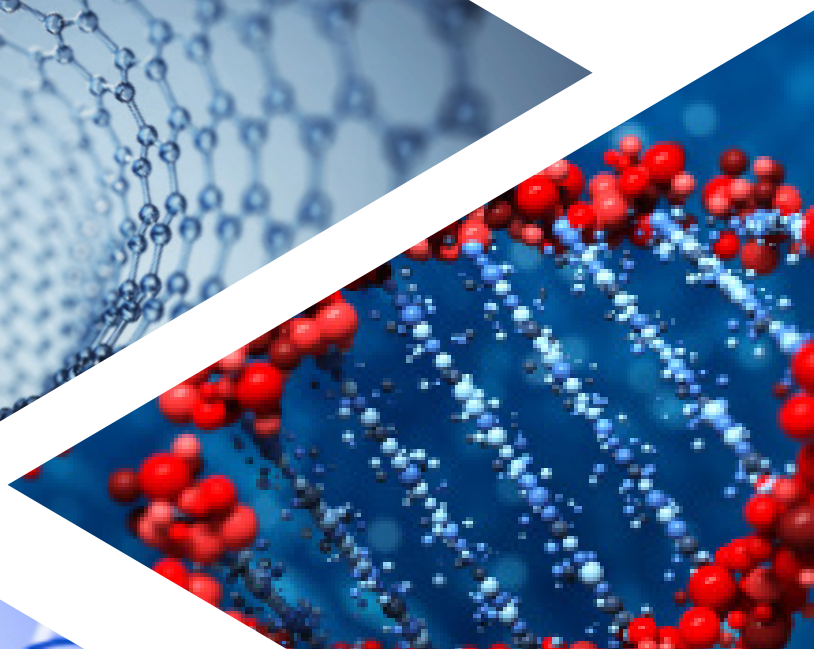
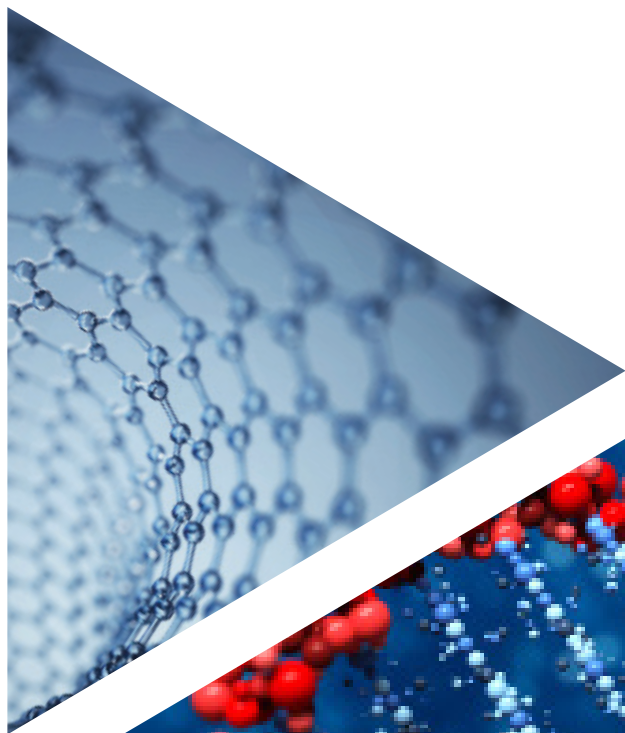




FIRST FLIGHT

HIGH SCIENCE HIGH IMPACT

2018 Impact Report



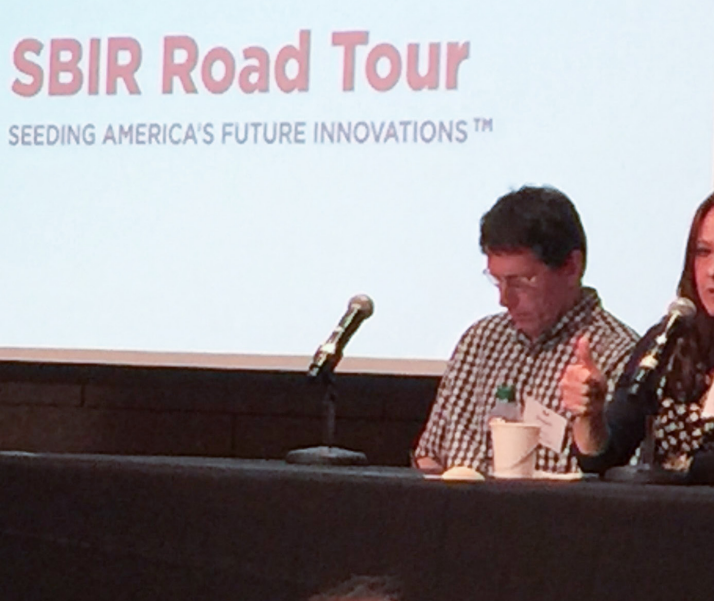


Table of Contents

2		First Flight Venture Center
3		2018 Highlights of FFVC Alumni Accomplishments
4		Life at First Flight
5		Hangar6: Advanced Prototyping Facility
7		LiftOFF: One-of-a-Kind Grant Writing Program
8		SBA Award Expands LiftOff
9		WINGS Interns Work on a Cure for HIV
10		Champions of Innovation - Recognizing First Flight Donors
11		Champions of Innovation - Recognizing First Flight Donors

Mission

To foster High Science, High Impact technological innovation, and to grow high impact, sustainable companies that will contribute to a stronger North Carolina economy.



Low Country Boil

Greenlight Bio-Lab



Dear Fellow Innovators:

2018 was quite a year here at First Flight! We gained national recognition by winning two highly competitive federal grants. Whether to identify companies who can improve national health security or to educate startups on the ways to win SBIR/STTR grants, we are proud that First Flight continues to be a leader in building infrastructure to support early stage high science high impact companies.

Here's a glimpse of 2018 highlights:

- Hangar6, our advanced prototyping facility, is still accepting new members! Meetups, new equipment, custom sponsorships with corporate members, and partnerships with internationally recognized robotics teams highlighted our inaugural year.
- First Flight was selected to host the ONLY North Carolina stop of the Small Business Administration's (SBA) SBIR Road Tour, enabling Program Managers from key federal agencies to visit North Carolina start-ups and meet one on one with aspiring SBIR/STTR grant applicants.
- First Flight became one of only eight DRIVE accelerators across the country selected by the U.S. Department of Health and Human Services/BARDA to find solutions to health security threats, including sepsis and early notification of infectious diseases.
- First Flight's ground-breaking LiftOff grant writing program, just finishing its third year, has generated over \$11.6 million in non-dilutive funding since 2016 for early stage companies! LiftOff companies who have been in the program for 2-1/2 years have a 100% SUCCESS RATE at winning grants.
- Building on First Flight's success with LiftOff, the SBA awarded First Flight a "FAST" grant to orchestrate workshops and seminars to help NC science focused startups from underserved populations [minority, women and rural based] win SBIR/STTR grants and potentially join the LiftOff program.
- For the second year, STEM undergraduate interns from North Carolina Central University immersed themselves in hands on research/data analysis in three First Flight science companies through the Workplace Immersion for New Generation Scientists (WINGS) program.
- First Flight expanded its staff by adding a Business Development Director and a DRIVE Program Manager.
- First Flight resident companies and alumni successfully raised \$23,759,700 through equity, loans/debt, and grants to continue their work.

As a non-profit incubator, First Flight thrives and survives due in no small way to the donors and partners who invest in our mission to ensure that science-focused startups have every chance to succeed. We are grateful for the support we receive from the innovation ecosystem.

We wish you the best and look forward to connecting with you in 2019 and beyond.

Sincerely,

Andrew Schwab
President

Mary U. Musacchia
Chair, Board of Directors

The Board of Directors

- Jean Davis, Board Member
- Peter Ginsberg, Board Member
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- Norris Tolson, Board Member
- Larry Wilson, Treasurer

First Flight Venture Center

2018 - Another Banner Year for First Flight's Science-Based Startups

Every year, entrepreneurs launch the startup cycle to follow their dreams for success. They believe their new idea may change the world – they fabricate a prototype, build a team, look for funding, research competition in the market and target customers. Risks are many, failure rate is high -- commercialization success is never promised.

In 2018, First Flight continued to support groundbreaking science-based startups in their pursuit of the research and development necessary to commercialize their products for the global marketplace.

Long Term Economic Development Impact

\$8B ↑

Estimated Market Value for FFVC Client Graduates

350 ↑

Hosted Over 300 Companies Since FFVC Inception

65

Patents Issued to Client Companies Since FFVC Inception

\$92.6M

Raised by Current Residents Since FFVC inception

2018 Economic Development Impact by Current Resident Companies

\$24M

Total Capital Raised by Current Resident Companies

150+

Staff Employed 50% Minority/Women

56

SBIR/STTR Grants

\$3.6M

Revenue/Sales by Current Resident Companies



"First Flight Venture Center is a critical resource for broad science-based companies. As a First Flight resident during two start-up companies, I got so much more than a cost-effective workspace...it's the astute strategic advice from First Flight leadership, moral support from fellow innovators in the same boat and connections to potential investors. First Flight is a unique safety net on so many levels along the precarious journey of the spark of an idea to commercialization."

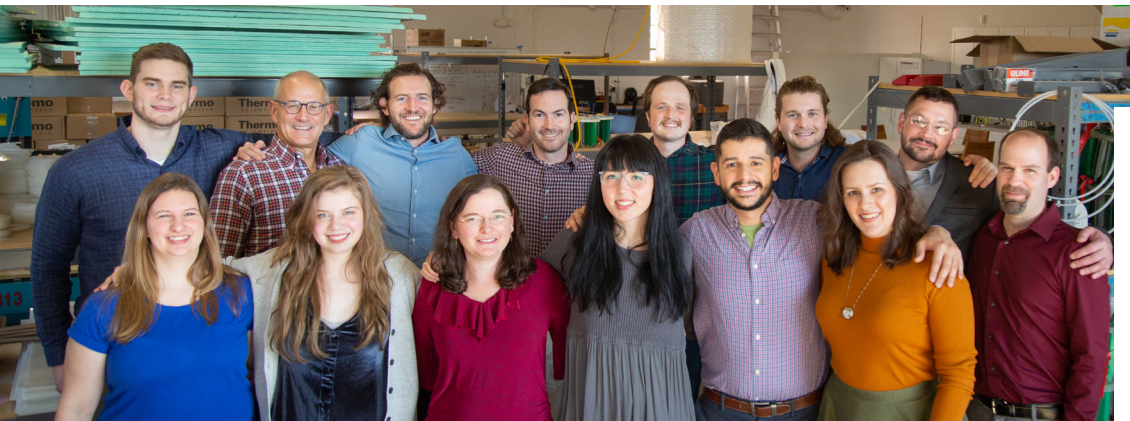
Peyton Anderson
Serial Entrepreneur

2018 Highlights of FFVC Alumni Accomplishments



bioMASON
building with nature

First Flight Alumni biotechnology startup bioMASON grows bricks — with the help of a few trillion microorganisms. Ginger Dosier, the North Carolina-based company's 37-year-old founder and CEO, hit on the bacterial production process while studying the construction of coral reefs.



Hi Fidelity Genetics



Hi Fidelity Genetics (HFG) is a computational breeding company that uses novel sensors, data science and statistical genetics to create the best crop plants in the world. They have closed an \$8.5 million Series A round of financing.



Applied Life Sciences & Systems Poultry
Productivity for Life

Applied Life Sciences is a bio-systems company focused on improving animal health and productivity in the poultry, livestock and aquaculture industries. They have just closed on \$2.7 million in funding.



**Total Number of Employees
for First Flight Alumni**

1,015
In the United States

1,184
Globally Based

3,646
Total



FFVC Team



Zenomics



Baebies



Scikon



FFVC Resident



SBIR Road Tour



Global Partnership Visit from Singapore



FFVC Resident



SBIR/STTR Seminar



Cell Microsystems

Hangar6: Advanced Prototyping Facility



A FIRST FLIGHT PROGRAM

Hangar6 Advanced Prototyping and Design Services Aid Entrepreneurs and Corporate teams!

It has been a phenomenal first year of operation for Hangar6 as membership grows to include individual entrepreneurs, startups, businesses, university and corporate teams.

Hangar6 not only offers a unique collection of advanced prototyping equipment, but also design expertise that has proven invaluable for the prototyping process. Members saved time and money compared to the use of a commercial maker space.

New Team membership available! Due to popular demand, we have created membership that enables a minimum of 3 members of the same company/organization or college-level educational institution to enjoy a group discount for an annual membership.

Membership options include:

- Monthly for an individual (3 month minimum)
- Annual for an individual
- Annual for TEAM membership (minimum of 3 members from the same company/group)

Check the Hangar6 website, www.Hangarsix.org, for specific membership rates.



Gearcats robotics team wins 3D printed logo from Hangar6

CASE STUDY

A company accidentally sent outdated files to a commercial maker space to create over 10 prototypes, at a cost of \$1,000 each. In the meantime, the company joined Hangar6. When it was discovered that the prototypes had been made from an older file, the Hangar6 member was going to be charged another \$500 each to update the item. The Hangar6 Shop Manager came to the rescue, designing a fix that could salvage the prototypes, saving the client \$5,000!

Hangar6 is Accepting New Members!

SERIOUS TOOLS FOR SERIOUS PEOPLE

Main Shop

- Large Format 3D Printer
- SLA Resin 3D Printer
- High Temp. 3D Printer for Engineering Grade Plastic Parts
- HD 3D Scanner
- 2 Fusion FDM 3D Printers
- 150 Watt CO2 Laser Cutter
- 500 Watt Metal Fiber Laser
- Fully Automated CNC Mill
- Manual Mini Mill w/ Precision Drilling Capabilities
- 20 Ton Shop Press with 22inch Finger Brake
- Metal Notcher
- Metal Slip Roller
- Hand Tapping Machine
- Shear Press
- Pan and Box Brake
- Gunsmithing Lathe with DRO
- Industrial Sewing Machine
- 34in Vinyl Cutter

Wood Shop

- Cabinet Grade Table Saw
- Floor Drill Press
- Band Saw
- Router Table
- Disc Sander
- Sliding Compound Miter Saw
- Mini CNC Mill
- Mini CNC Router

Welding Shop

- Digital MIG/TIG Welder
- Manual Floor Bender
- Abrasive Blast Cabinet
- Paint Spray Booth
- Powdercoat Kit
- Powdercoat Oven
- Benchtop Grinder
- Buffing Wheel
- 48in Heat Strip for Plastic Bending
- Plastic Welder Kit



Be careful running with 3D printed scissors!

Check the Hangar6 website, www.Hangarsix.org, for specific membership rates.



Thanks to Caterpillar, First Flight was able to enter into a new partnership with FIRST NC and offer Hangar6 as a resource to regional high school robotics teams as they prepared for their annual competition.

THANK YOU TO KEY DONORS WHOSE GENEROSITY HAS SUSTAINED HANGAR6 AS A UNIQUE PROTOTYPING RESOURCE.

Alexandria Real Estate (ARE); Caterpillar; Eva Garland Consulting; Hutchison PLLC; Olive Law Group; The US Department of Commerce EDA Challenge I-6 Grant



LiftOFF: One-of-a-Kind Grant Writing Program



**FIRST FLIGHT
LiftOff Program**

Grants are a Critical Source of Funding for Science Startups

Successful science-based companies utilize a combination of dilutive and non-dilutive funding sources to advance their technology development. SBIR/STTR grants as well as other government and private grants, are an attractive source of non-dilutive funding.

Unfortunately, early stage companies often lack the knowledge and the resources to navigate the process and submit competitive grants.

LiftOff = Innovative Approach to Helping Startups Secure Grants

First Flight, in partnership with Eva Garland Consulting (EGC), created the LiftOff program to provide science-focused startups with expert assistance in developing non-dilutive funding strategies and grant proposal preparation.

The FF/EGC team guides LiftOff start-ups through grant applications so they can earn early-stage funding and stay focused on their work. LiftOff is designed to be a financial force multiplier bringing in more money and increasing fundability for when companies later seek angel or venture capital funds.

Grant support services are provided at subsidized rates, and in return, upon award, companies in the program “give back” through success fees. This “evergreen” cycle allows for program sustainability, enabling the next generation of early stage companies to benefit from the program.

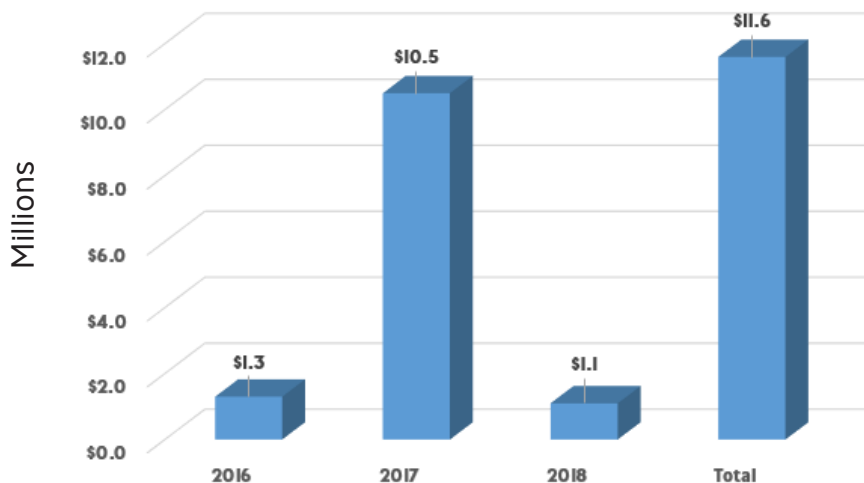
Since its inception in 2016 through 2018, the LiftOff program has yielded over \$11.6 million in grant funding for participating North Carolina based companies, with additional grant awards pending.



Andrew Schwab, President, First Flight and Eva Garland, CEO, Eva Garland Consulting partnered to create the LiftOff program.

2018 LiftOff Impact

Increasing Non-Dilutive Funding for LiftOff Startups



58

Grant Proposals Submitted

19

Strategic Plans Prepared

First Flight Wins US Small Business Administration Award to Expand LiftOff Program

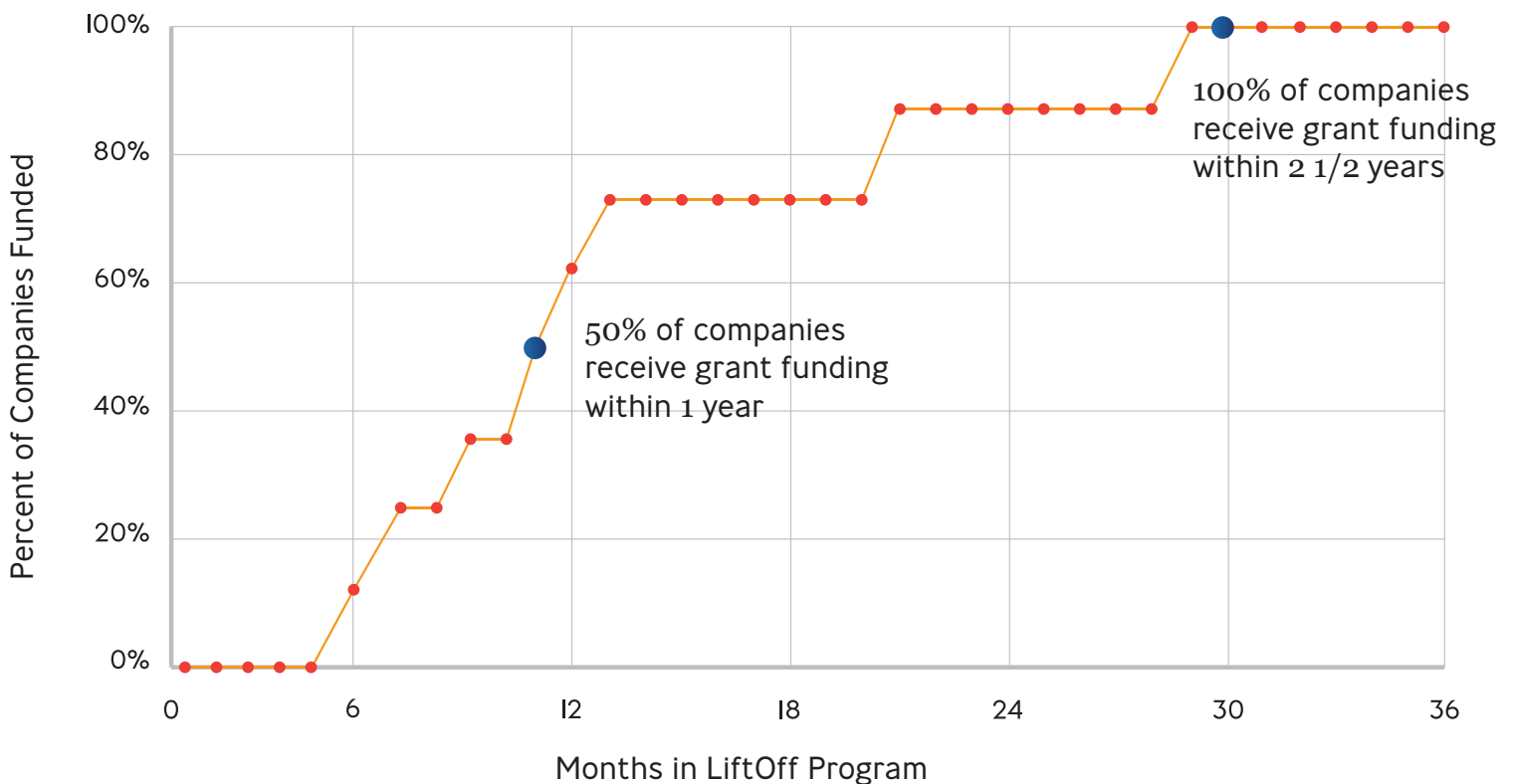
In 2018, First Flight was awarded a \$125,000 grant by the U.S. Small Business Administration's (SBA) Federal and State Technology (FAST) Partnership Program.

The FAST program provides training, financial support, and business expertise to technology-focused small businesses, with an emphasis on helping women-owned, rural-based, and socially/economically disadvantaged firms to participate in the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) initiatives.

The FAST grant award recognized First Flight's ability to expand its successful grant writing program, LiftOff. First Flight and its LiftOff grant writing partner, Eva Garland Consulting, delivered a series of education seminars and train the trainer workshops across the state to present an in-depth look at how to increase quality proposals and win SBIR/STTR grants. In addition, six FAST eligible startups were provided with strategic funding plans and grant writing support for a grant submission.

The statewide workshops were designed for entrepreneurs at early stage companies, university tech transfer professionals, ICorps ecosystem members, service providers, and individuals who support small businesses developing new technologies.

LiftOff Success Time to First Award



Thank You LiftOff Program Donors!

Eva Garland Consulting, Hutchison, PLLC , NC Biotechnology Center, NC IDEA, NK Patent Law, US Small Business Administration

WINGS Interns Work on a Cure for HIV



Workplace Immersion for New Generation Scientists

After receiving an Accelerator award in 2016 from the Small Business Administration to establish the “Workplace Immersion for New Generation Scientists (WINGS)”, the WINGS pilot program is alive and well! WINGS was designed to provide first-hand work experience for college STEM students from disadvantaged backgrounds with science-based startup companies.

First Flight has worked in partnership with North Carolina Central University’s DREAM STEM program to place STEM students with First Flight startup companies. It is a wonderful exchange where students gain invaluable workplace experience while working alongside entrepreneurs and the startups receive much needed help along their path to commercialization.

In 2018, several NCCU students joined First Flight companies. Among them, Jason Holesapple and Abasi Brown wrote code and managed analytics of a database useful towards curative strategies for HIV for First Flight resident company, Jericho Science.



I think the biggest way WINGS helps NCCU students is that many of them have not had real world experience... they are trying to make a career decision from an emotional place or from what other people want them to do or what sounds good. WINGS gives them a direct on the job experience so they can see what it’s really like and this gives them a true way to judge a potential career path.

Abasi Brown
WINGS NCCU intern, 2018

FFVC Leads Regional Effort to Solve Health Security Threats



First Flight has been hard at work in 2018 after being selected by the U.S. Department of Health and Human Services (HHS) as one of eight accelerators in the country to drive innovation in lifesaving medical technologies to solve challenging problems spanning modern health security threats and daily medical care.

DRIVE (Division of Research, Innovation, and Ventures), part of the Biomedical Advanced Research and Development Authority (BARDA), accelerates the development and availability of transformative technologies and approaches to protect us all from health security threats. The initial DRIVE focus areas are to solve sepsis and provide early notification to act, control and treat (ENACT) infectious diseases.

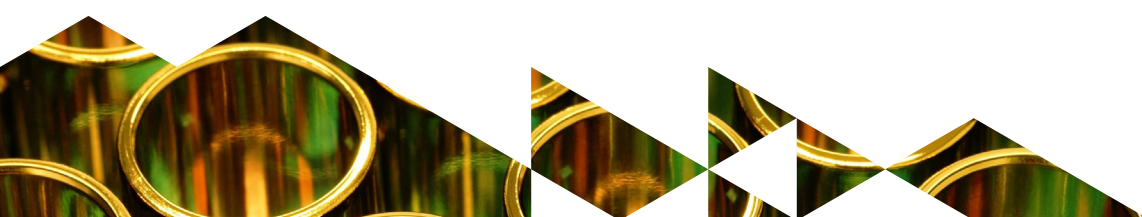
First Flight has served as a catalyst to inform hundreds of companies in this sector to apply for critical non-dilutive funding grants through the DRIVE. Initiative.

Thank you! First Flight’s DRIVE Health Security Accelerator is funded by the Biomedical Advanced Research and Development Authority (BARDA) in the HHS Office of the Assistant Secretary for Preparedness and Response (ASPR).



Emil Grunge (FFVC) and Donna Boston (BARDA)

FFVC was 1 of 8 accelerators selected for BARDA’s DRIVE program, designed to stimulate public-private partnership collaborations that spur innovation and investment in health security products and technologies.





Champions of Innovation

Recognizing First Flight Donors

First Flight is happy to recognize its CHAMPIONS OF INNOVATION donor recognition program. Giving levels represent cumulative financial, in-kind goods/services, matching gifts and volunteer service on a calendar year basis. This representation of donor contributions cover multiple years, 2015 - 2018.

First Flight's entrepreneurial philosophy is to create programs that ensure sustainability. First Flight does not receive any federal or state funding to support its general operating expenses - donor support is critical.

Without the generosity of individuals, corporations, foundations and government/civic donors, First Flight would not be able create and maintain services and programs for early stage companies. THANK YOU!

The WRIGHT Society

(\$100,000 and beyond)



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U.S. ECONOMIC DEVELOPMENT ADMINISTRATION



Eva Garland Consulting



U.S. Small Business Administration

Captain's Circle

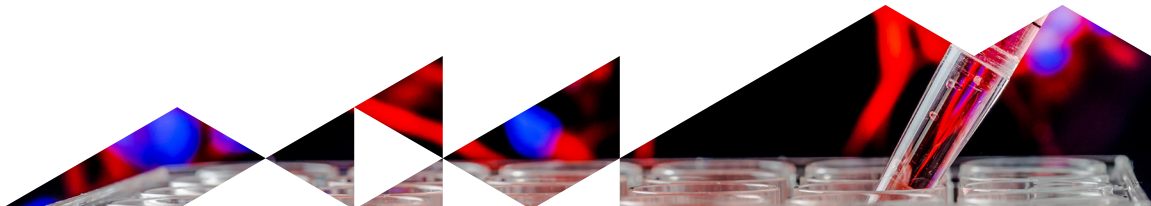
(\$25,000 - \$99,999)



North Carolina Biotechnology Center



Individual Contributions From: Nancy and Fred Hutchison, Mary U. Musacchia, and Bill Wofford





Champions of Innovation

Recognizing First Flight Donors

Aviator's Club

(\$10,000 - \$24,999)



Co-Pilot's of Excellence

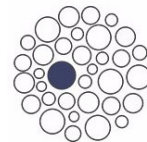
(\$1,000 - 9,999)



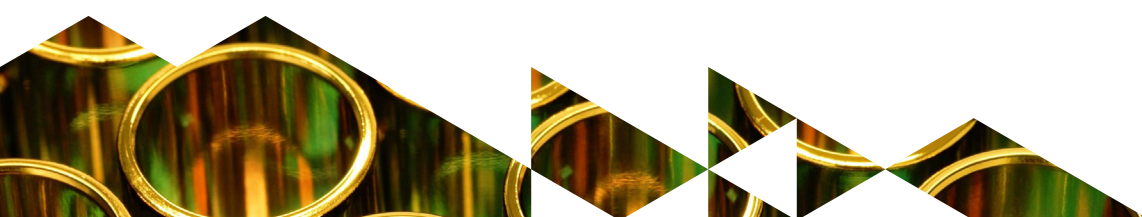
Individual Contributions From: ARC, Gary Abrahams, Justin Nifong, Larry Wilson, and William and Kay Collins

Flight Crew

(Under \$1,000)



Individual Contributions From: Gliavent Group, Jean Davis, Jim McLean/Learning Machines, Ken Tindall, Marlene Spritzer/Savills Studley, Norris Tolson, and Terry Kane





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