



COLUMBIA LAB-TO-MARKET

FROM RESEARCH TO REAL WORLD IMPACT

OUR MISSION STATEMENT

The Columbia Lab-to-Market (L2M) Accelerator Network serves as a framework to successfully develop, launch, and execute initiatives that help commercialize academic research.

OUR STORY

Since 2008, Columbia University has launched and co-founded a diverse portfolio of accelerator programs spanning therapeutics, diagnostics, medical devices, clean energy, advanced materials, artificial intelligence, pathogen surveillance, blockchain, carbontech, and smart cities. These programs provide funding and resources to advance early-stage, deep-tech teams from concept to commercialization.



FACILITATE

SUPPORT

EDUCATE

JOIN THE L2M NETWORK

BOOTCAMP & VALIDATION

Pitch Deck Development,
Commercial Strategy
Support, and Industry
Mentorship

MENTORSHIP & EXPERT ADVISORY

Cohort-based Educational
Program, Industry Feedback
Sessions, Virtual and In-person
Social Events

FUNDING & INVESTOR ACCESS

Public & Private Pitch
Opportunities, Introduction to
Strategic Partners,
Investment Outreach

COMMUNITY & ALUMNI NETWORK

Direct Non-dilutive Project Investment,
Ongoing Project Development
Support, Connections to Follow on
Investment Opportunities



LIFECYCLE

LIFE CYCLE CONCEPT WITH L2M

From Validation to Venture Launch

L2M's structured pathway supports teams through every stage of venture creation – from early validation to launch and growth. ADD ARROWS

VALIDATION

Teams move from discovery to validation by developing MVPs, running “killer experiments,” and defining real-world use cases.

INTEGRATION & COMMUNITY

L2M connects founders, mentors, and alumni through an active ecosystem of peer learning, expert guidance, and ongoing collaboration.

LAUNCH

Teams receive hands-on support for funding, incorporation, and business operations to accelerate toward commercialization.

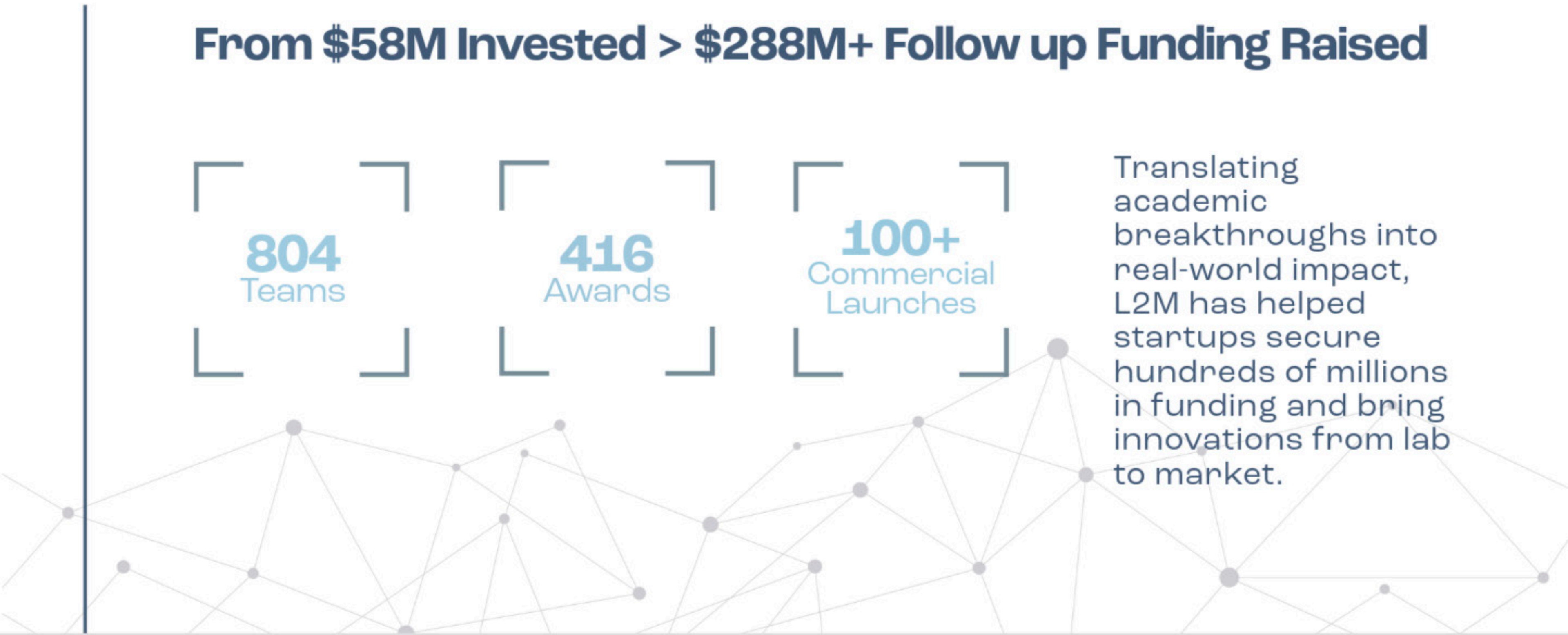


Alumni Teams have gone on to raise significant follow-on capital. Validating how L2M structured support, mentorship, and commercialization pathways can turn breakthrough ideas into thriving ventures.

From \$58M Invested > \$288M+ Follow up Funding Raised



Translating academic breakthroughs into real-world impact, L2M has helped startups secure hundreds of millions in funding and bring innovations from lab to market.



A Proven Record of Startup Acceleration and Commercial Impact

From 1,928 applications to 746 accelerated teams and over \$288M raised in follow-on capital.

Data from 2011–present across Columbia’s accelerator network

804

Teams supported through Columbia’s accelerators

100+

Commercial launches – including licenses, spinouts, and acquisitions

416

Cash awards distributed to startup teams

\$60M

Funding awarded to accelerator teams since 2011

\$288.3M

Follow-on capital raised by participating teams post-acceleration



Diverse Focus. Diverse Funding. Unified Impact.

L2M accelerators span research domains and funding models – from supporting Columbia IP to statewide innovation.

1

Diverse Focus Areas

Therapeutics, diagnostics, devices, clean energy, materials, AI, pathogen tracking, blockchain, carbon tech, and smart cities – each supported by a custom accelerator model.

2

Flexible Funding Pathways

L2M bridges public, private, and philanthropic funding – collaborating with federal agencies to corporate and foundation partners.

3

Beyond Columbia IP

Programs support innovators across Columbia, NYC, NYS, and the broader United States - expanding the breadth and scope of university innovation

Historical List of L2M Programs (Active programs are highlighted)

Program	Funding	Focus	Target Scope
Biomedical Accelerator (BiomedX)	Mix (Philanthropic, CU)	Biomedical Engineering	CU Faculty
Translational Therapeutics Accelerators (TRx)	Mix (NIH, CU)	Therapeutics	CU Faculty
Accelerating Cancer Therapeutics (ACT)	Mix (NIH, CU)	Oncology Therapeutics	CU Faculty
NYS Biodefense Fund	Public (NYS ESD)	Pandemic Preparedness	New York State
CU-NYU-Takeda Alliance	Private (Takeda)	Gastroenterology	CU / NYU Faculty
Hudson Heights Innovations	Private (Deerfield)	Therapeutics	CU Faculty
Corning Advanced Materials Prize	Private (Corning)	Advanced Materials	CU Faculty
"Math Meets Bio"	Private (AlleyCorp)	Computational Biology	New York City
CU RTW Rare Diseases Alliance	Philanthropic (RTWCF)	Rare Diseases	New York City
Carbontech Development Initiative	Public (NYSERDA)	Carbon Capture	New York State
CU-SDP Oncology Research Alliance	Private (Sumitomo)	Oncology	CU Faculty
CU-IBM Launch Accelerator	Private (IBM)	Deep Tech	New York City
Cyber NYC (I2F)	Public (NYCEDC)	Cybersecurity	New York City
PowerBridgeNY	Public (NYSERDA)	Clean Tech	New York State
NYC Media Lab Combine	Public (NYCEDC)	Media and Emerging Tech	New York City
Center for Smart Streetscapes (CS3)	Federal (NSF ERC)	Smart City	National
PORTENT	Public (NIH)	Point-of-Care Diagnostics	National
Skin Science Collaboration	Private (Beiersdorf)	Dermatology	CU Faculty
Irving Cancer Drug Discovery Program	Internal (CU)	Oncology Therapeutics	CU Faculty
CU Dept. of Surgery Innovation Fund	Internal (CU)	Surgery Tech	CU Faculty
CU Dept. of Orthopedic Surgery Innovation Fund	Internal (CU)	Orthopedic Surgery Tech	CU Faculty
NSF Accelerating Research Therapeutics	Public (NSF)	Therapeutics	Binghamton Univ. Faculty

OUR PROGRAMS

Go to the page to see program-specific details.

15
Beiersdorf

18
BIOMEDX

21
ACCELERATING CANCER
THERAPEUTICS

24
TRANSLATIONAL
THERAPEUTICS
ACCELERATOR (TRx)

28
CARBONTECH
DEVELOPMENT INITIATIVE

32
CENTER FOR SMART STREETSCAPES (CS3)
VALIDATE ACCELERATOR

36
DEERFIELD

38
NEW YORK STATE BIODEFENSE
COMMERCIALIZATION FUND

41
PORTENT

44
IRVING CANCER DRUG
DISCOVERY PROGRAM

47
COLUMBIA UNIVERSITY
SURGERY INNOVATION FUND

50
COLUMBIA-NYU-TAKEDA
ALLIANCE

53
THE ORTHOPEDIC SURGERY
INNOVATION FUND

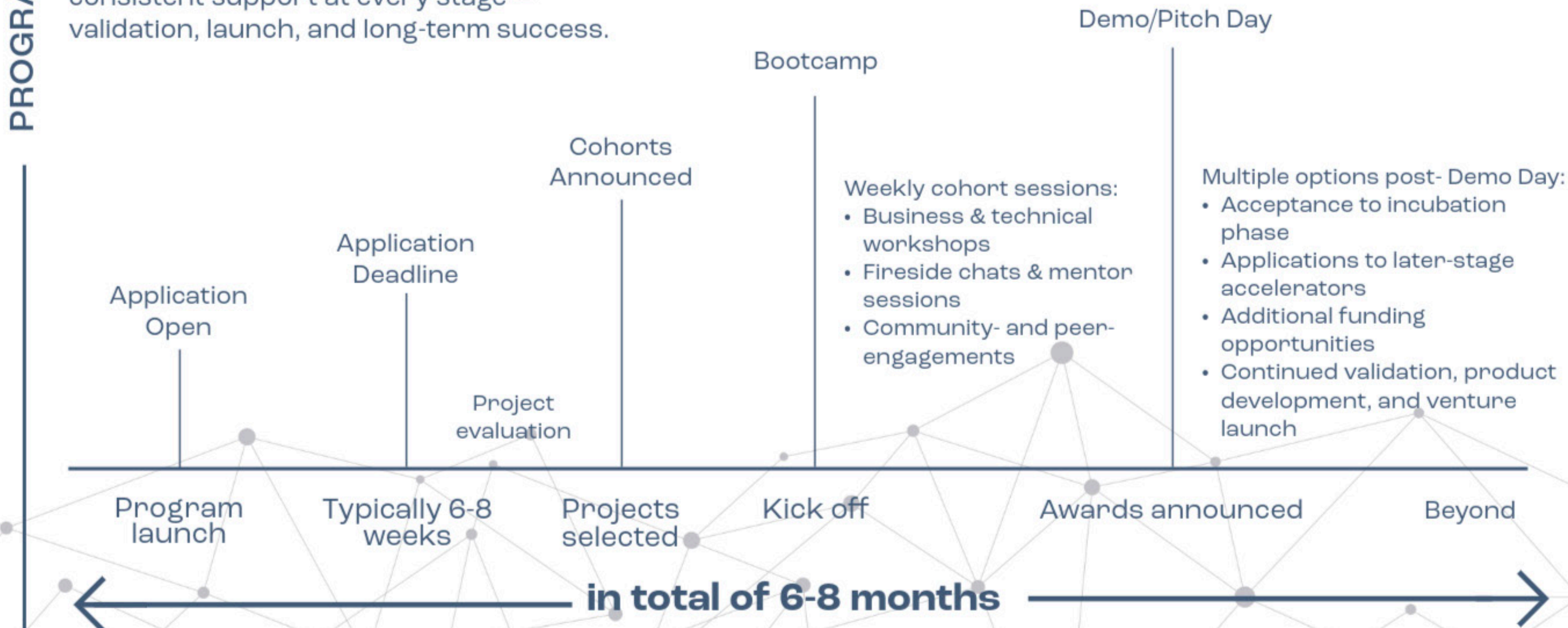
56
NATIONAL SCIENCE FOUNDATION
ACCELERATING RESEARCH THERAPEUTICS

PROGRAM TIMELINE

A STRUCTURED PATHWAY FOR TEAMS:

FROM APPLICATIONS AND BOOTCAMPS TO DEMO DAY AND POST-PROGRAM GROWTH

*While dates may vary, L2M provides consistent support at every stage – validation, launch, and long-term success.



INDUSTRY MENTORSHIP

Expert guidance from leaders across industry, academia, and government strengthens commercialization pathways

WHAT OUR MENTORSHIP DELIVERS

- Rapid validation of problem, solution, and market
- Insight into regulatory paths, reimbursement, and technical constraints
- Access to industry networks for partnerships or collaborations
- Sharper strategic decisions during critical early product development
- Real-time feedback that teams use to refine prototypes and go-to-market assumptions

OUR MENTORSHIP METRICS

- 40+ mentors across biopharma, medtech, digital health, and investors
- 25+ companies, universities, and academic organizations represented
- 50+ structured mentor sessions per cohort



OUR PARTNERSHIPS

Our partnership agreements are built based on sector and sponsor needs. Here are announcements highlighting strategic partnerships and collaborative growth:



Partnered with CDI to advance carbon-to-value technologies. Focus on helping teams validate pathways, attract early capital, and accelerate commercialization in climate-tech markets.

[Read here](#)

Beiersdorf

Through the Beiersdorf partnership, L2M teams exploring breakthrough dermatology technologies receive targeted mentoring, milestones support, and strategic input to strengthen translation and market fit.

[Read here](#)

The logo for the Center for Smart Streetscapes (CS3) features the text "CENTER FOR SMART" in a small, blue, sans-serif font above the words "STREET SCAPES" in a larger, bold, blue, sans-serif font. The letter "E" in "STREET" is stylized with three horizontal blue bars.

Partnered with the NSF-funded Center for Smart Streetscapes (CS3) to support startups building smart-sensor, computer-vision, and data-driven city technologies.

[Read here](#)

OUR PARTNERSHIPS

Recent Announcements Highlighting Strategic Partnerships and Collaborative Growth



Partnered with NYU Langone and Takeda to advance gastrointestinal research and support teams developing new therapies for inflammatory bowel and GI diseases.

[Read here](#)



Sumitomo Dainippon
Pharma

Partnered with Boston Biomedical Inc. to support oncology researchers developing next-generation cancer therapeutics. Focus on accelerating early discoveries toward clinical and commercial pathways.

[Read here](#)



NEW YORK
STATE OF
OPPORTUNITY.

Empire State
Development

Partnered with New York State to advance diagnostic and biodefense innovations. Supports teams developing tools for pathogen detection, surveillance, and public health resilience.

[Read here](#)

BUSINESS DEVELOPMENT & LAB-TO-MARKET ACCELERATOR TEAM



MARIA RAHMANY, PHD, MBA
Director
Business Development
Columbia Lab-to-Market Accelerator Network



JACK STEELE, MPA
Sr. Program Associate
Columbia Lab-to-Market Accelerator Network
Assistant Director, Carbon Development Initiative



ANANYA KARANAM, MSC
Alliance Associate



DEVIN JONES, PHD
Business Development Manager
Alliance Manager

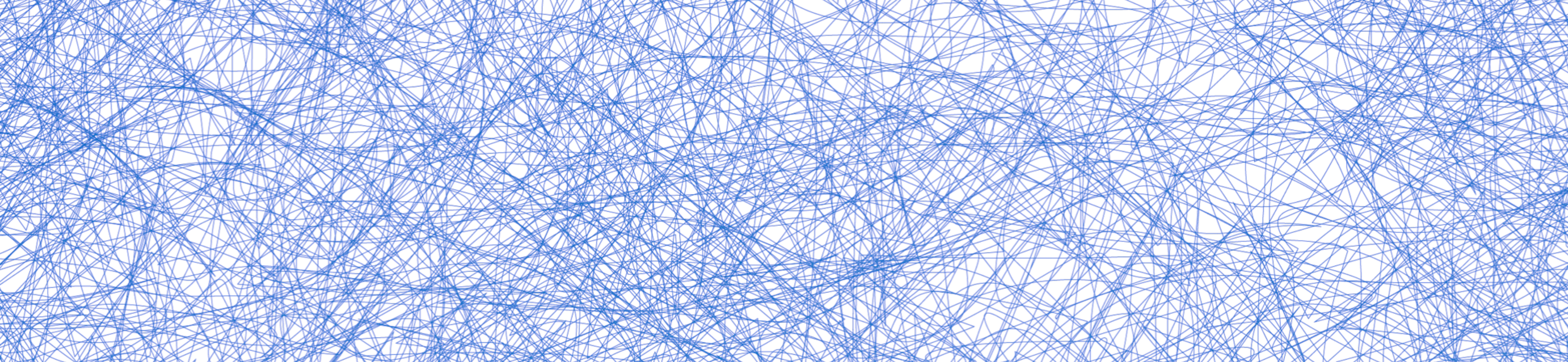


SHERRY BERMEO, PHD
Sr. Business Development Associate
Program Manager

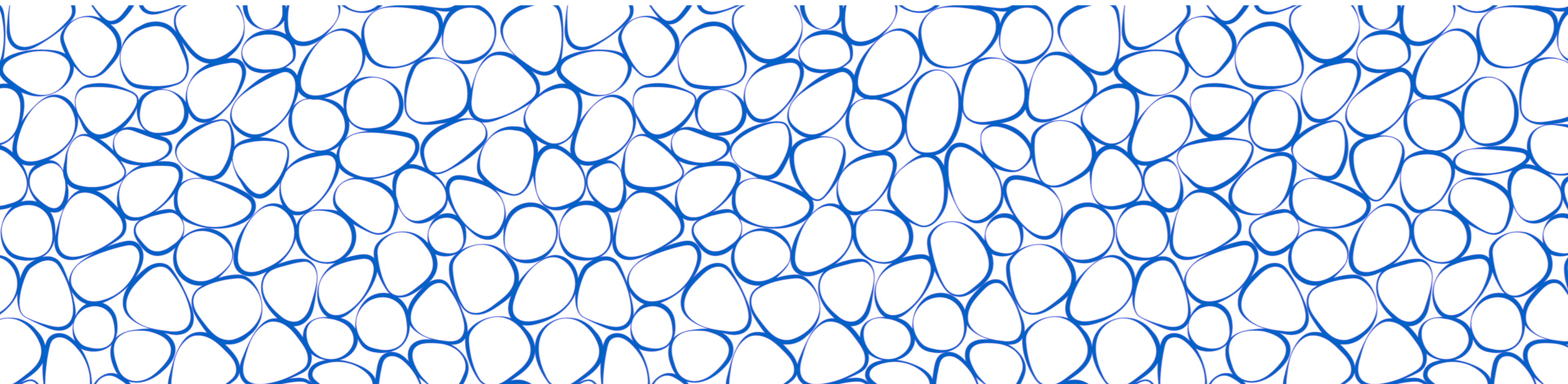


IKENNA EKELEM, MSC
Business Development Associate





Beiersdorf  COLUMBIA | TECHNOLOGY VENTURES



SKIN SCIENCE COLLABORATION

Developing novel in vitro skin models, validating dermatological targets, and identifying dermato-cosmetic compounds- this collaboration with Columbia University is Beiersdorf's largest academic research alliance in the United States.

Launched December 2024



Beiersdorf is a global skin care company with a deep legacy in skin research and more than 170 affiliates worldwide. The company is home to a strong international portfolio of renowned brands such as NIVEA, Eucerin, Hansaplast, La Prairie, Aquaphor, and Coppertone.

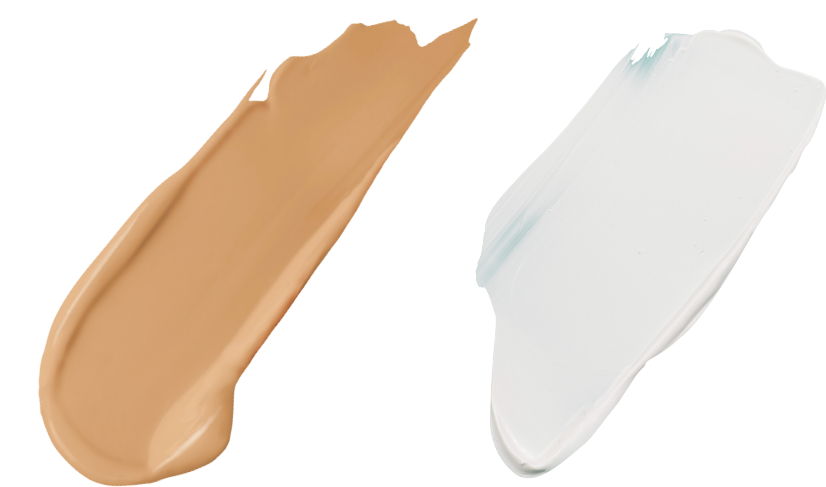
ANTI-AGING AND ALL SKIN TYPES

AREAS OF INTEREST IN ANTI-AGING

- autophagy, including chaperon-mediated autophagy
- circadian rhythm
- resolution of inflammation
- mitochondrial function

AREAS OF INTEREST IN ALL SKIN TYPES

- dry skin
- photoprotection
- itch
- scarring



AREAS OF INTEREST SUBJECT TO CHANGE*



METRICS and OUTCOMES

Beiersdorf will be supporting the alliance with **up to \$5M** over the course of five years.

Pilot projects span across 6-12 months, with **up to a \$100k of direct funds for academic lab research.**

Successful pilot projects may be transferred into multiple-year collaboration projects with access to larger funding and support from in-house Beiersdorf facilities including biology labs, formulation labs, safety & toxicology assessment, and modeling teams.

Selected Projects in Cycle 1

DIGITAL AND PHYSICAL TWINS OF FACIAL SKIN FOR DESIGN OPTIMIZATION OF THERAPEUTIC TREATMENTS

Drs. Kristin Myers, Adrian Buganza-Tepole, Mary Boyce, Erbil Abaci

INVESTIGATING THE LINK BETWEEN LIPID ALTERATION AND PHOTOAGING IN SKIN

Drs. Arianna Kim, Annemieke de Jong

BRISK: BIOBANK FOR RESEARCH IN SKIN HEALTH AND DISEASE

Columbia Dermatology

BOOSTING THE SKIN'S NATURAL CELL RECYCLING PATHWAYS TO HELP SLOW SKIN AGING VIA ACTIVATION OF SPECIFIC ION CHANNELS

Dr. Konstantin Petrukhin

Cycle 2 RFAs Anticipated Launch Fall 2025




Devin Jones

Program Manager
Columbia Technology Ventures
d.jones@columbia.edu

For more details, see the [university's Lab-to-Market Accelerator Network page](#)





BIOMEDX BIOMEDICAL ENGINEERING
TECHNOLOGY ACCELERATOR

ABOUT THE PROGRAM

CATALYZING THE ADVANCEMENT OF BIOMEDICAL TECHNOLOGIES THROUGH FUNDING AND MENTORSHIP

HOUSED WITHIN THE DEPARTMENT OF BIOMEDICAL ENGINEERING, The program is co-sponsored across multiple Columbia departments and institutes with sponsorship from the Yiannis and Jamie Monovoukas BioMedX Fund.

AREAS OF INTEREST INCLUDE:

- Diagnostics
- Platform tech/software
- Cardiology
- Orthopedics
- Rehab/robotics
- Neurology

PROJECT SELECTION is based on greatest potential to significantly improve the current standard of clinical care.

EDUCATION

SUPPORTING INNOVATION AND TEACHING COMMERCIALIZATION

The "Lab-to-Market Bootcamp" is a semester long course pairing faculty-led projects with BME and MBA students to help refine and support their commercialization plans.

Faculty-led teams are also connected with industry and academic experts who provide critical project feedback and connections to external support.

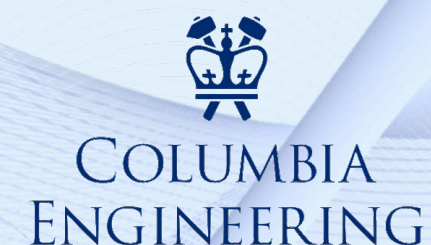
AN INDEX OF PREVIOUS COHORTS CAN BE FOUND ON THE BIOMEDX PROGRAM [SITE](#)

PROGRAM LEAD



MEGAN HEENAN
mh4451@columbia.edu

OVERSIGHT COMMITTEE



METRICS and OUTCOMES

"BRIDGING INNOVATIVE RESEARCH TO COMMERCIAL INVESTMENT"

SUCCESS METRICS

13 cycles administered

185 teams accepted to accelerator

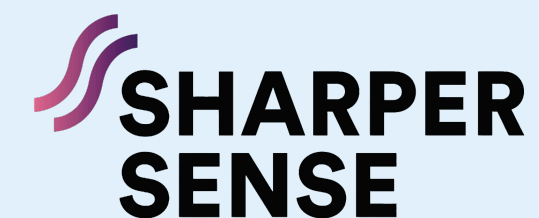
81 awards given

Over **\$6M** in funding awarded to BiomedX to teams in follow-on funding awarded to teams by external sources

FEATURED SPIN OUTS



EpiBone is a start-up founded by Columbia alumni, Dr. Nina Tandon and Dr. Sarindr Bhuminatana, focused on emulating natural conditions for tissue development to engineer automatically shaped bone grafts.



Sharper Sense was founded by Columbia professor Dr. Qi Wang and alum Dr. Charles Rodenkirch. The company developed a neuromodulation patch that optimizes your mental state when worn, improving hearing, vision, and touch.



Rover Diagnostics is a biotechnology company founded by Columbia professor Dr. Samuel Sia and co-founder Mark Fasciano that focuses on the rapid and low-cost detection of DNA and RNA.



Xylyx Bio was founded by Columbia professor Dr. Gordana Vunjak-Novakovic, Vanderbilt professor Dr. Matthew Bacchetta, and Columbia alum Dr. John O'Neill. The start-up is focused on bioengineering human whole organ grafts for life-saving transplantation.



ACT

**ACCELERATING CANCER
THERAPEUTICS**

ABOUT THE PROGRAM

ADVANCING NOVEL CANCER THERAPIES FROM THE LAB TOWARDS THE CLINIC

Accelerating Cancer Therapeutics (ACT) is a therapeutic development accelerator program focused on providing funding, education, partnership, and mentorship.

AREAS OF INTEREST

- Therapeutic strategies including small molecules, biologics, novel delivery approaches, gene therapeutics
- All cancer-related projects with a valid target in any stage of development with translational/commercialization trajectory are encouraged to apply

EDUCATION

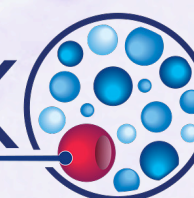
- Teams whose pre proposals are selected are invited to attend the Lab-to-Market Life Science Accelerator Boot Camp
- The educational program consists of interactive sessions across four months and is geared towards preparation and submission of the full proposal

MENTORSHIP/PARTNERSHIP NETWORK



Daiichi-Sankyo

CYTOSOLIX



BIOCURIE



SSI
Strategy

LUDWIG
CANCER
RESEARCH

METRICS and OUTCOMES

CUMULATIVE SUCCESS METRICS

7 cycles administered

45 teams accepted to accelerator program

19 awards administered

Over **\$1M** in funding from ACT to participating teams

Over **\$3.5M** in follow-on funding from external sources captured by graduating teams

FEATURED PROJECT

NON-RETINOID ANTAGONISTS OF RETINOL-BINDING PROTEIN 4 AS A NDW SMALL MOLECULE TREATMENT FOR CHRONIC LYMPHOCYTIC LEUKEMIA (CLL)

Dr. Konstantin Petrukhin

TARGETING VRK2 TO ENHANCE CANCER IMMUNOTHERAPY

Dr. Adam Mor

OPTIMIZING MycN SUPPRESSION BY THE HDAC INHIBITOR ISOPOMIFERIN: A TARGETED THERAPY FOR MycN DRIVEN NEUROBLASTOMA

Dr. Brent Stockwell

TARGETING THE BONE MARROW NICHE TO TREAT MYELODYSPLASIA AND ACUTE MYELOID LEUKEMIA

Dr. Stavroula Kousteni

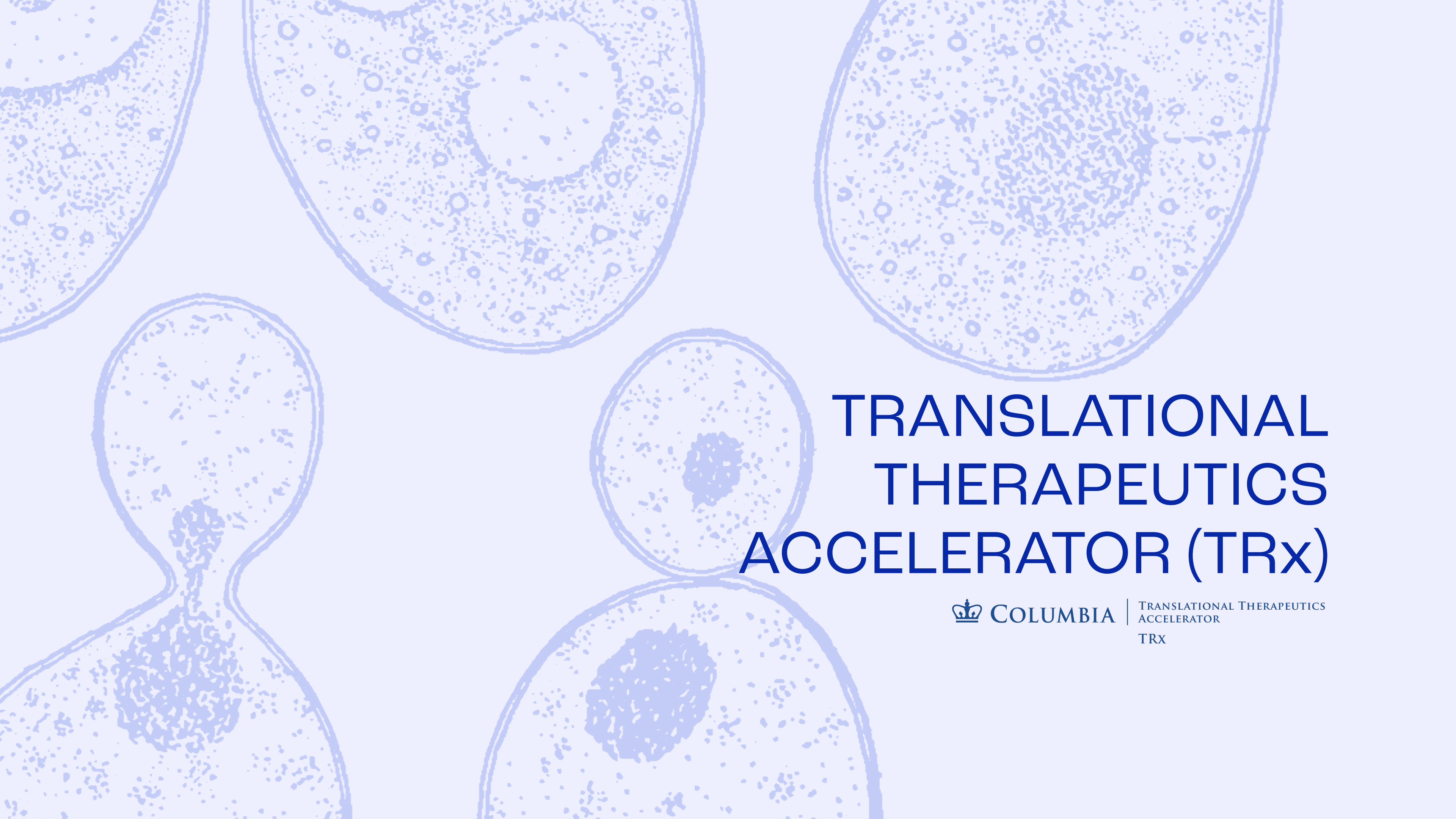
PROGRAM LEAD



EMER M. SMYTH

es35551@columbia.edu

For more details, see the [university's Lab-to-Market Accelerator Network page](#)



TRANSLATIONAL THERAPEUTICS ACCELERATOR (TRx)

 COLUMBIA | TRANSLATIONAL THERAPEUTICS
ACCELERATOR
TRx

THE IRVING INSTITUTE ACCELERATE PROGRAM

TRANSLATING OUTSTANDING DISCOVERIES AT COLUMBIA INTO COMMERCIAL THERAPEUTICS

THE TRx PROGRAM

- Through the TRx Award, we offer **education, partnership, and mentorship**
- The education portion, known as the Lab-to-Market Life Science Accelerator Boot Camp, takes place in the spring and is approximately four months long
- **Interactive sessions** are geared towards assisting with teams in their **full proposal submission**

AREAS OF INTEREST

- Therapeutic strategies including small molecules, biologics, novel delivery approaches, gene and cell therapies
- Rare diseases originating from **precision medicine efforts**
- Emerging **infectious diseases**

COLUMBIA PROGRAM LEAD



SHERRY BERMEO
sherry.bermeo@columbia.edu

MENTORSHIP/PARTNERSHIP NETWORK



For more details, see the university's **Lab-to-Market Accelerator Network page**

METRICS and OUTCOMES VERSION 1

SUCCESS METRICS

8 cycles administered

112 applications received

55 awards given

Over **\$1.6M** in funding awarded by TRx to teams

\$84.7M in funding awarded to teams by external sources

FOUNDER SPOTLIGHT



"Joining TRx our quickest way to tap into the great resources and network of Columbia and NYC. We love the mentorship amongst the Executives in Residence (XIR) but also enjoy being able to learn from other teams about their processes and experiences..."

KRISTIN BEISWENGER
GENE MODULATOR THERAPEUTICS

METRICS and OUTCOMES VERSION 2

SUCCESS METRICS

8 cycles administered

112 applications received

55 awards given

Over **\$1.6M** in funding awarded by TRx to teams

\$84.7M in funding awarded to teams by external sources

QUOTES FROM PREVIOUS FOUNDERS



Based on research and IP out of the lab of Dr. Henry Colecraft, Stablrix is pioneering an entirely new field of targeted protein stabilization (TPS) to bring transformative medicines to patients with unmet medical need. They are a creative and multidisciplinary team of scientists, innovators and leaders dedicated to changing the way we approach drug development by establishing a powerful small-molecule modality for a wide variety of devastating diseases.

CDI | CARBONTECH DEVELOPMENT INITIATIVE

IN COLLABORATION WITH THE NEW YORK STATE ENERGY
RESEARCH AND DEVELOPMENT AUTHORITY

<https://labtomarket.columbia.edu/cdi>

LARGE-SCALE CARBONTECH MARKET TRANSFORMATION

29

FIRST OF ITS KIND GRANT-SEEDING AND COMMERCIALIZATION INITIATIVE

CROSS-SECTOR COLLABORATION

CDI leverages Columbia's sector expertise and New York State's entrepreneurial strength to advance decarbonization solutions and drive economic development.

Initiated with support from the New York State Energy Research and Development Authority (NYSERDA), CDI has delivered funding and educational support to more than 30 academic and startup teams.



Carbontech
Development
Initiative

AREAS OF INTEREST

CO₂ capture technology

- Integration of DAC and CO₂ conversion
- Materials with long-term stability, tolerance to harsh environments

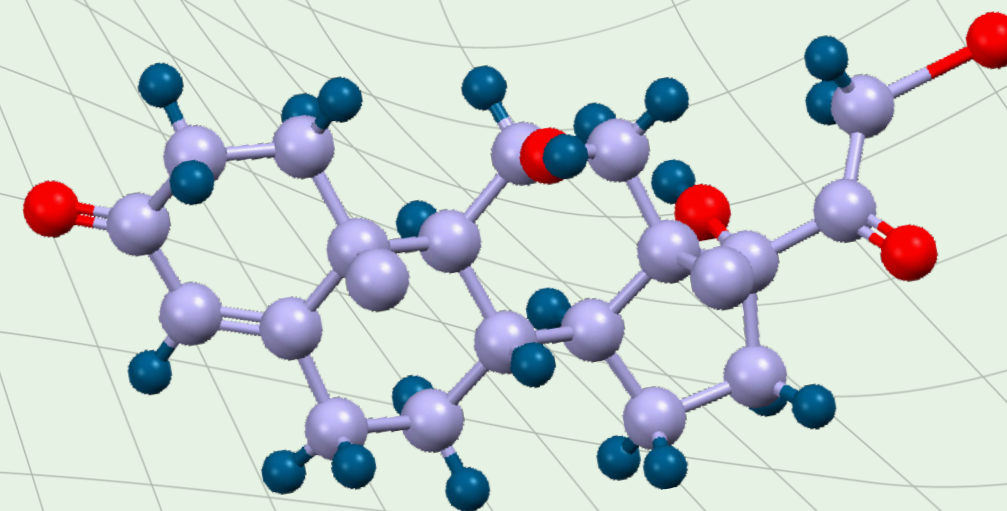
CO₂-to-Building Materials

- Carbon mineralization of waste, CO₂ curing of concretes, Low carbon replacement materials

CO₂-to-chemicals, fuels, & materials

- Electrochemical conversion of CO₂
- Dual-functional materials

For details, see [program site](#)



RESEARCH

CDI offers two competitive research programs:

- **Propel Carbontech (TRL 2-3):** up to 150k for academic teams external to Columbia
- **Carbontech Leap (TRL 2-3):** up to 250k for Columbia core faculty

COMMERCIALIZATION

Bridge Carbontech (TRL 4–9) is CDI's commercialization program, offering external teams up to \$375K plus mentorship and investor access.

METRICS and OUTCOMES

ELIGIBILITY

Applicants should consider the affiliation guidelines of each program

All projects must either be located within New York State or have a demonstrated benefit to New York State.

CDI will fund projects that fall within defined topic scopes, organized around the three technology areas in the previous slide

METRICS

Propel Carbontech participants are eligible to receive up to **\$150k**

Carbontech Leap participants are eligible to receive up to **\$250k**

Bridge Carbontech startups are eligible to receive up to **\$375k**

PROGRAM LEADS



JIM ALOISE
jim.aloise@columbia.edu



JACK STEELE
jack.steele@columbia.edu



KARTIK PILAR
kartik.pilar@columbia.edu

For more details, see the [university's Lab-to-Market Accelerator Network page](#)

COLUMBIA TEAM SPOTLIGHTS

DRS. SHIHO KAWASHIMA & AARON MOMENT



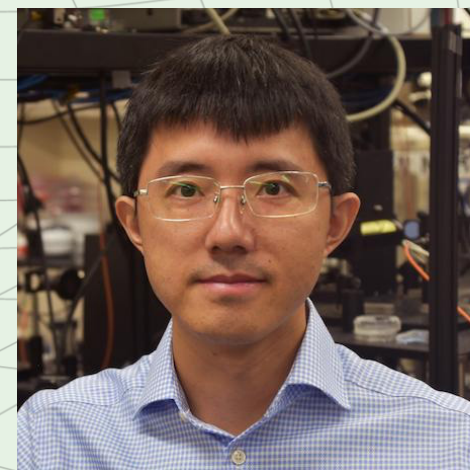
Developing ready-mix carbon cured concrete formulations and processes for large scale construction projects. These solutions will be economically deployable at large-scale construction sites and provide long-term CO₂ sequestration.

DR. OSCAR NORDNESS



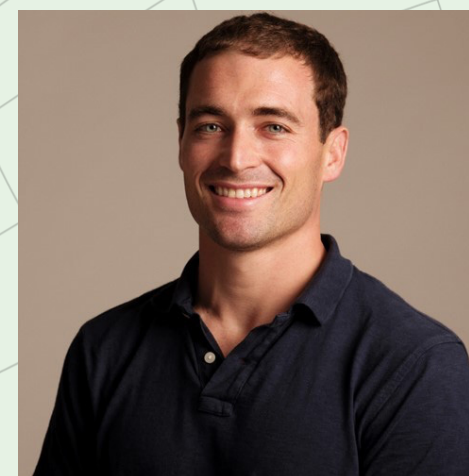
Developing an integrated process for the capture and conversion of CO₂ produced from cement manufacturing by leveraging novel absorbents and electrode materials to produce syngas (CO/H₂).

DRS. NANFANG YU & ARVIND NARAYANASWAMY



Inventing new systems that will rely on electrical energy generated from renewables to desorb CO₂ photothermally from absorbing & adsorbing materials.

DRS. SHAINA KELLY & DAN ESPOSITO



Leveraging existing infrastructure to capture and convert CO₂ to carbonates on modular artificial “flowstone” surfaces. This is an opportunity to simultaneously meet NYS climate goals and produce useful products at scale.

CENTER FOR SMART STREETSCAPES (CS3) VALIDATE ACCELERATOR



CENTER FOR SMART
STREET
SCAPES

<https://cs3-erc.org>

ABOUT THE ACCELERATOR

EDUCATION, MENTORSHIP, AND BUSINESS MODEL DEVELOPMENT

In 2022, the National Science Foundation (NSF) announced that it was awarding a \$26 million, five-year grant to a team led by Columbia Engineering, together with Florida Atlantic University, Rutgers University, and Lehman College, for a new Gen-4 NSF Engineering Research Center for Smart Streetscapes (CS3). The grant, which is one of the largest NSF research grants to Columbia University's Morningside campus to date, supports high-risk, high-payoff research centers focused on advancing engineered systems technology.

The CS3 VALIDATE Accelerator helps early-stage innovators in the streetscape space build and scale their ideas through hands-on education, mentorship, and business model development. The educational component of the program consists of two main modules over 10 weeks: Product–Market Fit & Customer Discovery and Smart Cities–Specific Education.

Program eligibility is as follows:

At least one team member must be **affiliated with a CS3-funded project**. Otherwise, applicant team must provide a letter of support from a CS3-affiliated faculty. More information on this can be found [here](#).

Applicant team must be working on an idea or prototype for an innovative smart city solution within the **following 5 center thrusts:**

1. Connectivity & Wi-Edge
2. Situational Awareness
3. Privacy, Security, & Fairness
4. Public Interest Technology
5. Streetscape Applications

Areas of interest subject to change. For additional information, click [here](#).

PROGRAM METRICS

Primary sources for funding

I-Corp StartMeUp Bootcamp Funding:

Funding support levels vary for teams **\$1,000 – \$3,000**. Stipends are available for bootcamp team members who complete all requirements with a financial support of **\$500**. Upon completion of the program, teams are eligible to apply for the National Science Foundation's I-Corps Teams program, which includes a **\$50,000** grant.

CS3 VALIDATE Funding:

Teams that have successfully completed the multi-week program and are working in areas that align with the CS3 mission, will be eligible for consideration of an award of up to **\$10,000** to support advancement of their projects.

Review Process

Applications will be reviewed by the CS3 leadership team to determine fit within the field/area of interest. Each application will be judged based on **team quality, commercialization potential, and scientific and technical merit.**

Partner Institutions



PROGRAM METRICS

CS3 2024 Accelerator Awardee Spotlight

The VALIDATE Accelerator Cyrus team, formerly KeeVeeve, is building an AI-native security system that can identify an extensive range of abnormal behaviors and activities that endanger safety and security standards in indoor and outdoor areas. This effort is spearheaded by Mahshid Ghasemi and Jeremy Johnston, both Columbia University Ph.D. candidates in electrical engineering.



Transform your cameras
to live virtual AI guards



Program Leads



SHERRY BERMEO
sherry.bermeo@columbia.edu



ANANYA KARANAM
ananya.karanam@columbia.edu

HUDSON HEIGHTS INNOVATIONS



COLUMBIA
UNIVERSITY

DEERFIELD®



ABOUT THE PROGRAM

A COLLABORATION TO ADVANCE THE TRANSLATION OF BIOMEDICAL DISCOVERIES

- In 2019 Columbia University and Deerfield Management announced the creation of a major research and development alliance.
- Through a newly launched company called Hudson Heights Innovations, up to **\$130 million** of initial funding will be made available to back the initiative **over 10 years** by Deerfield and partners.

TRANSFORMATIVE TREATMENTS TO IMPROVE QUALITY OF LIFE AND CURE DISEASES

Deerfield will provide development expertise in support of innovative drug research across a span of high-need therapeutic areas, as well as those targeting patients who suffer from hard-to-treat and rare diseases.

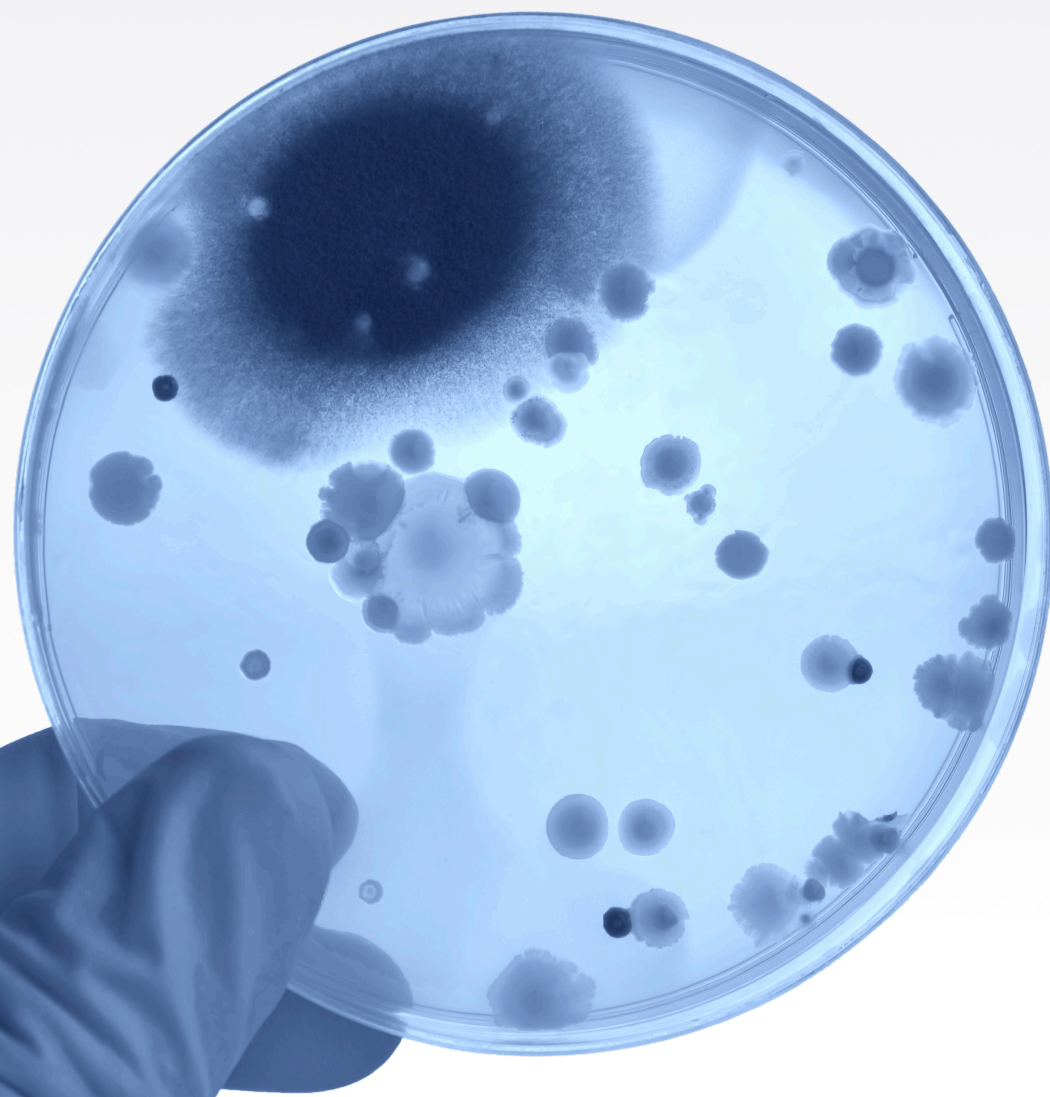


PROGRAM LEAD

Devin Jones
d.jones@columbia.edu



NEW YORK STATE BIODEFENSE COMMERCIALIZATION FUND



COLUMBIA UNIVERSITY IN COLLABORATION WITH THE STATE OF NEW YORK
<https://esd.ny.gov/biodefensefund>

ABOUT THE PROGRAM

ACCELERATING THE DEVELOPMENT AND COMMERCIALIZATION OF SOLUTIONS TO SERIOUS INFECTIOUS DISEASES

The Fund has offered grants to startup companies and academic institutions that are developing promising diagnostics, vaccines, therapeutics, and other innovations as epidemiological surveillance tools.

The Biodefense Commercialization Fund is intended to provide financial resources that will:

- **Strengthen New York's life science ecosystem** by advancing promising scientific innovations
- **Accelerate commercialization** of IP from research institutions
- Support company growth and relocation and **expand employment opportunities**
- **Enhance resilience** to infectious disease threats
- Reinforce New York as a safe, healthy place to live and work while **broadening opportunities for innovative companies across the state.**



Areas of Interest

- Novel platforms for development of rapid **Point-of-Care diagnostics**
- Processes that integrate **easy-to-use sample preparation** and allow for access in **low resourced settings**
- Novel tools for sequencing and serology-based tests that support **infectious disease and pathogen surveillance**

METRICS AND OUTCOMES

FUNDING

\$40M in total funding awarded across 3 rounds (2021-2024) to **11 startups and 16 academic institutions** based in NYS

As of December 2024, the teams:

- Cumulatively raised ~\$365M in additional external funding
- Created 33 direct jobs
- Filed/applied for 25 patents

Applicants from incorporated Startup Companies are eligible to receive funding of **\$1 million to \$4 million**. There will be a requirement for matching for funding of **\$2 million and above**.

Academic Institutions are eligible to receive grants of **\$250,000 to \$500,000** (inclusive of a maximum 25% Indirect Cost rate).

PROGRAM LEAD



MARIA RAHMANY
maria.rahmany@columbia.edu

MAP OF PROJECTS ACROSS NY STATE





PORTENT

POINT OF CARE DIAGNOSTICS

FOR NUTRITION, INFECTION, AND CANCER

<https://pochealth.cornell.edu>

ABOUT THE PROGRAM

PORTENT translates breakthrough point-of-care diagnostics into rapid, affordable tests that reduce the burden of chronic disease, curb infectious threats, and strengthen prevention efforts across the United States. The program accelerates earlier detection of conditions – from diabetes, heart disease to emerging infections – so providers can intervene sooner, patients stay healthier, and health care costs decline.

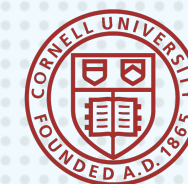
The PORTENT program provides teams with:

- Market-driven, customized approach to assess business opportunities for Point-of-Care (POC) products in the U.S. and LMICs
- Hands-on exposure to core POC commercialization elements, including needs assessment, funding strategies, venture capital, design thinking, regulatory and reimbursement pathways, and local manufacturing considerations
- Access to a global network of PORTENT clinical sites for pilot project collaborations

PARTNERS



COLUMBIA
UNIVERSITY



Cornell
Engineering



Weill Cornell
Medicine

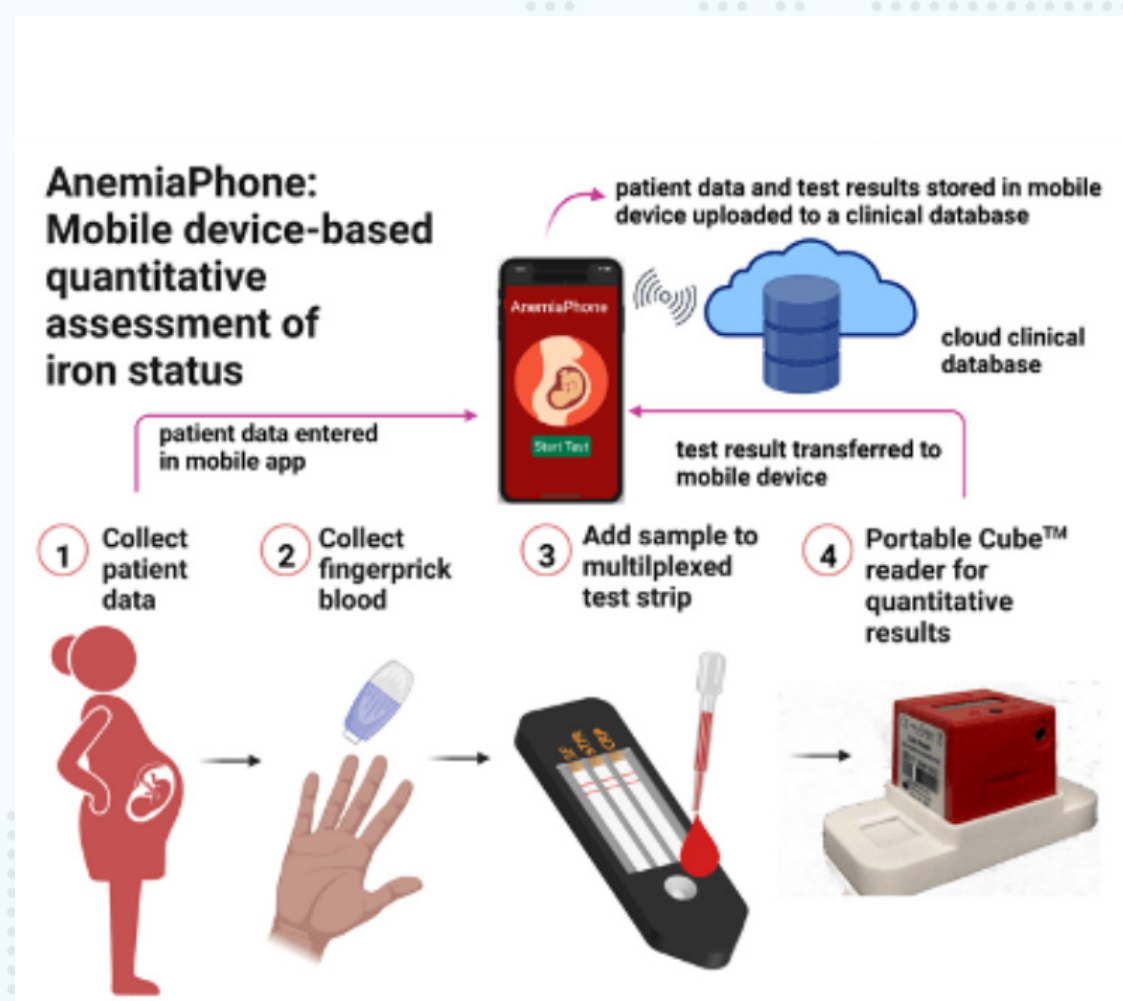
METRICS AND OUTCOMES

TEAM SPOTLIGHT: ANEMIAPHONE

Mobile device-based quantitative assessment of iron status

PI: Julia Finkelstein

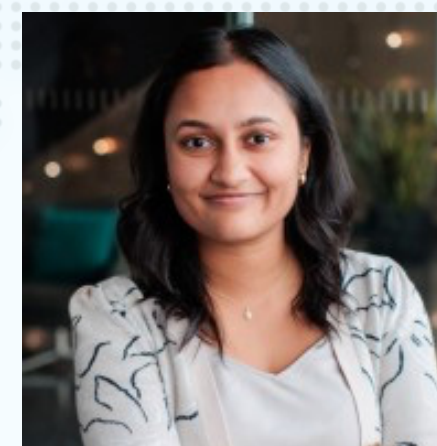
Anemia Phone aims to validate and deploy a minimally invasive, point-of-care, low-cost, non-infrastructure dependent, and highly portable point-of-care screening platform for iron status assessment based on quantification of serum ferritin (SF), soluble transferrin receptor (sTfR), and C-reactive protein (CRP). Anemia Phone is extrapolated from the established FeverPhone and NutriPhone platforms with a research track record. The support from the PORTENT Center will be vital to accelerate multiplexing, optimization of the assays, and transfer to commercial partners



PROGRAM LEADS



JACK STEELE
jack.steele@columbia.edu



ANANYA KARANAM
ananya.karanam@columbia.edu

IRVING CANCER DRUG DISCOVERY PROGRAM

ACCELERATING EARLY-STAGE ONCOLOGY INNOVATIONS AT COLUMBIA UNIVERSITY

ABOUT THE PROGRAM

The Irving Cancer Drug Discovery Program (ICDDP) bridges the gap between lab discovery and therapeutic development. Many scientific discoveries with clinical potential never reach patients. Academic research often stalls due to lack of translational funding and commercialization expertise. As a result, promising oncology innovations are left behind—a missed opportunity for impact.

HOW DOES ICDDP STAND APART?

- **Milestone Driven Funding:** Not just a one-time grant—ICDDP funding is tied to clear go/no-go criteria
- **Hands-on project management:** Each project receives dedicated support for execution, budgeting, and planning
- **Early industry input:** Vetted by pharma executives and VCs from day one through the end of the program
- **Commercial readiness:** IP, regulatory, and market strategy built into project design
- **Value-inflection focus:** Projects are shaped to attract licensing, partnerships, or spinouts—maximizing return

METRICS AND OUTCOMES

- **8** projects awarded to date
- **\$400K** per project in direct research funding over 2 years
- **\$1.4M** secured to support a clinical trial in glioblastoma
- **Cycle 3** applications currently under review

PROGRAM LEAD



EMER M. SMYTH
es3551@columbia.edu

FEATURED TEAMS

Generation of anti-PAG monoclonal antibodies to treat solid malignancies.
Dr. Adam Mor

Treatment of STK11-deficient non-small cell lung cancer with a novel small molecule cancer immunotherapy.
Dr. Benjamin Izar

Advancing a new ferroptosis inducing drug to clinical trial for GBM
Drs. Brent Stockwell, Jeffrey Bruce, Peter Sims, Osama Al Dalahmah, Peter Canoll

Development of small molecule inhibitors of NSD2
Drs. Michael Shen, Donald Landry

A decorative graphic consisting of multiple thin, overlapping lines that flow from the top left towards the bottom right. The lines are colored in a gradient from red at the top left, through purple and magenta, to yellow at the bottom right. The lines are dense and create a sense of movement and depth.

**COLUMBIA UNIVERSITY
SURGERY INNOVATION FUND**

ABOUT THE PROGRAM

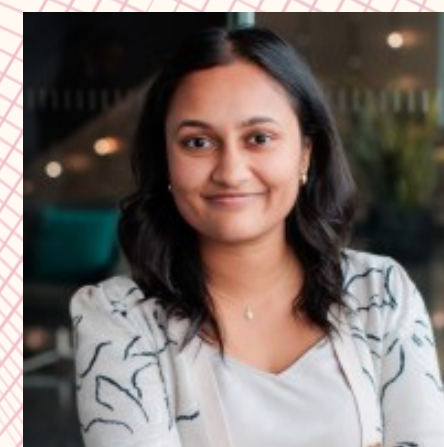
The Department of Surgery Innovation Fund provides non-dilutive grant support for faculty projects advancing towards commercial launch. The program is designed to support Columbia IP-backed projects with strong near-term commercialization potential

On an annual basis, the fund awards **\$650K** across supported projects and has provided **more than \$2.1M in project support** to date

FUNDING METRICS AND ELIGIBILITY

- De-risking and validation (prototype builds, feasibility testing, workflow pilots, early clinical/operational validation)
- In-vivo validation studies and regulatory engagement for late-stage projects
- Clear milestones that strengthen downstream partnering, licensing, or venture formation

PROGRAM LEADS



ANANYA KARANAM
ananya.karanam@columbia.edu



DEVIN JONES
d.jones@columbia.edu

SELECTED PROJECTS

DAVID KAFTA- LIVING ALLOGENIC HEART VALVE

Dr. David Kalfa's team is creating the first "living" off-the-shelf heart valve capable of growth and repair inside the patient. Their approach uses biochemical and mechanical rehabilitation in a custom bioreactor to preserve donor valve cells and structure, enabling durable, regenerative valve replacements.

JULIA WATTACHERIL- AUTOMATED IDENTIFICATION OF MASLD SURGICAL CANDIDATES

Dr. Julia Wattacheril's project applies a powerful EHR algorithm to automatically identify patients with advanced liver disease who may benefit from bariatric or hepatobiliary surgery. The novelty lies in system-wide, automated detection using rich clinical data to improve early referral and reach patients often missed in standard care.

PAUL GARCIA - EEG-GUIDED ANESTHESIA PLATFORM

Dr. Paul Garcia and his startup Lantern Laboratory are developing a next-generation EEG monitor that personalizes anesthetic and pain-medication dosing during surgery. Unlike outdated monitors, it separately tracks sedation and analgesia, adjusts for cognitive age, and guides precise drug titration to reduce postoperative delirium and cognitive decline.

VINCENT DURON- AI-ENHANCED FLUID MANAGEMENT FOR ECMO PATIENTS

Dr. Vincent Duron's team aims to validate drainage pressure as an accurate measure of intravascular volume in children on ECMO. By combining physiologic modeling, animal experiments, and machine-learning integration, this work could turn an unvalidated signal into a real-time tool for safer, more precise fluid management.

COLUMBIA-NYU-TAKEDA ALLIANCE

IN COLLABORATION WITH NEW YORK UNIVERSITY AND PHARMACEUTICALS

Our collaboration aimed at leveraging both the research & development capabilities and funding opportunities of Takeda to bridge the translational and commercial gaps of the Universities' early-stage technologies. Takeda was seeking projects that aligned to the GI Drug Discovery Unit's discovery and translation strategies, and also forward-looking high-risk innovative concepts.

The GI Drug Discovery Unit was focused on a subset of target areas including but not limited to:

Gut Inflammation

Barrier integrity and mucosal healing, and neuroinflammation
Targeting immune tolerance and effector cells in the epithelium

Liver Disease

Advanced/late-stage liver disease (F3, F4 NASH), anti-fibrosis drivers
Hepatocyte rejuvenation, regeneration, replacement

Translational & Clinical

Causal validation of targets, therapeutic modulation that recapitulates human biology
Patient prognostic, diagnostic and stratification strategies

FUNDING AND METRICS

Takeda's commitment was up to \$3.7M towards innovation projects over a 5 year term. Project scope and budget was determined in collaboration with Takeda and Columbia. The Alliance included a Joint Steering Committee made up of clinical, basic science and business readers from NYU, Columbia and Takeda

AWARDED PROJECTS

IRA TABAS AND XIAOBO WANG, COLUMBIA

Novel pathways on liver fibrosis

UTPAL PAJVANI, COLUMBIA

Endocrine mediators of liver fibrosis

KEN CADWELL AND SHOHEI KOIDE, NYU

Restoration of the Epithelial barrier in IBD

PROGRAM LEAD



MARIA RAHMANY
maria.rahmany@columbia.edu



**THE ORTHOPEDIC SURGERY
INNOVATION FUND**

ABOUT THE PROGRAM

The Dept. of Orthopedic Surgery Innovation Fund provides support for CUIMC/VP&S faculty projects advancing towards commercial launch. This program is specifically designed to support projects with strong, near-term commercialization potential based on Columbia-owned intellectual property. Across 2 cycles the program has awarded \$187K in funding. The third cycle will launch in 2026.

FEATURED PROJECTS

CYCLE 1

Stavros Thomopoulos:

Adhesive solutions for rotator cuff repair

Thomas Bottiglieri:

Proscope, A Quantitative Assessment of Oculomotor Function in Normal Subjects and Subjects with Disorders of the Oculomotor System

CYCLE 2

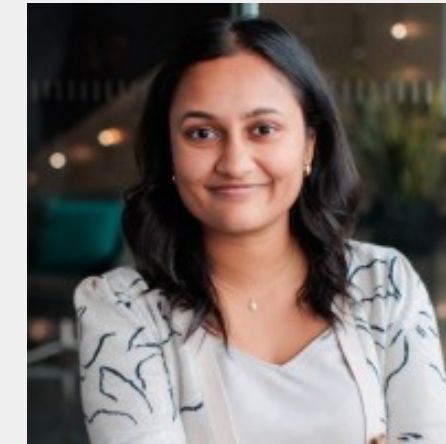
Bonnie Chien:

Comparison of Nitinol Staples of Various Widths and Depths in Stabilization of Tarsometatarsal Joint and Lisfranc Injuries

Thomas Bottiglieri:

Proscope, A Quantitative Assessment of Oculomotor Function in Normal Subjects and Subjects with Disorders of the Oculomotor System (follow-on funding)

PROGRAM LEAD



ANANYA KARANAM
ananya.karanam@columbia.edu



DEVIN JONES
d.jones@columbia.edu



FEATURED PROJECT: PROSCOPE

PROscope is a non-invasive, objective diagnostic software for **detecting concussion and neurodegenerative disease**. It is easy to set up, requires minimal hardware, and takes ~3 minutes to administer. The technology is designed to deliver a **scalable, objective, and reproducible diagnostic solutions**.

PROscope **enables clinicians and athletic trainers** to:

- Improve diagnostic certainty
- Enhance quality of care
- Streamline patient management
- Ensure proper athlete triage

Eye and Head Tracking
Hardware



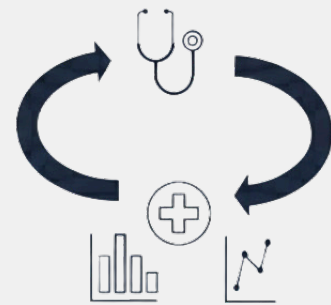
3-minute Assessment

Proprietary Software
Algorithm



Data Analysis

Concussion Diagnosis
and Management



Actionable Results



NATIONAL SCIENCE FOUNDATION ACCELERATING RESEARCH THERAPEUTICS



<https://www.nsf.gov/funding/opportunities/art-accelerating-research-translation>

ABOUT THE PROGRAM

In 2023, the U.S. National Science Foundation launched the first-ever Accelerating Research Translation (ART) investment – awarding more than \$100 million to academic institutions across the nation.

Binghamton University was selected to receive a \$6 million investment from the Technology, Innovation and Partnerships (TIP) Directorate through ART to accelerate the pace and scale of translational research.

The grant was used to launch an initiative called EXCEED (Excellence in Entrepreneurship and Discovery), designed to foster regional innovation and translation through mentorship of Binghamton's tech transfer office. As part of the grant program, the office is mentored by Columbia Technology Ventures-sharing resources, networks and best practices in research translation.

'The SUNY system overall, and Binghamton in particular, is already a strong contributor to New York State's innovation ecosystem. We at Columbia are extremely pleased to help Binghamton bring those contributions to the next level, translating even more innovations from the lab to the market for the benefit of society.'

-Orin Herskowitz, former Executive Director of Columbia Technology Ventures

EXCEED PROGRAM METRICS AND OUTCOMES

EXCEED manages a translational fund to support research in academic labs , below are success metrics from the last 2 cycles

APPLICATIONS

14 Project applications were received across **10** departments

PARTICIPANTS

16 Participants went through the program, including **4** faculty leads, **3** postdocs, and **8** PhD trainees.

SELECTED PROJECTS

8 Projects were selected for funding, representing **6** departments.

ENGAGEMENT METRICS

The EXCEED program placed an emphasis on faculty, administrator, and student engagement holding events across **15** departments, orienting **90** new faculty, and holding **5** guest lectures.

COLUMBIA MENTOR LEAD



Maria Rahmany
maria.rahmany@columbia.edu

