



# LOOK NORTH BIOTECH

## Exploring Boston Biotech Ecosystem and Funding Strategies for New Ventures

Boston, Massachusetts – September 24 to 28, 2017

ORGANIZED BY



SUPPORTED BY



IN COLLABORATION WITH



CONTACT INFORMATION

Isidora Errázuriz  
Look North Project Executive  
[Isidora.errazuriz@amchamchile.cl](mailto:Isidora.errazuriz@amchamchile.cl)



# Exploring Boston Biotech Ecosystem and Funding Strategies for New Ventures

## AMCHAM CHILE

The Chilean American Chamber of Commerce, AmCham Chile, promotes free trade and business between Chile and the United States. AmCham Chile is a bi-national Chamber of Commerce with almost 100 years of history and experiences. The Chamber represents Chilean, American and bi-national private sectors as well as companies doing business and/or investing in either or both countries. It currently has 550 members, which employ over 430,000 people. AmCham Chile was founded in Valparaiso on December 23rd 1918, thanks to the foresight of a small group of businessmen who envisioned the important role that trade with the United States would play for Chile over the coming years. Since it was founded, the Chamber has worked relentlessly to promote trade and investment between the two countries.

## CORFO

Production Development Corporation (CORFO) is a Chilean governmental organization that was founded in 1939 and oversees a variety of programs aimed at generating the economic development of Chile, through the promotion of inward investment and the advocacy of competitiveness for domestic companies. CORFO's main areas are Quality and Productivity, Innovation and Investment Promotion. On 2015 CORFO created the initiative of integrated development for biotechnology, which is focused on the coordination of the complete ecosystem that supports the biotechnology industry in Chile as a key pillar in order to link existing biotechnology capacities with demand, investment networks and regulatory agencies.

## LOOK NORTH

Look North is AmCham Chile's program for entrepreneurs, which seeks to foster the development of the innovation ecosystem in Chile and to accelerate the process of internationalization of life science and technology based start-ups in the U.S. market. The program offers workshops in building a pitch for stakeholders, funding strategies for early stage investments, intellectual property rights, and immersion in the US business culture. Additionally, it provides a vast network of contacts in the United States, field visits to the innovation ecosystem, as well as tools that allow entrepreneurs to take their projects to the U.S. market. This helps to close the financing gap that occurs in the early stages and to promote new links with the U.S.

# BACKGROUND

The biotechnology industry is presented as a great opportunity for Chile's economic development as it allows to diversify the productive matrix, generate higher added value to products, enhance the competitiveness in various sectors of the economy such as health, agriculture, mining, forestry, aquaculture and energy. Chile, through joint efforts of public and private sectors, has made great strides towards setting biotechnology as a strategic area to the country's economy.

The Chilean American Chamber of Commerce, AmCham Chile, in an effort to help promote the development of this industry through its program Look North Biotech, seeks to accelerate the process of internationalization of science-based projects in the market. The program is oriented to generate links and networking opportunities with different actors in the biotechnology ecosystem of Boston-Cambridge, through various activities such as workshops, conferences, missions, business meetings, company visits and networking events.

In this context, AmCham Chile has organized missions to Boston-Cambridge, and now in its third version, we are tightening bonds with institutions in the Kendall Square ecosystem, as well as adding new actors to our experience, such as university representatives and local investors.

On September 2017, we are leading a mission to learn about funding strategies, legal issues, bioethical complexities and collaborative options for entrepreneurs in the Boston-Cambridge biotech ecosystem.



# OBJECTIVES

- » To have a comprehensive view of Cambridge's biotechnology ecosystem from a funding approach, i.e. funding models, relevant funding actors and investors and how to engage and interact with them.
- » To visit different companies and organizations related to the biotech industry in order to learn different business models, how they fit into the ecosystem and their best practices.
- » To get to know new categories of life science investors such as Family Offices, Venture Philanthropy Funds, Venture Capitals, Angel Groups and Corporate Venture Capital funds.
- » To learn about the legal framework applicable to this industry in the U.S. and acquire knowledge on intellectual property, license and patent matters.
- » To identify trends and technology transfer processes.
- » To acquire knowledge about the state of the art topics and practices through different activities.



	SUNDAY 24	MONDAY 25	TUESDAY 26	WEDNESDAY 27	THURSDAY 28
	<b>ARRIVAL</b>	<b>WORKSHOP - CIC</b>	<b>RESI CONFERENCE</b>	<b>EXPLORING INNOVATION ECOSYSTEM IN BOSTON</b>	
<b>MORNING</b>	ARRIVAL TO BOSTON	<p><b>Session 1</b> Looking Into the Boston Biotech Ecosystem</p> <p><b>Session 2</b> Tips for a Successful and Efficient Elevator Pitch</p> <p><b>Session 3</b> Elevator Pitch Practice</p>	<p><b>Track 1</b> Biotech Investor Panels</p> <p><b>Track 2</b> Device, Diagnostic, and HcIt Investor Panels</p> <p><b>Track 3</b> Early Stage Workshops</p> <p><b>Track 4</b> Asia-North America Workshop &amp; Panels</p> <p><b>Track 5 Partnering Forum All Day</b>  Lunch Break During the Day</p>	<p><b>Visit 1</b> <b>Merck Laboratories</b> Vision and Objectives of the Therapeutic Area</p> <p><b>Visit 2</b> <b>Deloitte</b> Importance of a Good Patent Strategy</p> <p>Challenges of Fundraising and Tools for Succeeding</p> <p>Lunch with Deloitte Partners</p> <p><b>Visit 3</b> Center for Health Law Policy, Biotechnology &amp; Bioethics, <b>Harvard Law School</b></p> <p>Ethical Challenges in New Technology Developments By Professor I. Glenn Cohen</p> <p><b>Visit 4</b> <b>MIT TLO</b> University Transfer and its Role in IP Creation</p> <p><b>Visit 5</b> <b>BioLabs</b></p>	<p><b>Visit 1</b> <b>Novartis Institute of Medical Research</b></p> <p><b>Visit 2</b> <b>LabCentral</b></p> <p>WRAP-UP MEETING</p> <p><b>Visit 3</b> <b>Cambridge Innovation Center tour</b></p>
<b>LUNCH</b>	FREE TIME	<p><b>Panel</b> Understanding Financial Life Science Ecosystem Moderated by Denis Ford</p>			
<b>AFTERNOON</b>	FREE TIME	<p><b>Session 4</b> Meeting with <b>Mass Bio</b></p> <p><b>Session 5</b> Moving Your Company to the United States <b>The Capital Network</b></p>			
<b>EVENING</b>	COORDINATION MEETING	RESI COCKTAIL RECEPTION			DEPARTURE TO SANTIAGO

\* MAY SUFFER MODIFICATIONS

# OUR START-UPS



**JOSÉ TOMÁS ARENAS**, - PE in Electrical Engineering and PE in Industrial Engineering, both from Universidad de Chile, Jose Tomas Arenas is co-founder and CEO at DART by teledx.org project since 2011. This is an artificial intelligence based startup that delivers automated technology solutions for early detection and prevention of diseases of retina, including the fastest growing cause of blindness worldwide. Due to the prominent level of innovation and potential social impact of this endeavor, he's been awarded and supported by different institutions, both local and international (MIT TR, EURETINA, BBC Mundo, among others). He worked for roughly 2 years at the main power distribution company in Chile developing fraud detection models in electrical systems to reduce electricity losses.



**DR. MARÍA INÉS DÍAZ** - CEO, CTO, I+D of BIOCELLIX SpA. Biologist, from the Pontificia Universidad Católica de Chile and PhD in Biochemistry, from Universidad de Chile. Has worked as an intern at Pasteur Institute in Paris France in 2008 and at the University of Alberta (Edmonton, Canada) in 2010. Her graduate studies were funded by MECESUP and CONICYT (2008-2011). She has expertise in international standard ISO 9001: 2008 and 14344 in medical devices. She founded Biocellix in 2016 and BG group in 2017.

## DART



## NANODERM



### PROBLEM

We're facing a global epidemic. Diabetes affects 415 million people worldwide, one in eleven, that if not checked in their eyes every single year, will simply become blind. Bringing the limited capacity of eye care in health systems into the equation, the result is the most common cause of vision loss and blindness in the working-age population.

### SOLUTION

DART by teledx.org is a cloud-based software that aims to automatically detect the signs of retina diseases in digital images using artificial intelligence to prevent them in early stages. This allows an increase of healthcare systems' coverage to tackle the most common causes of blindness in working-age population.

### RELEVANCE

This is disruptive because traditional approach requires ophthalmologists, for every single case - which explains the outrageously low coverage - while DART emphasizes automation, with the global scalability this implies. Plus, it's trained so the more it's used, the more it improves. The system has been successfully validated and deployed in the national network of the Health Ministry of Chile and is currently scaling through the region.

### MARKET

The main stakeholder, besides patients, are healthcare systems from every country across the globe, that raise their coverage by lowering their costs due to a change of paradigm from late correction to low-cost prevention (via transactional fees for every processed exam).

### PROBLEM

140 million patients suffer complex wounds like diabetic foot ulcers and venous ulcers, which are rising due to the increase of diabetes. These wounds are prone to infection and are the leading cause of amputation. Different treatments have been developed against these complex wounds: biotissues, platelet rich plasma and silver nanoparticles, but none of them seem to solve the problem to date.

### SOLUTION

Our solution is a human collagen matrix, which is supplemented with antimicrobial nanoparticles. These two components allow us to inhibit microorganism growth and infection and give cellular support to allow cell spread and tissue regeneration, leading to a faster wound healing.

### RELEVANCE

This is disruptive because we fused the scaffold properties of collagen with antimicrobial properties of nanoparticles that allow us to face the problem from two sides. On one hand, it gives natural cellular support for regeneration, and on the other, it helps with the destruction of microorganisms that cause infection, managing to heal a wound in 2 months - a very short period of time for this pathology.

### MARKET

- » Patients with venous ulcers or diabetic foot and clinics dedicated to their healing (early adopters)
- » People who suffer from infected wounds that do not observe improvement in their healing using traditional treatments in 30 days



**DR. PABLO GONZÁLEZ** - PhD in Molecular Genetics and Microbiology from the Pontificia Universidad Católica de Chile, Professor at the Faculty of Biological Sciences of the same institution and Associate Investigator at the Millennium Institute on Immunology and Immunotherapy, an Excellence Research Center. Dr. González has specialized in the field of immunology, focusing on host-pathogen interactions for human pathogens. He performed post-doctorates at the Pontificia Universidad Católica de Chile and at the Howard Hughes Medical Institute (HHMI) at the Albert Einstein College of Medicine, New York, USA where he trained on microbial genetics. He is co-inventor of experimental vaccines against respiratory syncytial virus and herpes simplex viruses.

## PONTIFICIA UNIVERSIDAD CATÓLICA DE CHILE



### PROBLEM

There are numerous pathologies produced by microorganisms that are underdiagnosed at the molecular level, because this type of diagnosis may be considered non-cost-beneficial by medical doctors. Two viruses that are underdiagnosed at this level are herpes simplex viruses type 1 (HSV-1) and varicella zoster (VZV), which produce eye infections that may lead to blindness and can be misdiagnosed with other viruses, ameba and bacteria. Current molecular biology methods for their detection are costly, require highly-qualified personnel and expensive equipment, demand advanced clinical settings which are not always available in developing countries or rural areas and take 24 hours or more to obtain a result.

### SOLUTION

Our solution consists on a set of reagents that can be used to implement a fast, affordable and easy to use diagnostic kit for herpes simplex virus type 1 and varicella zoster, comparable to a rapid pregnancy test. The diagnostic method, that can be implemented with these reagents, will not require qualified personnel or sophisticated equipment and may be used to rapidly diagnose infections in the eye, skin, genital tissue and central nervous system in less than an hour, allowing immediate diagnosis and treatment.

### RELEVANCE

For the doctor, fast, cost-beneficial molecular diagnosis of herpes simplex virus type 1 and varicella zoster in the eye, which allows diagnosis or differential diagnosis. If HSV-2 or VZV infection is detected, immediate anti-herpetic antivirals treatment can be indicated to contain/limit herpetic stromal keratitis that can lead to permanent blindness.

### MARKET

This technology falls within the In Vitro Diagnostic (IVD) market, which is estimated at \$70-\$75.1 billion USD in 2020. Point of Care (POC) technologies, within the IVD market represent approximately 10% of this market. Potential clients are patients with apparent eye infections attending ophthalmologists (e.g. 1 million individuals per year in the US).



# PARTICIPANTS



## SILVANA BECERRA

Ms. Becerra has seven years of experience in science-based innovation management. She is currently responsible for the design and implementation of processes through the management of knowledge based on scientific results, and also technical and business plans for Universidad de los Andes technological portfolio from its TTO.

Ms Becerra was manager of the Regional Center of Food and Health, a Regional R&D and business platform in Valparaiso Region to design process and products to help people to improve their health.

She graduated as a Biochemical Engineer and obtain her PhD in Biotechnology as well as a Graduate Diploma in entrepreneurship and new businesses.



## FRANCISCO CHIANG

Mr. Chiang is the Director of Innovation and Entrepreneurship, VRID, Universidad Andrés Bello. Commercial Engineer from Universidad de Chile, Mg. in Finance and Mg. in Marketing, with 15 years of experience in the development of technological businesses, having made the transfer of technology with deal value for more than US \$ 10 million in the nutraceutical / pharmaceutical industry and participated in the creation of more than 3 technological companies and in various initiatives related to the management of corporate innovation, technology transfer and economic development in Chile, Mexico, Peru and Bolivia, among others. His areas of expertise are business models design, market assessment, technology valuation and intellectual property in various areas, among which are pharma, biotech, nanotech, agritech, aquaculture, ICT, among others.



## HUGO HURTADO

Mr. Hurtado is an attorney from the Pontificia Universidad Católica de Chile, Master in International Tax Law and PhD in Tax Law from the University of Florida. He joined Deloitte in 2012 and is Leading Partner of the M&A and the International Tax Group in Chile.

With more than 15 years of experience in the tax field, he advises clients in matters related to both domestic and foreign taxation and reorganization of companies, among other tax services. Hugo also advises on possible purchases and exit strategies that may exist in order to identify efficient structures.

Author of several writings in English and Spanish on international taxation and comparative law, with a particular focus on the United States and Chile.



## LORENA PALOMO

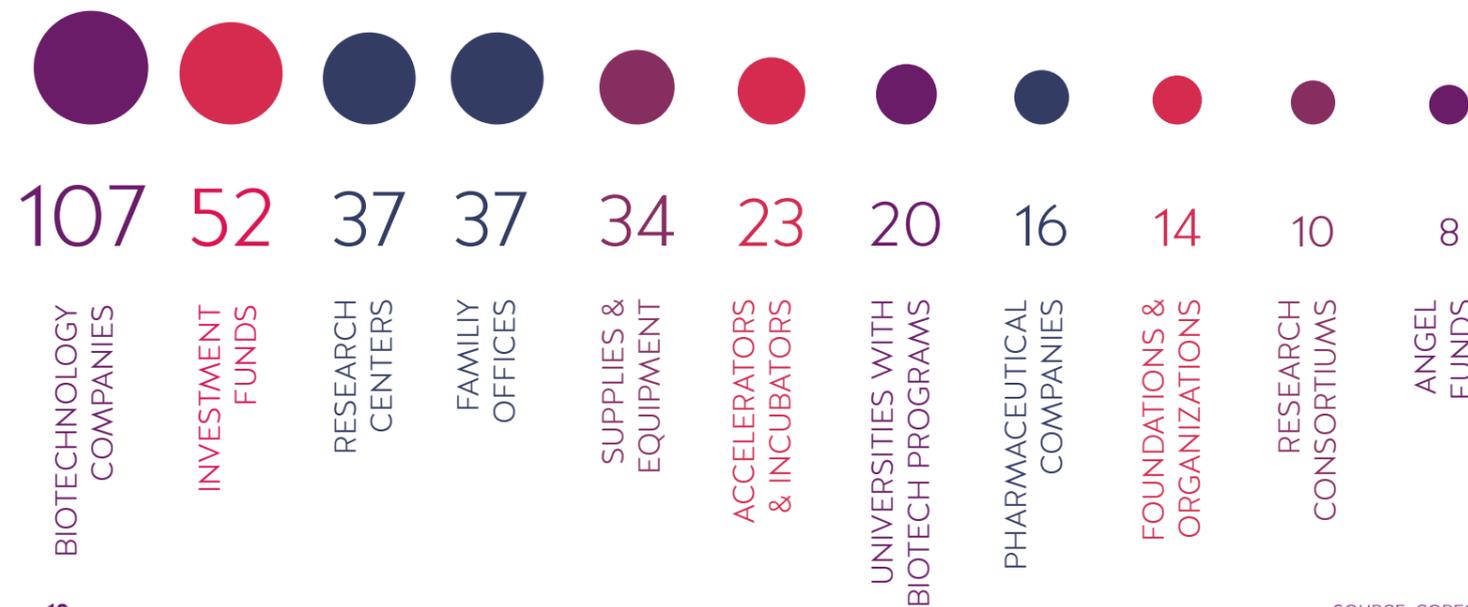
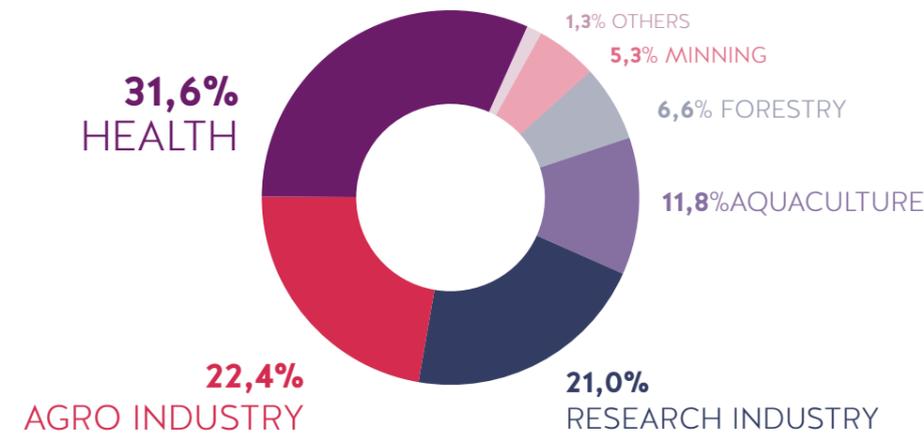
Ms. Palomo is currently responsible for leading Look North Program and promoting trade and investment at the Chilean American Chamber of Commerce. Prior to working at AmCham, she served at the Embassy of Chile, from 2010 to 2015, as Senior Trade and Economic Officer. Ms. Palomo has also worked on international economic issues at the Office of Minister of Foreign Affairs of Chile, served as Project Coordinator at Directorate General of International Economic Affairs. Ms. Palomo received her undergraduate degree in Business Administration and her Master degree in Financial Economics from Pontificia Universidad Católica de Chile. She entered the Andrés Bello Diplomatic Academy in 1997, and graduated in 1998.



## ISIDORA ERRÁZURIZ

Ms. Errázuriz attended Law School at the Pontificia Universidad Católica de Chile, obtained a Master in Laws from the University of Texas at Austin, and is a certified attorney from the California State Bar. In the State of Texas she worked as a mitigation specialist in death penalty cases, and returned to her home country in 2016 after living for 7 years in the United States. Isidora joined the Look North Program at AmCham in an effort to help Chilean entrepreneurs to internationalize their ideas, businesses and products and get closer to the US market.

# BIOTECHNOLOGY INNOVATION ECOSYSTEM IN CHILE



OVER US\$ **67 MILLION** ANNUAL SALES



**27%**

OF R&D AT UNIVERSITIES IS IN BIOTECHNOLOGY



**OVER 25%**

PATENT APPLICATIONS ARE IN THE BIOTECH SECTOR



OVER US\$ **380,000**

PUBLIC INVESTMENT IN R&D



**1,244 JOBS** FOR HIGHLY-EDUCATED WORKFORCE



**37** RESEARCH CENTERS

10 RESEARCH CONSORTIUM

DOING R&D ASSOCIATED TO BIOTECHNOLOGY



**200%**

INCREMENT BIOTECHNOLOGY COMPANIES SINCE 2005



OVER **100**

BIOTECH COMPANIES

THE SECTOR HAS RECEIVED **FOREIGN INVESTMENT** WORTH OVER



**US\$170** MILLION



AV. KENNEDY 5735, OF. 201, TORRE PONIENTE, LAS CONDES, SANTIAGO, CHILE / FONOS: (+56 2) 2290 9700

[WWW.AMCHAMCHILE.CL](http://WWW.AMCHAMCHILE.CL)  [@AMCHAMCHILE](https://twitter.com/AMCHAMCHILE)

Proyecto apoyado por



Colabora:

