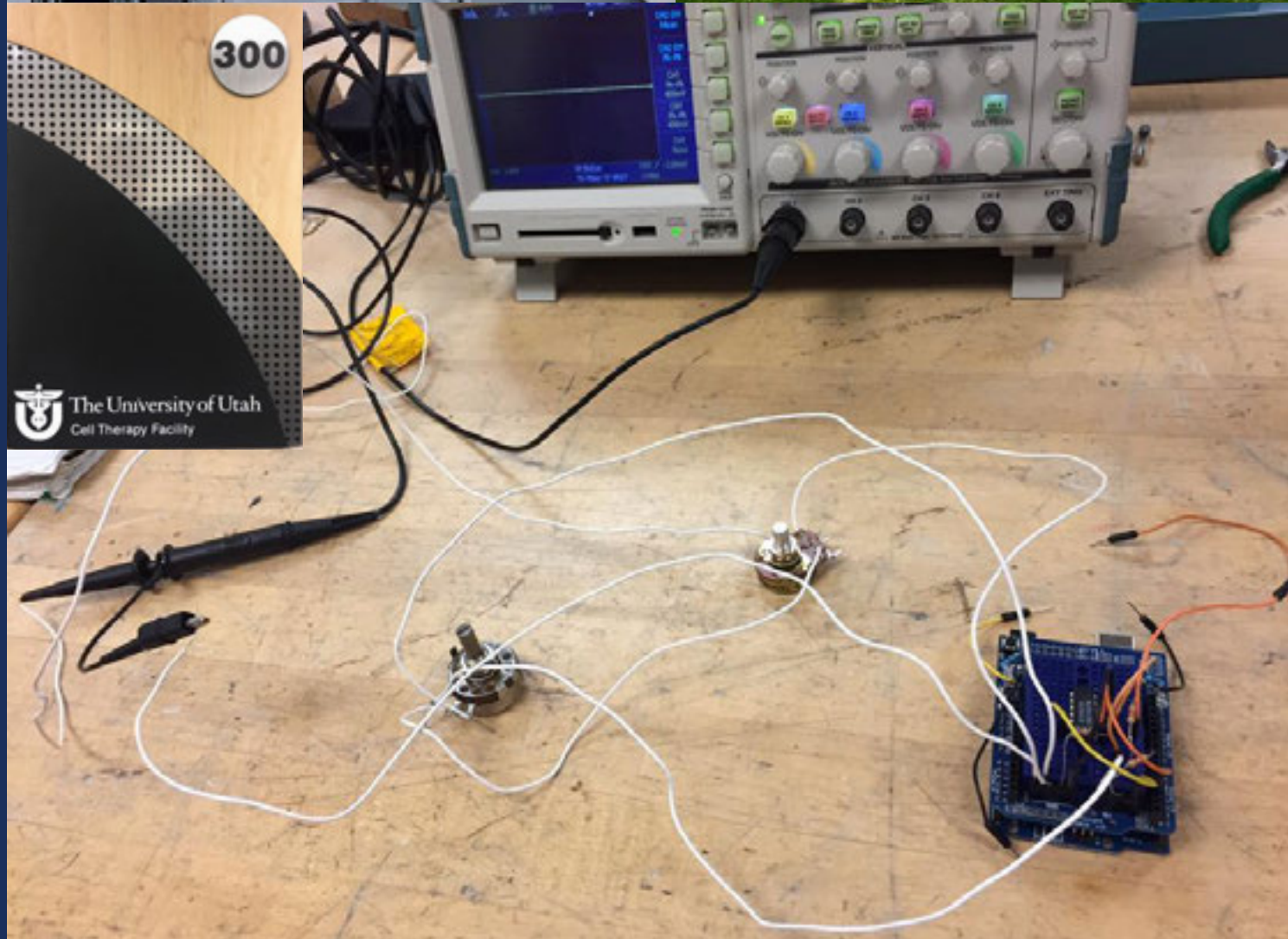
Chief BioEngineer Leonhardt's Launchpads Utah, Inc.

Research Project Leader EyeCell, BioLeonhardt, MyoStim ED and OrthdontiCell

B.S. Biomedical Engineering, University of Utah and Second Heart Assist, Inc.

*"Conducting the experiments to prove out our bioelectric organ regeneration technologies has been a thrilling experience. We believe we are the verge of helping millions of patients in need with a better alternative."*

*"The resources we have available to us via the BioInnovations Gateway, our strategic partners such as Biomerics, the University of Utah and USTAR match any Fortune 500 Medtech company. We are delighted to have a strong research presence in Utah, my home state."*

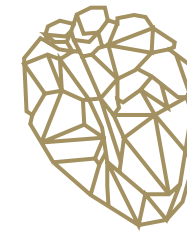


# Letter to Stakeholders

2016 was an amazing year of progress for Leonhardt's Launchpads.

## Major Highlights

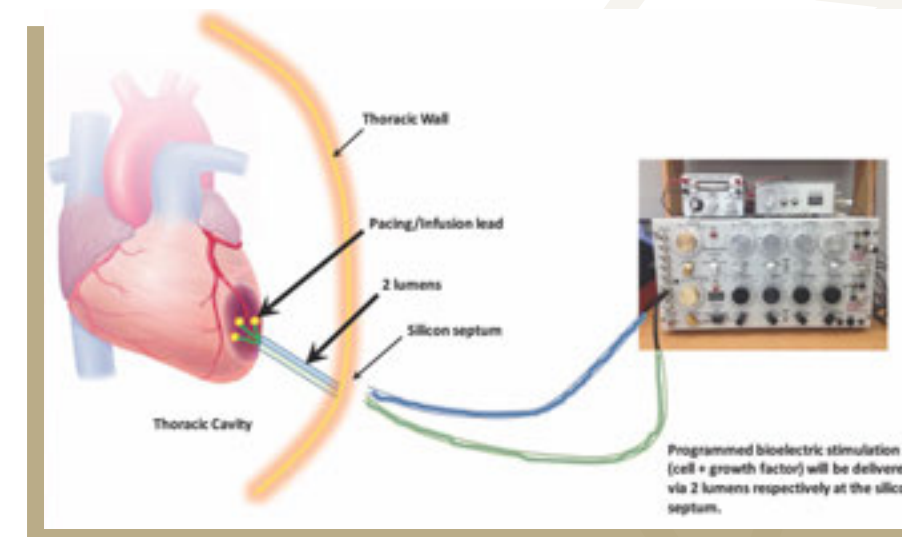
1. Filed organ regeneration full patent application.
2. Discovered HIF 1 alpha signal for regeneration.
3. Successfully completed 7 limb salvage patients - MyoStim Peripheral.
4. Successfully completed sheep breast regeneration study - Stem Cell Bra.
5. Won USTAR Technology Acceleration Grant for EyeCell eye regeneration - EyeCell.
6. Successfully completed Milestone I EyeCell study with successful results - EyeCell.
7. Working with University of Utah won USTAR UTAG grant for heart regeneration studies - BioLeonhardt.
8. Developed "brain saving helmet" and filed patent application - CerebraCell.
9. Won position in BioInnovations Gateway gaining access to lab space and over \$100 million of equipment and personnel
10. Signed engineering, quality control and manufacturing agreement with Biomerics. Gained access to 100,000 sq. feet of production and R&D space an top notch personnel.
11. Built and tested Second Heart Assist, Inc. catheter prototypes.
12. Built and testing Second Heart Assist, Inc. chronic implant prototypes.
13. Signed exclusive option patent license agreement with Neuro Code Tech Holdings for reading cancer tumors and customizing bioelectric treatment.
14. Signed exclusive option patent license agreement with Caltech for Second Heart Assist, Inc.
15. Launched HairCell hair regeneration studies in Mexico and Argentina.
16. Presented organ regeneration and recovery platform at over 15 major conferences.
17. Secured \$700,000 in investment commitments of which over half is paid in.
18. Filed NIH grant application for BioPace.
19. Filed patent application for heart valve decalcification and regeneration - Valvublator.
20. Developed accelerated tooth movement and teeth position freezing technology and filed patent application - OrthodontiCell.

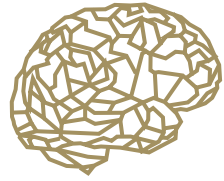


# Heart & Cardiovascular

Our Heart and Cardiovascular Group filed more than 100 new patent claims. BioLeonhardt's collaborating research partner, the University of Utah, was awarded a \$150,000 heart regeneration research grant by USTAR. BioLeonhardt presented at over dozen major meetings in 2016 and is set to present in early 2017 at UCARS Cardiac Recovery, CRT D.C. and 32nd Annual Snowmass Interventional Cardiology. AortaCell developed a wireless energy belt for shrinking aneurysms without surgery and presented at the VEITH/AIM Symposia in New York in November. BioPace linked up with U of Utah researchers and is applying to join the Technology Venture Commercialization Accelerator and also built bridges to University of Minnesota researchers. Valvublator filed over 30 new patent claims and developed a full animation video showing is breakthrough technology. The Utah bioengineering team working with Biomic Advanced Catheter is building Valvublator test prototypes right now. Valvublator was accepted for presentation at CRT D.C. CoroStim filed 10 new patent claims specific to preventing blood clot formation on circulatory assist pump devices and launched CoroStim VibroCell. HeartScore launched a comprehensive stroke management system and teamed up with CerebraCell to design, patent and introduce a brain saving helmet which we hope in the future will be in all public places ready for one button ease of application for preventing brain damage in stroke patients. EndoCell teamed up with Mercator Medical and U.S. Stem Cell Inc. to introduce endothelial progenitor cell delivery for artery regeneration. EndoCell joined with MyoStim Peripheral as a component of their progressive aggressive limb salvage protocol. MyoStim Peripheral designed a full progressive aggressive limb salvage protocol and plans to launch clinical trials in early 2017. Second Heart Assist, Inc. launched with an all-star team to develop best in class devices for circulatory assist support including a patented wireless powered pump within an aortic stent. This team convened potential investigator meetings at the American College of Cardiology in Chicago and the Heart Failure Society of America Annual Meeting in Orlando each attended by more than 20 heart failure department chairs from leading institutions in the USA. Second Heart Assist, Inc. working with Biomerics Advanced Catheter has built and tested catheter prototypes and working with CalTech has built and tested wireless powered chronic implant prototypes. The team licensed 4 issued patents from CalTech and has numerous additional patents pending. Second Heart Assist, Inc. is on target to be in animal studies in June/ July 2017 and in first-in-man studies by the end of the year. We filed a Second Heart grant application with USTAR which is currently pending. Leonhardt-Wetling Peripheral held business development meetings in The Netherlands and planned out the launch of wireless microcurrent treatment for diabetic foot ulcers in the North American Market. This is on the heels of a very successful clinical

trial in 47 patients already completed in Germany and Switzerland working with our manufacturing partner in Denmark. We are however sad to share the passing of John Wetling of Denmark the original inventor of this device. He will be missed. We also mourn the February 2017 loss of one of most valued long standing advisors CardioThoracic Surgeon Dr. Edward Diethrich former Chairman of the Arizona Heart Institute and Founder of the International Endovascular Society Annual Meeting.





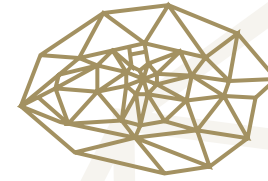
## Brain

Our Brain Group filed over 40 new provisional patent claims in 2016. CerebraCell developed and tested a full brain helmet for non-invasive treatments and an invasive design as well with implantable pacing leads. CerebraCell filed a number of grant applications and developed research protocols for (1) stroke recovery, (2) traumatic brain injury recovery, (3) concussion recovery and (4) brain function enhancement. On August 5th CerebraCell announced the filing of patents for a "brain saving helmet" and an alliance with HeartScore for a comprehensive stroke management program designed to reduce brain damage in millions suffering of strokes. The hope is that in the future the CerebraCell Brain Saving Helmet™ will be emergency uses boxes in all public places just like defibrillators are today. CerebraCell in November introduced its Brain-N-Hance™ product for brain enhancement in non-invasive and invasive configurations. CerebraCell presented at the Neuro Tech Leaders forum in San Francisco in October. In 2016 CerebraCell held meetings to discuss collaborative research with leading brain researchers at UCLA, Buck Institute and Kernel. We met in New York with executives associated with the NFL concussion recovery program to discuss collaborative research as well. CerebraCell signed up Dr. Santosh Kesari a leading Neuro Surgeon from Los Angeles and San Diego as Chief Medical Officer. Recently we met twice with the UCLA Brain Institute most recently with Dr. S. Michael Carmichael with the intention to file for grant funding together for joint research.



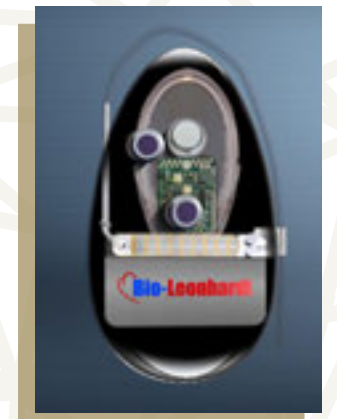
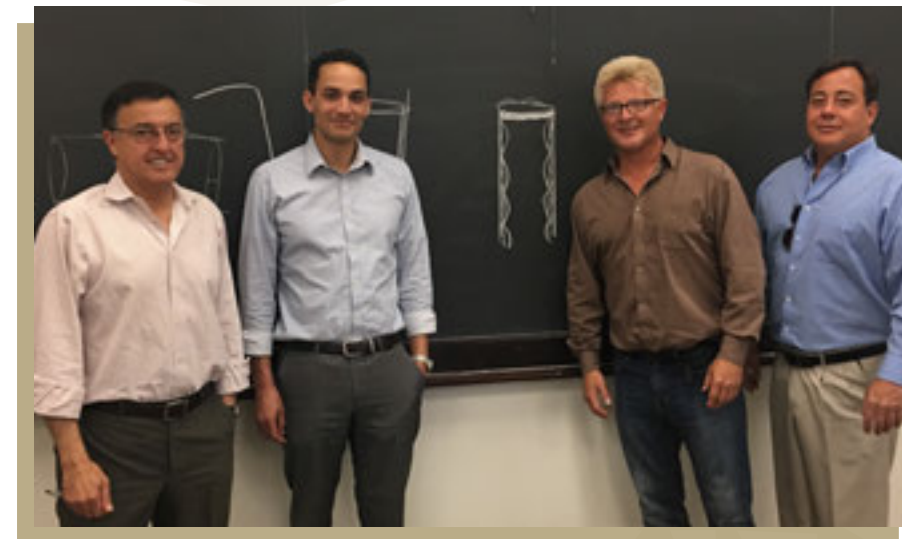
## Cosmetic & Personal Care

Our Cosmetic and Personal Care Group made enormous advancements in 2016. Stem Cell Bra compiled positive data from a sheep study in Argentina where all treated animals increased breast tissue volume by 20% with just 1 hour of stimulation with just 3 of our patented bioelectric protein expression control signals every other day for 4 weeks. DentaCell concluded an agreement with U.S. Stem Cell, Inc. in Sunrise, Florida for FDA GLP blood bank certified services for tooth pulp storage. OrthodontiCell developed an accelerated tooth movement device and filed over 15 new patents claims. OrthodontiCell linked up with Tufts University to advance this research forward. MyoStim Skin introduced SkinCell Stimulator™ and linked up with a team in Los Angeles to move forward translational research. HairCell signed aboard Derek Kahn as President and moved into clinical trials in Mexico and is preparing to launch additional clinical investigational sites in Argentina, China and Greece. We filed a MyoStim ED application with USTAR which is currently pending.



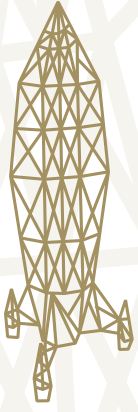
## Major Organ Regeneration

EyeCell won a \$125,000 research grant from USTAR for eye regeneration studies and presented supporting data for its expressed and infused proteins at a number of major meetings. EyeCell held meetings with the Dr. Mory Gharib lab at CalTech regarding research collaboration. We successfully completed Milestone I of this study. Tuan Hoang Ph.D. of USC was signed aboard to EyeCell as an engineering advisor. PancreaCell teamed up with Dr. Camillo Ricordi the Director of the Diabetes Research Institute in Miami and is preparing a number of grant applications to move forward research. We filed a PancreaCell grant application with USTAR which is currently pending. RegenaLung signed aboard Richard Koffler as President and met with teams of lung regeneration researchers at Cedars Sinai UCLA. The group is working on filing grant applications. LiverCell signed aboard Ben Boyter as President who has launched collaborative research discussions with a number of investigators in North Carolina at leading institutions. Our Major Organ Regeneration Group unveiled the launch of KidneyCell for kidney regeneration and EarCell for hearing regeneration in 2016. Laurelle Johnson was recruited to be President of BladderCell focused on bladder regeneration. We have teamed with Dr. Stuart Williams at the University of Louisville to launch a product for Gastric Mucosa regeneration - MucosaCell. The grandest project of our Major Organ Regeneration Group was the unveiling of our BioLeonhardt Whole Body Regeneration product with a full series of provisional and actual patent filings and an explanatory animation video. We are planning to file June 14th 2017 a grant application for BioLeonhardt Whole Body with the National Science Foundation after a telephone conference with the section director for regenerative medicine.



## Cancer

Our Cancer Treatment Group made major advances in 2016 filing patents for bioelectric signaling for stopping cell division and stopping blood supply to tumors. We signed up Dr. Santosh Kesari as our Chief Medical Officer who currently heads up the Neuro Cancer program at the John Wayne Cancer Institute at Providence St. Johns Hospital in Santa Monica, California. We also signed an exclusive option agreement with inventor Eleanor Schuler whom has a series of patents for reading the neuro code of cancer tumors and then custom designed a bioelectric signal array to treat that specific cancer tumor. Our internal team is filing IP on changing the protein expression on the surface of a tumor so that the body attacks it.



## Regenerative Economy (needs renamed)

Content needs rewritten by Howard.

Our Kindheart Lionheart TV Network surpassed 3 BILLION viewers across all programs led by our Inspiring Leaders, Travel, Music, New Politics, Healthy Cooking, Fashion & Beauty and Spirituality Channels. We developed a number of original online TV programs including; Love Roller Coaster (2 episodes filmed), California Love (3 scripts written), Lions Dens + Crowdfund! The American Dream (sold to CNBC), The Kindheart Lionheart TV and Radio Program interviewing and highlighting people exhibiting compassion and courage in their life work (we shot 8 episodes and moved the format now from internet radio to Facebook Live video), Love Dialogues created by Tony Cronin, Great Speeches Covers and Dolphin Smiles: The Legend of Kindheart Lionheart. Kindheart Lionheart Media & Publishing is getting ready to publish Dolphin Smiles: The Legend of Kindheart Lionheart as both a fiction novel and a screenplay. A number of writing school teachers at UCLA helped in improving the screenplay for submission. The team completed a full story board for presentation with professional drawings completed by a former Walt Disney animator. The team hopes to get a contract to turn this story into a major motion picture in 2017. The Kindheart Lionheart Book Club is getting ready for a major marketing campaign to build sales in 2017. Kindheart Lionheart Adventures has over 24 major curated charitable giving adventures on its website and plans a 2017 sales launch. Wine Country Baseball held a successful 7th Annual Wine Country Baseball Classic in Napa Valley this year in October with the best amateur baseball players of Sonoma County pitted against the best of Napa County. This event once again raised funds for local charities and parks. The California Stock Exchange™ launched the Cal-X 30 Social Good Impact fund powered by Motif Investing with over 30 curated social good impact stocks. Cal-X Crowdfund Connect published Leonhardt's Top 20 Tips for Crowdfunding Success and presented at over a dozen major meetings. Cal-X created a promotional alliance with iDISCLOSE for streamlined easy online form based crowdfunding related regulatory filings. Startup California completed its 4th year of helping startups in California grow. LABioHub launched as a web based resource to help Los Angeles area biomedical startups as a sub-unit of Startup California.

## Innovation Accelerators

Leonhardt's Launchpads operated by Cal-X Stars Business Accelerator, Inc. is incubating 26 regenerative medtech and 4 regenerative economy startups with strong research relationships with UCLA, USC and Pepperdine Universities. Leonhardt's Launchpads NorCal in association with the University of Northern California Science & Technology Innovation Center is incubating EyeCell and CerebraCell and may soon also be aiding HairCell. We presented CerebraCell at the NorthBay Innovation Summit in September. In 2016, we fully launched Leonhardt's Launchpads Utah, Inc. which is incubating 7 organ regeneration focused startups at this time working very closely with researchers at the University of Utah and the team at the innovation studio Useable. We opened up and staffed a bioengineering research lab at BioInnovations Gateway in Utah. In October of 2016, we launched Leonhardt's Launchpads Pasadena @ WeWork to better collaborate in research with CalTech.

## Food & Beverage

Lucilles American Cafe's finished another profitable year with sales once again surpassing \$2 million. Leonhardt Vineyards LLC DBA Leonhardt Ventures holds 50% rights to all franchising, recipes, trademarks and SOPs owned by Lucille's American Cafes and has transferred 9% of its 50% position to Cal-X Stars Business Accelerator, Inc. to incentivize our advisory team members to help us sell franchises. Food Trikes & Scooters is getting set for sales push in 2017 with a newly designed mini electric powered food truck coupled with crowd financing and micro loan tools. Lionheart Cider had a spectacular growth year in Minnesota. Leonhardt Vineyards LLC DBA Leonhardt Ventures has an exclusive conditional option to distribute Lionheart Ciders in all the Western States and is gearing up to launch sales in 2017 as has arranged for Cal-X Stars Business Accelerator, Inc to have an option to buy

9% of their rights. Leonhardt Brewworks held discussions with a number of breweries about brewing on an OEM contract basis for us a high end oak aged sour mash beer for us. We hope to be selling our first cases in 2017. California Wine Financing is looking for opportunities to grow as a finance tool using crowdfunding for small family wineries in the Western USA. Leonhardt Vineyards LLC (note this is not part of our innovation accelerator) enters our 17th year in business in 2017. We purchased our first 15 acre vineyard plot in Dry Creek Valley in Sonoma County in 2000. We are producing our finest wines ever now. Our 2012 Sonoma County Pine Mountain Cabernet Sauvignon now in inventory ready to sell is the best wine we have ever made selling for \$588 a case.







## Dr. Santosh Kesari

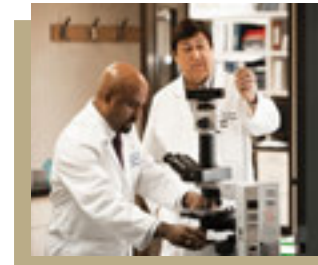
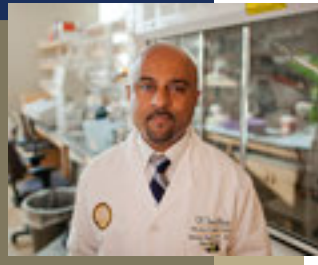
Chief Medical Advisor

CancerCell & CerebraCell

*"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."*



## Experience

- Chair and Professor, Department of Translational Neurosciences and Neurotherapeutics, Director, Neuro-oncology, Pacific Neuro Sciences Institute, Santa Monica, California
- Director of Neuro-Oncology at Providence Saint John's Health Center and Chair of the Department of Translational Neuro-oncology and Neurotherapeutics at John Wayne Cancer Institute.
- PhD Degree Molecular Biology University of Pennsylvania
- M.D. Degree University of Pennsylvania School of Medicine
- Residency Mass General/Brigham Women's Hospital/Harvard Medical School.
- Neuro-Oncology Fellowship Dana-Farber Cancer Institute Boston.
- Assistant Professor Harvard Medical School/Dana-Farber Cancer Institute/Brigham & Women's Hospital.
- Professor NeuroSciences University of California San Diego



## Dr. Camillo Ricordi

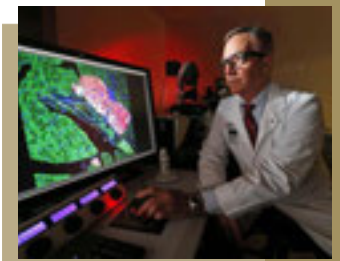
Chief Medical Advisor - PancreaCell

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](http://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 (Editor-in-Chief; [www.cellr4.org](http://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](http://diabetesresearch.org/research-collaboration))
- Dr. Ricordi has authored over 700 scientific publications.
- Inventor, he has been awarded 23 patents.





# Forward Looking Statement

**T**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

Leonhardt 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 accelerator business model is to focus on incubating/accelerating a total of 30 regenerative medtech and regenerative economy startups for a maximum of 5 years. Our overwhelming primary focus is on organ regeneration with our proprietary platform technology of bioelectric stimulation based protein expression supported by a micro infusion pump and a multi-component stem cell based organ regeneration composition. 26 of our 30 startups in our 2017 innovation accelerator class fall in the organ regeneration and recovery focus. 4 of our 30 startups are classified as Regenerative Economy which including our startup and innovation incubators and accelerators as businesses themselves. Our business model is to advance organ specific regeneration focused regenerative medtech startups through first-in-man studies and then begin to seek a strategic partner/buyer with preferentially a 3% royalty on net sales forward. Our startup value building strategy is a focus on acquiring patents, building and testing prototypes, acquiring supporting data, building strategic alliances, gaining positive press and key opinion leader endorsements. For our Regenerative Economy startups we seek to advance them to 10,000 subscribers/customers and then seek a strategic partner/buyer. Our Regenerative Economy portfolio is part of our overall commitment to give back to society above and beyond the social good of our products.

## Overview of Business Units

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

### Regenerative Medtech - Organ Regeneration

- a. Heart and Cardiovascular
- b. Brain regeneration
- c. Cosmetic and Personal Care
- d. Major Organ Regeneration
- e. Cancer Therapies

### Regenerative Economy

- a. The California Stock Exchange™
- b. Kindheart Lionheart Media & Publishing
- c. Leonhardt Food & Beverage.
- d. Incubators & Accelerators.

## Facilities, Assets & Equipment

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 Launchpads 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.

# Intellectual Property, Key Agreements, Grant Awards & Research Collaborations

- 3 issued patents - stem cell homing, blood vessel growth, combination with cells & growth factors.
- 4 issued patents option licensed from Caltech - pulsating cuffs, magnetic fluid pulsed waves, miniature stent pump.
- 4 issued patents option licensed from Neuro Code Tech Holdings - reading electrical communication cancer tumors and jamming signals.
- 100 new patent claims pending - organ regeneration, blood clot prevention.

# Financial Progress

- We invested \$187,000 in 2016 advancing our platform Licensable Technology Platforms and startups.
- Over \$2,300,000 has been invested in our technology and startup platforms total to date.
- QIG Greatbatch invested \$50 million into developing our OEM sourced bioelectric micro-stimulator independently.
- Fluid Synchrony LLC invested \$100,000 directly in us and \$2 million in developing a micro infusion pump.





## **Brittany Brown, CPA**

Interim CFO Leonhardt's Launchpads

Board Advisor

*"Leonhardt's leading competitors developing just one or two products are burning through \$13 to \$20 million cash annually. Leonhardt's Launchpads is developing more than 30 products with under 1/10th that burn rate. This is achieved via non-dilutive 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

# Board of Directors & Corporate Governance

## Board of Directors

### Voting Directors

- Howard J. Leonhardt - Executive Chairman
- Dr. Mark Cunningham
- Jeff Donofrio
- Alex Richardson
- Laurelle Johnson
- Dr. Leslie Miller
- Jeremy Koff - Compensation Committee Chair
- Brittany Brown - Interim CFO, Secretary and Treasurer, Audit Committee Chair

### Non-Voting Directors

- Paul Norman
- Derek Kahn
- Richard Koffler
- Ken Evans
- Walter Grieves

Board members are compensated \$10,000 (cash deferred or stock) per board meeting attended and 80,000 shares annually.

### Leonhardt's Launchpads Utah, Inc.

- Howard Leonhardt
- Dr. Leslie Miller
- Dr. Dinesh Patel
- Jeremy Koff

### Non-Voting Advisory Board Utah

- Dr. Harrison Lazarus
- Devin Thorpe
- Scott Marland
- Michael Angerbauer
- Brittany Brown
- Allen Turner
- David Robinson
- Chris Mismash
- Stuart Hill
- Kelsie Fortner

## Executive Compensation

**No executives took cash salaries in 2016.**

Howard Leonhardt will be compensated a total of \$130,000 salary + benefits in 2017 paid in part from the innovation/startup accelerators and Second Heart Assist, Inc. cash flow permitting.

# Advisory Board & Management Team

Leonhardt Ventures and Leonhardt's Launchpads has over 80 business mentors and 40 scientific advisory board advisors

⇒ <http://calxstars.com/team-cal-x/>

## 2017 - 2019 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.



# Regenerative Medtech

# Progress Report

by Startup / Licensable  
Technology Platform

## Heart & Cardiovascular

### BioLeonhardt – heart regeneration

- Won \$150,000 research grant working with University of Utah
- Obtained numerous new heart regeneration patent claims including PDGF
- Built and tested numerous bioelectric stimulation prototypes
- Built first pacing infusion lead prototypes.
- Built and tested micro infusion pumps working with Fluid Synchrony LLC of Pasadena, CA.
- Updated animation video
- Assembled supporting data on website (over 100 published papers)
- Updated slide deck

### AortaCell – aorta regeneration

- Held meetings with potential strategic investors
- Developed animal study protocol outline
- Recruited key opinion leaders to advisory board: Dr. Harrison Lazarus, Dr. Barry Katzen, Dr. Sam Ahn, Dr. Jacob Cynamon, Dr. Nic Chronos
- Created animation video
- Created BETA website
- Assembled supporting data on website
- Developed slide deck

## BioPace – biological pacemaker regeneration

- Initiated collaborative research at University of Utah with Dr. Alonso Moreno
- Recruited Dr. Nicholas Peters leading electrophysiologist to advisory board
- Filed NIH grant application - pending
- Created BETA website
- Assembled supporting data on website



- Recruited Dr. Jorge Genovese as Chief Scientific Advisor
- Developed research collaboration with Mercator Medical
- Developed research protocol with Dr. Dayu Teng of Sanford Regenerative Medicine Institute San Diego
- Created BETA website
- Assembled supporting data on website

## MyoStim Peripheral – limb salvage and blood flow improvement



- Completed 7 successful clinical patients in Mexico with just SDF-1 and VEGF signals only
- Met with Dr. Larry Kraiss Chief of Vascular Surgery U of Utah about potential research collaboration
- Met with team in Czech Republic about continued research collaboration
- Recruited Dr. Barry Katzen, Dr. Nic Chronos, Dr. Jacob Cynamon, Dr. Sam Ahn to Clinical and Scientific Advisory Board
- Created BETA website
- Assembled supporting data on website (over 100 published papers).

## Valvublator – heart valve regeneration

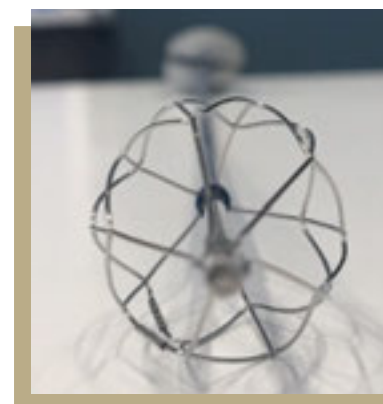
- Filed patent application for device
- Hired Biomerics Advanced Catheter to build prototypes
- Created animation video
- Created BETA website
- Assembled supporting data on website

## CoroStim VibroCell – vibrational energy to prevent clots, plague, calcification

- Filed patent application for device
- Added location-specific harmonic reading

## HeartScore – genomics and high fidelity monitoring + bioelectric based heart failure & stroke management

- Added CerebraCell “Brain Saving Helmet” to product lineup
- Added stroke management protocol
- Met with NeuroWorx Utah to discuss research collaboration
- Created BETA website
- Assembled supporting data on website
- Developed slide deck



- License 4 patents from the California Institute of Technology (Caltech) Pasadena, CA
- Hired Biomerics Advanced Catheter for engineering, quality assurance and manufacturing services
- Built and tested catheter prototypes
- Built and tested chronic implant prototypes
- Created 3 animation videos
- Created BETA website
- Developed slide deck.

## Leonhardt-Wetling Peripheral – wireless diabetic foot ulcer treatment

- Laid out framework for U.S. joint venture agreement
- Created budgets and timelines for limb salvage study
- Developed pre-clinical and clinical research protocols
- Developed clinical and scientific advisory board.



## EndoCell – artery regeneration

- Recruited Dr. Warren Sherman as Chief Medical Officer

## Brain

### CerebraCell – brain regeneration

- Filed numerous patent claims
- Built and tested non-invasive helmet design
- Met twice with UCLA Brain Institute research teams about collaboration. Working on proposed grant application now.
- Recruited Dr. Santosh Kesari as Chief Medical Officer
- Initiated research collaboration with Pacific Neurosciences Institute of Santa Monica, California a Providence St. Johns affiliate
- Presented at Neuro Tech Leaders Forum
- Created BETA website
- Assembled supporting data on website (over 40 published papers)
- Developed slide deck



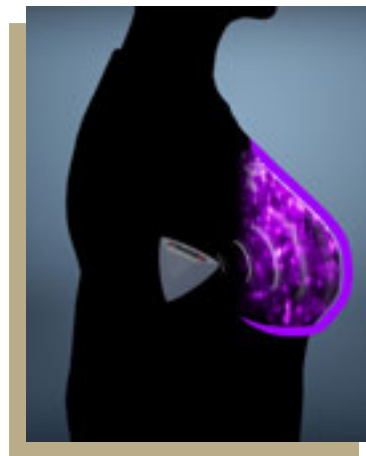
### CerebraCell Brain-N-Hance – cognitive function improvement

- Filed patent application
- Presented at Neuro Tech Leaders forum
- Held meeting with Los Angeles based Kernel about research collaboration
- Met twice with UCLA Brain Institute about potential research collaboration

## Cosmetic & Personal Care

### Stem Cell Bra – breast regeneration

- Compiled data from sheep study in Argentina
- Achieved 30% breast tissue growth with only one hour stimulation with two signals every other day for 4 weeks.
- Preparing for next larger sheep study with more signals
- Created new animation video
- Created BETA website
- Signed aboard Dr. Joel Aronowitz Cedars Sinai UCLA as Chief Medical and Scientific Advisor



### DentaCell – dental gum regeneration + tooth pulp storage



- Signed up FDA certified site for tooth pulp processing
- Developed draft brochure
- Created BETA web site
- Developed mouth piece design
- Added PDGF signal
- Developed draft marketing brochure and poster

### OrthodontiCell – cuts in half dental brace wearing time

- Developed and tested prototype
- Met with three billion dollar potential strategic partners
- Met with leading researcher Dr. Sunil Kapilla at UCSF about research collaboration
- Signed up Forysth Institute-Tufts University to complete first animal study
- Signed Biomerics Utah to build conductive polymer mouth pieces
- Secured bioelectric micro-stimulator supply from QIG Greatbatch
- Signed about Dr. Susan Bahoul of Tufts University as advisor
- Signed aboard Dr. John Marchetto as Chief Medical Officer and President
- File numerous patent claims
- Developed technology to freeze teeth position in addition to accelerating tooth movement
- Filed trademark application for Tooth Movement AcceleratorTM



### SkinCell Stimulator by MyoStim Skin – skin regeneration

- Met with numerous research centers in the Los Angeles area
- Created BETA website
- Created two animation videos
- Sourced face mask
- Developed research protocol
- Assembled supporting research articles



## MyoStim ED – erectile dysfunction treatment

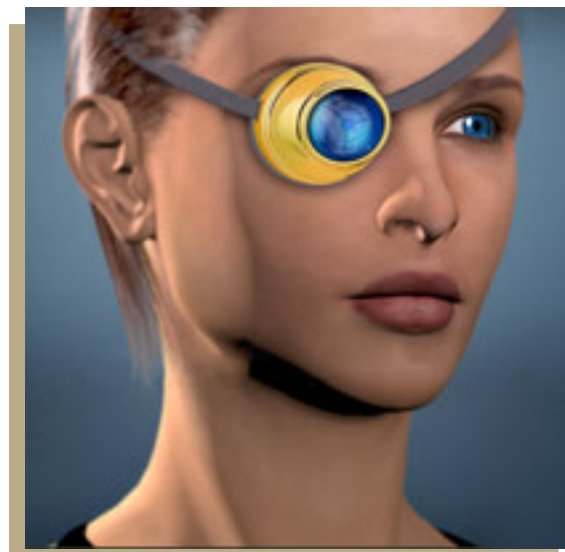
- Filed grant application with USTAR
- Signed aboard Dr. Nelson Cadavid-Gonzalez as Chief Scientific Advisor
- Developed BETA website
- Assembled supporting scientific articles
- Developed research protocol
- HairCell – hair regeneration
- Completed prototype development
- Filed patent applications.
- Developed sourcing for MSCs and amniotic fluid.
- Developed research protocol.
- Held research collaboration meetings with team in Spain.
- Prepared for pilot dose escalation clinical trials in Mexico and Argentina.
- Signed aboard Derek Kahn as President.



## Major Organ Regeneration

### EyeCell – eye regeneration

- Won \$62,500 research grant with potential for another \$62,500
- Built and tested prototypes
- Completed Milestone I grant lab studies
- Developed BETA website
- Created animation video
- Assembled scientific supporting articles
- Created slide deck
- Recruited Dr. Patrick Johnson as Chief Medical Officer.
- Initiated research collaboration with Dr. Mary Hartnett U of Utah Moran Eye Center
- Signed aboard Dr. Dinesh Patel as an advisor
- Signed aboard Dr. King Liu University of Northern Californai as an advisor



## About EyeCell

EyeCell is a startup within the Leonhardt's Launchpads Utah, Inc. accelerator and was founded in February 2015. The company is committed to regenerating optic cells using stem cells naturally produced by the patient in order to reverse the effects of macular degeneration, Stargardt's disease, and retinitis pigmentosa. EyeCell's ultimate goal is the restoration of sight for those suffering from degenerative eye diseases.

The platform technology for EyeCell is comprised of three components - a microstimulator providing bioelectric controlled protein expression, a refillable, programmable repeat-delivery-capable infusion pump and a stem-cell-based mixed composition optimized for ocular tissue regeneration.

EyeCell won \$124,443 in grant funding through USTAR's competitive Technology Acceleration Program (TAP) in January 2017. That money will fund the next round of testing to identify the ability to release proteins within eye tissues with bioelectric signals. The company also took advantage of the BioInnovations Gateway, a technology incubator partnership between Granite School District and USTAR. Here they had access to high tech equipment that enabled prototype development.

EyeCell anticipates being on the market within five year, with approval from the FDA. The company is mitigating FDA rejection with strong academic support and sufficient testing.

There are currently no products similar to EyeCell that aim to regenerate retinal tissue in order to provide a therapeutic effect for patients. The market for retinal degenerative diseases is already very large and will nearly double in size in the next 20 years. Nearly 175 million people suffer from retinal degenerative diseases, which accounts for \$343 billion spent worldwide. These numbers will only grow with an aging demographic. EyeCell hopes to capture and conservative 2.5% of the \$343 billion, equaling \$8.575 billion -- money which would primarily stay in the Utah economy. 25% market share also equates to roughly 50 million patients who would benefit from EyeCell. In order to maintain an operation large enough tot serve this high number of people, the company projects the creation of nearly 1,000 new, high-paying jobs in Utah.

**Timeline of Key Events:**

- 2013:** Dr. Ed Kaudrbit completes over 300 cases of MSCP current treatments for eye disorders
- 2015:** Leonhardt's Launchpads Utah, Inc. is formed
- 2015:** Dr. Y. King Liu receives U.S. patent for an electro-stim-puncture eye patch
- Feb 2015:** EyeCell is founded
- Jan 2017:** Awarded \$124k in USTAR TAP grant funding
- Mar 2017:** Milestone 1 - In vitro testing completed
- Mar 2017:** Milestone 2 - Organie protocol and subjects for animal testing
- Apr 2017:** Milestone 3 - Commencement of animal studies



## PancreaCell – pancreas regeneration



- Recruited Dr. Camillo Riccordi Chairman of Diabetes Research Foundation as Chief Medical Advisor
- Recruited Dr. Nicholas Chronos as Chief Scientific Advisor
- Recruited Dr. Harish Kapoor as President
- Filed grant application with USTAR
- Created two animation videos
- Developed relationship with four clinical research sites in China
- Preparing NIH and NSF grant applications
- Preparing CIRM grant application.
- Recruited Dr. Charles Murtaugh at University of Utah Pancreas Regeneration Lab as an advisor



## RegenaLung – lung regeneration (includes 50% owned subsidiary RegenaLung COPD)



- Held potential research collaboration meeting with Mayo Clinic
- Held potential research collaboration meeting with Cedars-Sinai UCLA
- Recruited Richard Koffler as President
- Recruited Dr. Syde Taheri as Chief Medical Advisor COPD.
- Developed BETA website
- Assembled scientific supporting articles
- Developed slide deck.

## LiverCell – liver regeneration



- Developed research collaboration with Duke University
- Signed aboard Ben Boytor as President
- Developed BETA website
- Developed slide deck
- Assembled scientific supporting articles

## KidneyCell – kidney regeneration



- Developed BETA website

## EarCell – ear hearing regeneration

- Developed beta website
- Hired Ken Evans as President
- Assembled Scientific Articles



## BladderCell – bladder regeneration

- Held meetings with potential collaborative researchers in Toronto and in India
- Recruited Laurelle Johnson as President
- Identified potential strategic partners
- Created BETA website
- Assembled supporting scientific articles.



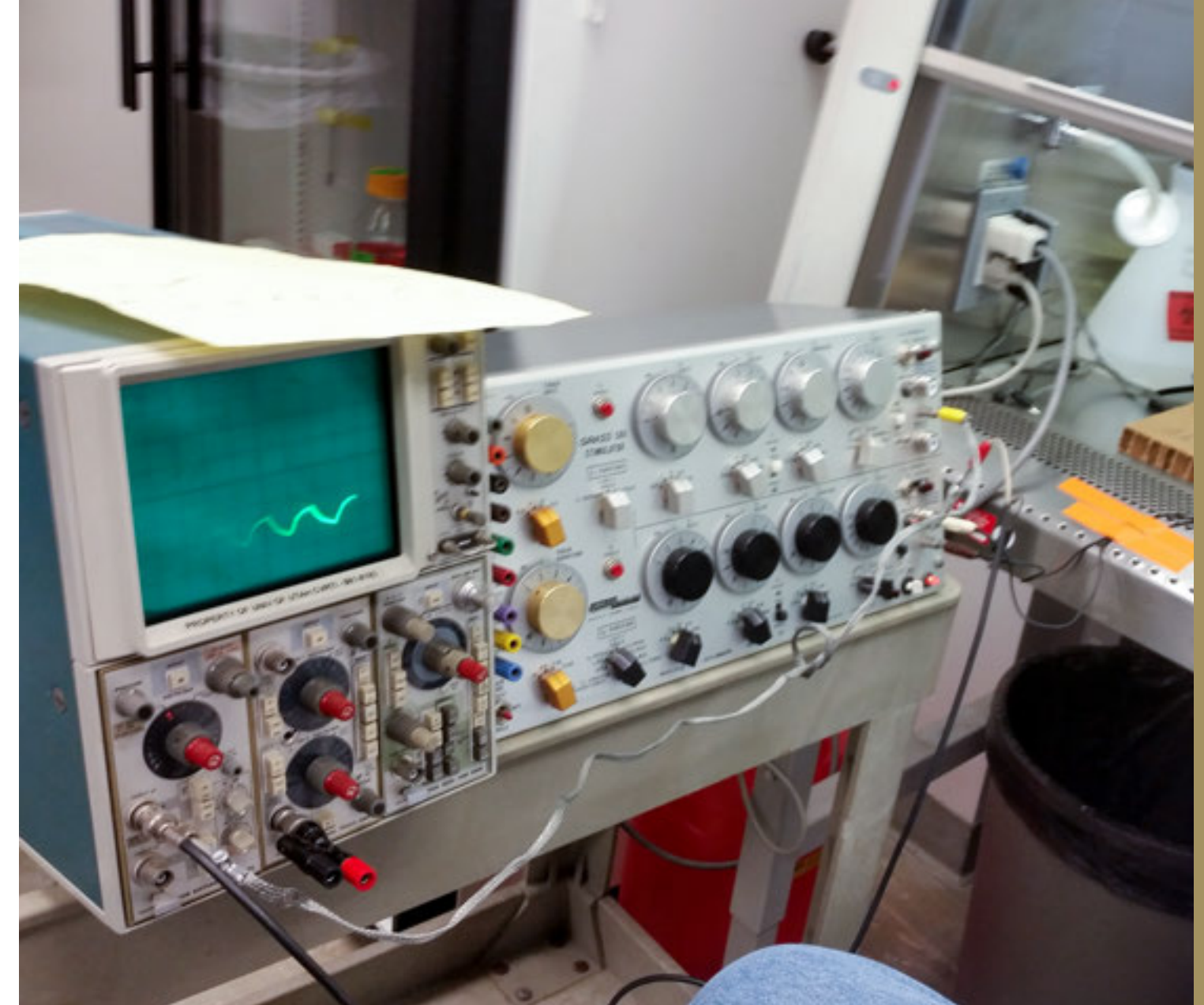
## BioLeonhardt Whole Body Regeneration

- Filed patent applications
- Created animation video
- Created BETA website
- Tested wireless transmission of signals
- Held conference call with National Science Foundation
- Preparing for June 14th 2017 NSF grant application.



## MucosaCell – sub mucosa regeneration

- Developed research collaboration with Dr. Stuart Williams University of Louisville
- Signed aboard Dr. Byran Jones U of Utah Moran Eye Center as an advisor
- Signed aboard Dr. Ed Kondrot as an advisor



## Cancer Treatment

### CancerCell – bioelectric cancer tumor treatment + followed by organ regeneration

- Signed patent rights agreement with Neuro Code Tech Holdings of New Mexico
- Signed aboard Dr. Santosh Kesari of John Wayne Cancer Institute as Chief Medical Advisor
- Initiated discussions with Huntsman Cancer Foundation U of Utah
- Filed numerous new patent claims
- Developed prototype of brain cancer helmet



# Regenerative Economy

## The California Stock Exchange TM

- Launched Cal-X 30 Social Good Impact Fund powered by Motif Investing
- Created Cal-X Crowdfund Connect website
- Published Top 20 Tips for Crowdfunding Success
- Spoke at over a 50 crowdfunding conferences since 2012
- Developed and published 5 year plan for Cal-X

## Kindheart Lionheart Media & Publishing

- Reached over 2 billion views of programs on Kindheart Lionheart TV
- Advanced development of Dolphin Smiles: The Legend of Kindheart Lionheart with the help of the UCLA Writers Program
- Shot pilot episode of Love Roller Coaster
- Wrote 3 scripts for California Love and created introduction video
- Wrote show plan for Love Dialogue
- Launched Lions Den Online Crowdfunding TV Show
- Great Covers of Great Speeches

## Leonhardt Food & Beverage

- 90 cases of 2012 Leonhardt Vineyards Cabernet Sauvignon in stock
- Agreements in place with other family wineries for Chardonnay and Zinfandel production
- Met with Lionheart Cider in Minneapolis and developed 5 year plan
- Laid foundation for Leonhardt Brewworks oak aged beer
- Developed franchise and food truck plan for Lucille's American Cafes
- Developed solar powered mini electric food truck
- Opened dialogue with Leonheart Lager in South Africa about license to distribute to the USA



## Incubators & Accelerators

- Cal-X Stars Business Accelerator, Inc. DBA Leonhardt's Launchpads - accelerating 26 regenerative medtech and 4 regenerative economy startups
- Leonhardt's Launchpads NorCal - accelerating CerebraCell and EyeCell startups
- Leonhardt's Launchpads Utah, Inc. - accelerating 12 organ regeneration and recovery focused startups led by Second Heart Assist, Inc., BioLeonhardt and EyeCell.
- Startup California - posted over 10,000 startup help posts since founding 2012
- LABioHub - published thousands of helpful resources to Los Angeles area biotech startups
- CalXelerator - has graduated 30 startups through its 108 day Create to Great Program
- SciAccelerator - developing plan to full launch later this year in Utah and California

# Our Mission

- Discover and develop innovative organ regeneration therapies that extend quality of life.
- Give back to society through social good impact innovations.
- We focus the lions share of our resources on organ specific applications for our core platform technology of a (1) bioelectric protein expression stimulator + (2) programmable, re-fillable micro infusion pump + (3) multiple component cell + growth factor based organ regeneration composition.





# Key Figures

## 2016

**500,000**

patients have been treated with Leonhardt inventions worldwide since our founding.

**\$6 Billion**

total sales of Leonhardt inventions worldwide since our founding.

**37**

world opinion leading scientists and clinicians on our Scientific Advisory Board & collaborative research team.

**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.

**13**

patented or patent pending bioelectric signals for organ regeneration promoting protein expressions.

**254**

issued U.S. Patent Claims granted to Howard J. Leonhardt our lead inventor and founder.

**120**

new provisional patent claims files in 2016 alone by Leonhardt Ventures.

**\$50,000,000**

invested in developing our bioelectric stimulator which is the world's smallest with the longest battery life and the most precise control of signaling. Only usable for organ regeneration with our patented and patent pending signals.

**\$2,300,000**

in NSF SBIR grants received to develop our programmable, refillable micro infusion chip.

**\$18,000,000**

in approximate amount invested in developing brain and head helmet for CerebraCell, HairCell and CerebraCell Brain-H-Hance.

**\$6,300,000**

in approximate amount our founder Howard J. Leonhardt has personally invested in developing our organ regeneration platform technologies over time.

**\$100,000,000**

in approximate value of research equipment and resources available to us via our USTAR grant supported lab at BioInnovations Gateway Utah.

**\$275,000**

USTAR grant awards received in 2016 for heart and eye regeneration studies at U of Utah.

**21**

major conferences we presented data at in 2016.

**20%**

amount of new breast tissue growth volume achieved in sheep study in Argentina for Stem Cell Bra with only 1 hour of stimulation, every other day for four weeks, with only three of our patented signals. No side effects or adverse effects observed.

**30**

breakthrough innovation startups in Leonhardt's Launchpads accelerators.

**3,000,000,000**

views of our curated programs on our Kindheart Lionheart TV Network

**120,000**

bottles of California wine produced by Leonhardt Vineyards LLC since our founding in 2000.

**\$140,000,000**

raised by Leonhardt Ventures since our founding to advance forward all of our inventions and startups. This gives the basis for our organizational learning that is the foundation of our future.

**66%**

success rate in research grant application filings in 2016 = 3 out of 5

# 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 - POLY-CATH TM.

**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 TM. Developed campaign to end use of latex balloons in hospitals.

**1990** - PolyCathTM 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) TM.

**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 TM.

**1995** - Developed and patented first electro magnetic radiation delivery catheter - RadiCath TM.

**1995** - Developed and patented with Penn State the PENSIL TM 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 paper of percutaneous repair of aortic dissections with Dr. C. Nienaber.

**1999** - Published in CIRCULATION first paper of successful bioelectric stimulation treatment of ischemia.

**1999** - Developed world's first biological pacemaker and completed successful dog study - BioPace TM.

**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.

**2001** - Introduced on U.S. market very first cardiovascular genetic test - Pla2 to determine heart attack risk.

**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 Cardiology.

**2003 to 2009** - Bioheart, Inc. completed Phase I Myoheart, Phase II SEISMIC and Phase II/III MARVEL interim results studies. Gained first FDA authorization for combination cell + gene therapy trial REGEN = myoblasts + SDF-1.

**2005** - Bioheart, Inc. gains investments from Boston Scientific Guidant (\$2 million) and St. Jude Medical (\$2 million). Sells stem cell delivery catheter patent license to Abbott Laboratories (\$900,000). Closes collaborative clinical trial agreement with Cordis Johnson & Johnson.

**2008** - Completed \$76 million valuation IPO for Bioheart, Inc. on NASDAQ.

**2008** - Opened up research offices and lab in Southern

California and Northern California working with the University of Northern California School of Biomedical Engineering.

**2009** - Helped open 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.

**2010** - Published in European Heart Journal first repeat cell therapy injections study with Dr. F. Prosper in Spain.

**2011** - Published in American Heart Journal Phase II/III results Bioheart MyoCell - treated pts 95.7 meters improvement 6 minute walk. Placebo control minus 4 meters decline. 84% of treated pts improved. 16% worsened. 69% of control or placebo pts. worsened across all studies.

**2013** - Opened up Cal-X Stars Business Accelerator, Inc. DBA Leonhardt's Launchpads in Los Angeles area.

**2014** - Working with Wetling DK completed 47 patient microcurrent successful clinical study in Germany and Switzerland treating diabetic foot ulcers - published in International Wound Journal. 95% healing of all patients wounds at 8 weeks.

**2015** - Opened up Leonhardt's Launchpads Utah, Inc. in Salt Lake City, Utah near University of Utah campus.

**2015** - Launched the California Stock Exchange TM Cal-X 30 Social Good Impact Fund powered by Motif Investing.

**2015** - Launched The Kindheart Lionheart TV Network www.kindheartlionhearttv.com of curated inspirational and healthy living programming.

**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.



## Laurelle F. Johnson

President, BladderCell

Board Director Leonhardt's Launchpads

*"I joined the Bladder Cell Team to aid 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 and find a solution."*

### 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



## Dr. Mark Cunningham

Board Director Leonhardt's Launchpads

Senior Advisor Valvulator, 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 Director of the Heart Transplant Program USC Keck Medical Center

*"I am truly excited to be actively involved with three projects with the Leonhardt team (1) Valvulator 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





## Alex Richardson

Board Director

VP Engineering & Product Development

*"Our team has over 30 years experience manufacturing implantable pumps, sensors and stimulators. We have developed manufacturing and engineering partnerships with leading OEM service providers to get the maximum capabilities with the least amount of overhead. We are positioned for success forward with this foundation."*



## 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

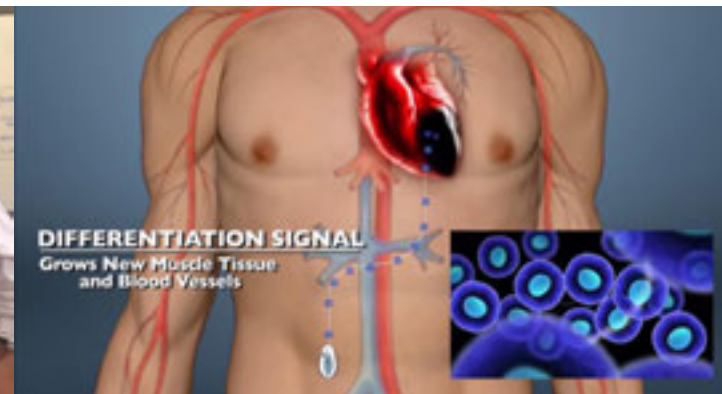
Alex S. Richardson, Former Founder of CORE Manufacturing, a medical electronics OEM engineering and manufacturing firm, has 30 years of experience in high-reliability manufacturing and design. Alex has spent the last 14 years supporting several Alfred Mann companies in the Los Angeles area and maintaining successful partnerships with other medical device entities such as Advanced Bionics, Biotronik, Boston Scientific, GE Medical, Medtronic, QIG Greatbatch, Fluid Synchrony LLC, Biomerics Advanced Catheter, St. Jude Medical and other world-class organizations.

### 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 17 years. No other group has put as 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. Stuart Williams

Vice President of Cardiovascular Research

Leonhardt's Launchpads, BioLeonhardt, 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. John Marchetto

Chief Medical Officer & President

OrthodontiCell

*"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."*



## Anthony "Tony" Cronin

President Programming, Producer

Kindheart Lionheart TV Network

*"Disney bought Makers Studio an upstart online TV network for \$1 billion. Our network is specializing in reaching a specific demographic which seeks to be inspired to live healthier, more active, love and compassion filled lives with better relationships. This focus is just what many advertisers seek to reach. We believe our original content is highly appealing and will draw in a growing audience of viewers and keep them engaged."*



## Devin Thorpe

Senior Advisor

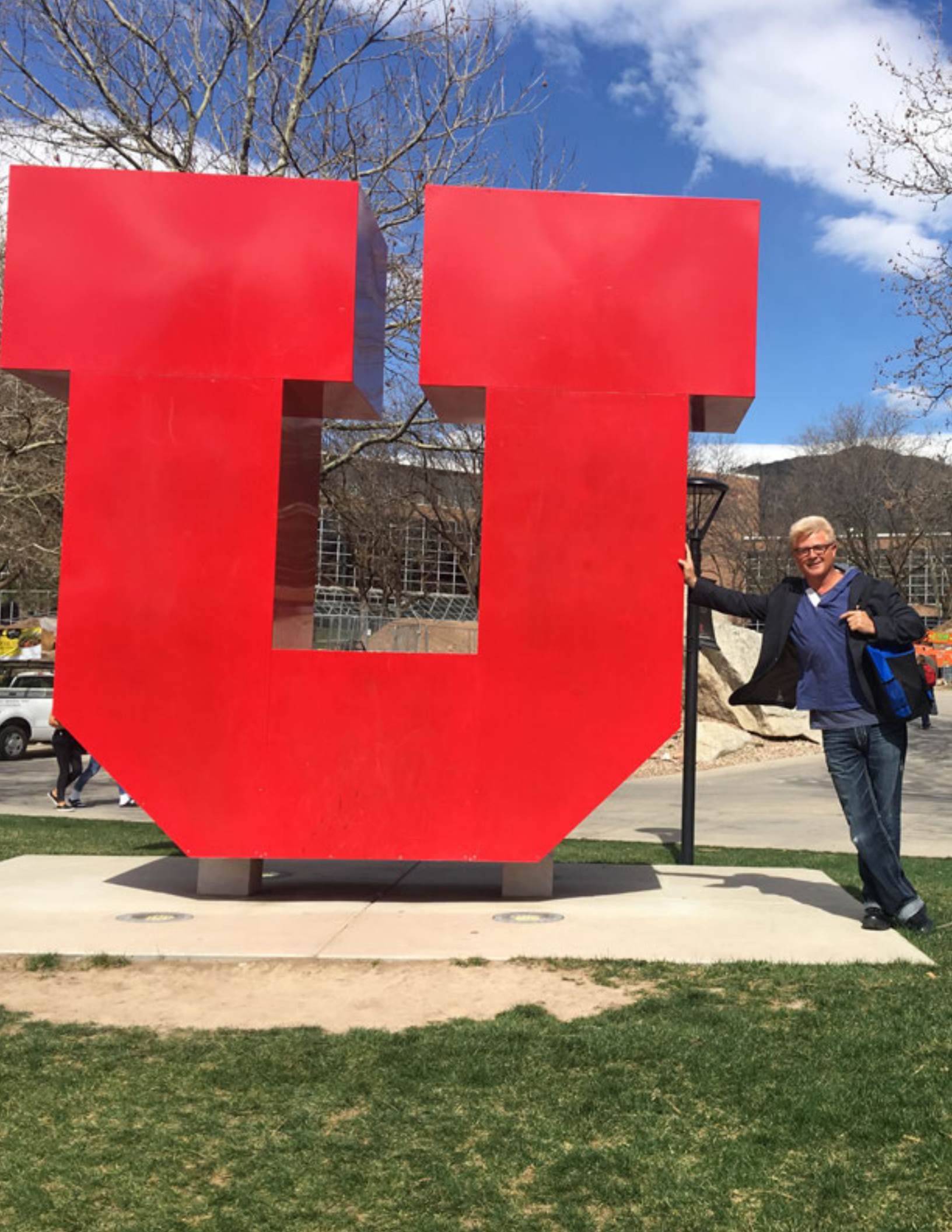
The California Stock Exchange™ & Leonhardt's Launchpads Utah, Inc.

*"Studies show that consumers will not only choose socially responsible products over less socially responsible ones, they will pay a premium. There are two primary reasons to become a social good impact company. First, doing good is an obligation we share. The second reason is that when done well, your company will increase profits. Because of our belief that these two reasons harmonize; that doing good increases profit and ROI, we created The California Stock Exchange™. Having as our long term goal to establish a full fledged stock exchange based on these principles."*

## Experience

Anthony (Tony) F. Cronin is a writer, director, actor, and musician based in Santa Monica, California.

- Colgate University Theater - Technical Director University Theater.
- Masters Program Arizona State University.
- Cornell University Master of Fine Arts in Directing Theater Program.
- Artistic Director Cornell University Summer Shakespeare Festival.
- Administrator and Teacher Gene Frankel Theater and Film Workshop Greenwich Village, NY.
- Wrote and produced numerous plays.
- Novel writer - The Twisted.



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