

# UBC SEED FUND

UNLOCKING THE POTENTIAL  
OF VENTURE CREATION at UBC  
THROUGH THE TIMELY ACCESS TO EARLY RISK CAPITAL

## Annual Report 2018



## MESSAGE FROM LEADERSHIP

The UBC SEED FUND was launched in 2013 as a new initiative to support the creation and growth of startups and spinouts connected to the university. This year marks the fund's sixth year of operation and we are proud of the positive impact it has had in helping to build UBC's burgeoning venture ecosystem.

To establish and kick-start the UBC SEED FUND the university received a funding grant from the BC Innovation Council (now innovateBC). All of the UBC SEED FUND's investment capital has been provided through the generous donations of private individuals.

The UBC SEED FUND provides early stage investment funding and advisory support to new ventures where the founders are either faculty members, staff, current students or recent alumni of the university. Since inception the fund has made equity investments into fifteen ventures. These ventures are a balanced mix of spinouts (i.e. based on intellectual property licensed from UBC) and startups (those ventures not based around outputs of the university's research). Student founded ventures represent nearly one-half of the fund's portfolio of investments.

Our portfolio ventures began as ideas and scientific insights, but their impact on the regional economy is tangible and real. These ventures currently employ over 300 people - up from 220 employees just 12 months ago. The management and staff employed by our ventures pay provincial and federal taxes, buy homes, rent apartments, shop in our community and send their kids to local schools. Within their midst are many potential leaders of the future who will be the creators and builders of future BC businesses.

The growth our ventures have achieved is truly impressive. The cumulative lifetime revenues of the portfolio ventures hit \$50 million this year. This is a noteworthy outcome given the fact that the cumulative lifetime revenues of the ventures prior to taking investment from the UBC SEED FUND was less than \$300k.

Local and international investors have also come to recognize the growth prospects of UBC ventures and follow-on equity funding in the portfolio companies now exceeds \$80 million.

## UBC SEED FUND

The products and services being commercialized by the ventures are also delivering positive societal and environmental impact. Our ventures offer solutions that address water safety, reduced pesticide use, remote health monitoring, electric vehicles and pollution control as examples.

Through the building of successful spinout business UBC researchers can see their inventions and innovations come to life. A track record of knowledge mobilization via company formation can be a positive factor for attracting new research funding.

We look forward to continuing to support even higher levels of venture creation at UBC and delivering the associated positive outcomes to the community and the university this promises.



Handwritten signature of Todd Farrell in black ink.

Todd Farrell  
CEO



Handwritten signature of Greg Peet in black ink.

Greg Peet  
Board Chair



Handwritten signature of Steve Hnatiuk in black ink.

Steve Hnatiuk  
Investment  
Committee Chair



# PORTFOLIO VENTURES



7 student ventures  
6 UBC spinout ventures  
2 faculty / staff startups

## UBC SEED FUND

# PURPOSE

The UBC SEED FUND was established to act as a catalyst for entrepreneurial activity at UBC. It aims to support the process of turning UBC innovations into thriving businesses and drive economic growth within BC and across Canada. The UBC SEED FUND aims to maximize the impact of UBC's research portfolio for social and economic benefit and to enhance and support the entrepreneurial initiatives of UBC's faculty, staff, students and recent alumni.

## BOARD OF DIRECTORS

Greg Peet (Chair) - GrowthPoint Capital Corp.  
Todd Farrell - CEO UBC Seed Fund  
James Olson - Dean Faculty of Applied Science UBC  
Paul Geyer - CEO Nimbus Synergies / Discovery Parks  
Gail Murphy - Vice President Research & Innovation UBC  
John Ries - Associate Dean Sauder School of Business UBC  
Chelsea Thompson - Office of the University Counsel  
Steve Hnatiuk - Partner Lighthouse Equity Partners



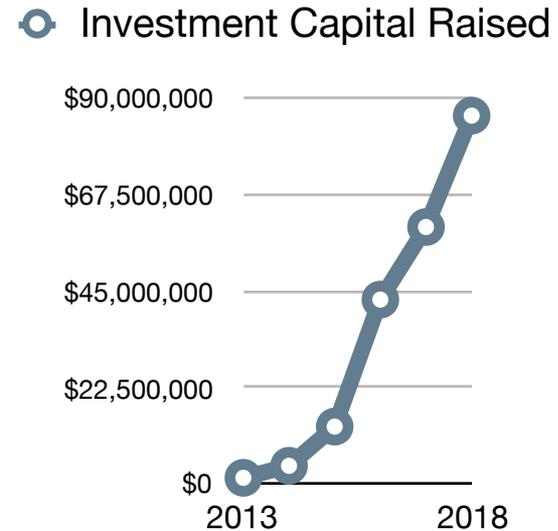
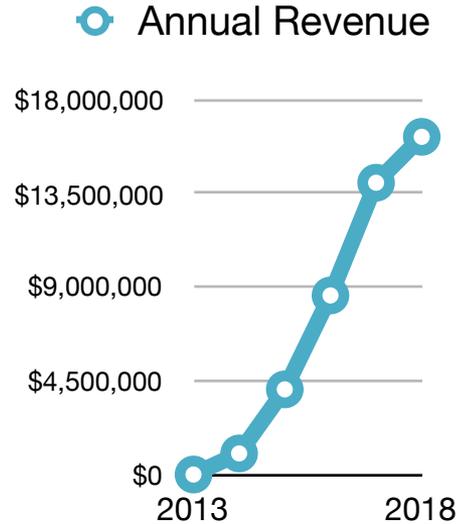
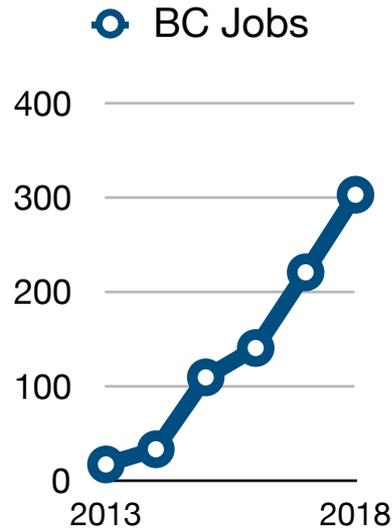
UBC SEED FUND

## COMMUNITY SUPPORT

UBC SEED FUND portfolio ventures have benefitted from the support of many entities active in assisting the UBC and BC startup community. We would like to thank the following partners for their involvement and contributions with our ventures over the past year.



## BY THE NUMBERS - Cumulative results of our portfolio ventures



93%

survival rate  
of ventures  
having received  
seed funding

UBC SEED FUND



**EMBRACE** is developing a knee brace that takes a fundamentally different approach to delivering robust joint support. Embrace's brace utilizes a complex cabling arrangement rather than a stiff mechanical exostructure to stabilize the knee. The key benefits of this new design approach are comfort, safety and adjustability.

Embrace was co-founded by recent UBC alumni Zack Eberwein (B.A.Sc Mech Eng 2017) and Kevin Reilly (Phd, Chem / Bio Eng 2016) and Canadian Olympic athlete Scott Morgan. Both Zack and Scott personally suffer from sport derived knee injuries which was a key motivator to develop their product.

The UBC SEED FUND led a pre-seed round of funding that also included a set of local angel investors.

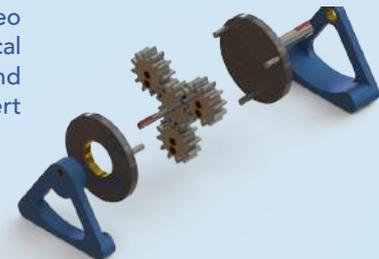


**ORBITLESS** has a new take on the age-old planetary gearbox. This established gear design is widely found in applications related to robotics, electric vehicles, aviation and 3D printing. Orbitless has a radical and surprising redesign that simplifies the gearing arrangement which delivers a range of advantages. These include being smaller and having less friction which improves wear and reduces noise.



Orbitless was cofounded by Dr. Leo Stocco (a UBC professor in Electrical and Computer Engineering) and experienced entrepreneur Robert Eisses.

A pre-seed round of funding was provided by the fund and several local angels.



# VENTURE SNAPSHOT



## ACUVA



## ACUVA TECHNOLOGIES

Acuva was co-founded by Manoj Singh (UBC MBA 2010) and Dr. Fariborz Taghipour, a professor at UBC's Department of Chemical and Biological Engineering, who developed the venture's original intellectual property.

UV light is widely recognized as one of the most effective methods to destroy microbes and pathogens in water. The downside is that UV lamps are expensive, require high maintenance, consume high levels of energy and do not physically scale down for easy use. The genius behind Acuva is the use of much more efficient UV LEDs, which require far less energy and maintenance.

Acuva's early products were targeted at early adopters: boat owners, recreational-vehicle owners and cottagers. As Acuva further refined its solution they were able to reduce its size and cost while still increasing its water purification performance. Acuva now offers low cost UV modules designed to be integrated directly into refrigerators, water fountains, ice machines and kitchen faucets. Acuva is also working on an ultra-low cost product that can be used by off-the-grid communities in the developing world.

Acuva first received seed funding from the UBC SEED FUND in June 2015 to develop a prototype version of the product. Since then Acuva has raised over \$13 million in equity and grant funding and is now growing sales for its commercial products.



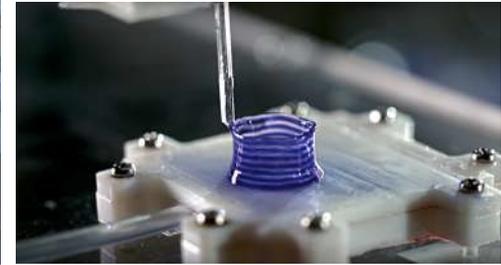
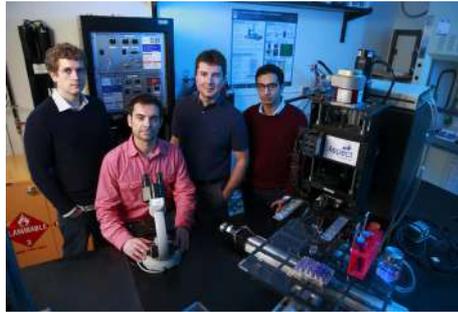
UBC SEED FUND

# VENTURE SNAPSHOT

## ASPECT BIOSYSTEMS

Aspect Biosystems is a University of British Columbia (UBC) spinoff venture that made waves by announcing its ability to use live human cells to create and build living human tissue. It was founded in November 2013 by a group of university researchers who went on to create their own 3D bio-printing technology in which cells are combined and suspended in a liquid form hydrogel to create functional living human tissue models.

The technology was originally developed at the Walus Lab, part of UBC's Faculty of Applied Science. The founders had a vision to develop engineered human tissues that could be used to further narrow down drug candidates prior to clinical trials and thus dramatically reduce the cost of the most expensive step of drug development.



Aspect received their first investment from the UBC SEED FUND in June 2014. Since then the company has successfully raised several rounds of investment and grant funding totalling in excess of \$12 million. Aspect BioSystems is now widely recognized as being the market leaders in 3D bio-printing and are collaborating with a range of premiere tissue engineering research groups and large biotechnology companies. The vision also continues to expand with the goal of being able to print tissues and organs that are implantable into humans.



**Human Tissues  
on Demand™**

**UBC SEED FUND**

# PORTFOLIO MILESTONES, AWARDS



Genome BC Invests \$1 million in Funding to Top Canadian 3D Bioprinting Company Aspect Biosystems



Elix, a developer of wireless charging solutions closed a \$2.9 million Series B round of funding



Illusense closes first institutional venture capital round to advance product development of its highly accurate and low footprint LiDAR sensors.



Awarded  
Growth Stage  
LifeSciences  
Company of the Year



Awarded  
LifeSciences  
Company of the Year



Awarded  
Emerging  
Company of the Year



Microbiome Insights wins 2nd place in New Ventures BC startup competition.



ORBITLESS WINS VANCOUVER STOP OF THE CANADIAN EXPORT CHALLENGE PITCH COMPETITION AND MOVES ONTO NATIONAL COMPETITION

Aspect Biosystems partners with Johnson & Johnson to research and make a prototype artificial meniscus using Aspect's proprietary Lab-on-a-Printer 3D Bio-Printing technology.



Microdermics closed a \$1 million seed II round of funding to commercialize its micro-needle based drug delivery solution.

Acuva Technologies and Aspect Biosystems secured a combined \$4.8 million in funding from Western Economic Diversification Canada



Acuva and UBC secure a BCIC Ignite Funding Award for ongoing research into advanced water purification systems



Closes on a \$13 million Series B round of funding to support further development and sales of its bio-pesticide technology

# UBC SEED FUND

# UBC SEED FUND

GRAHAM LEE INNOVATION CENTRE  
6163 UNIVERSITY BOULEVARD  
VANCOUVER, BC  
CANADA  
V6T 1Z1

<https://innovation.ubc.ca/seed-funds>

604.836.0352

