NYC Builds Bio+

SEMINAR SERIES SPONSORED BY TRIUMVIRATE ENVIRONMENTAL

Episode 5: Mount Sinai and Academic Alley

Tuesday, May 31st | 12:00 PM – 1:30 PM

Online Zoom Event (Details to be provided)
HOW IS LIFE SCIENCE DEVELOPING IN THE GREATER NEW YORK MARKET PLACE?
GREATER NEW YORK CITY LIFE SCIENCES

- The greater New York City marketplace has a number of subclusters emerging in Manhattan, flanked by two major live/work/play environments in the northeast and southwest.
  - Long Island City
  - Jersey City
EAST SIDE CORRIDOR

- Mount Sinai (Upper East Side + Midtown West)
- Academic Alley
- Long Island City
- Midtown East
- Hudson Square
- Brooklyn/ Long Island
WEST SIDE CORRIDOR

- Bronx Hutchinson Metro Center
- Columbia Presbyterian
- Manhattanville
- Midtown West
- Hudson Square
- Jersey City
Phase One
Close out and relocation
- Fulfilling lease obligations on front end; site and permit close out
- Laboratory Move and Decommission

Phase Two
Start Up
- Permit applications
- EHS Planning, and SOP writing
- Hazard Assessments
- Training and Compliance Calendar buildout
- DEA License support etc.

Phase Three
Tenant Setup
- PPE Assessments
- Chemical Inventory
- FDNY Walkthrough
- OSHA Logs set up
- Signage and Labeling
- Biosafety Cabinet and Fume Hood Certifications
- Neutralization Tank set up and maintenance

Phase Four
Ongoing Services
- Onsite EHS Support
- SOP Maintenance
- Recordkeeping
- Compliance inspections
- Eyewash and safety shower inspections
- Emergency spill response services
- Waste disposal
Mount Sinai Health System
Center for Artificial Intelligence and Human Health

- $100 million research center focused on three key areas:
  - Center for Genomic Health
  - Multi-scale Disease Modeling
  - Precision Imaging

- 40 Investigators, 250 graduate students, post-docs and staff
Partnered with Georgetown Company at 787 11th Avenue
Life Sciences Key Research Programs

787 11th Avenue
Key Research Programs

Core Labs
- Genomics
- Stem Cell
- CRISPR
- Proteomics
- Drug Discovery Inst.

Neurology + Neuroscience Labs

Cancer Research

Vivarium

Recruitment Labs
Key Clinical Floor Programs

787 11th Avenue
Key Clinical Programs

Imaging Center
- MRI
- Mammography
- Stereotactic
- Ultrasound

Breast Center
- 8 Exam Rooms
- 1 Procedure Room
- 6 Private MD Offices

Spine Center
- Fluoroscopy
- X-Ray
- EOS
- 11 Exam Rooms
- 9 Private MD Offices

Staff Amenities
- Lockers
- Changing Rooms
- Lounge

Conferencing
New York Blood Center
AN INNOVATION PLATFORM

LINDSLEY F. KIMBALL RESEARCH INSTITUTE

One of the world’s preeminent blood research organizations conducting foundational, translational, clinical and wet diligence research

• Cell therapy
• Regenerative medicine
• Benign hematology
• Infectious diseases
• Transfusion medicine

TRANSFUSION MEDICINE + LAB OPERATIONS

• Operates in 17 US states with broad access to screened donors
• Collects >4,000 units daily and distribute 1MM blood products annually
• Provides over 90% of blood supply to NY metro healthcare institutions
• Specialty pharmacy distributing therapies for rare bleeding disorders

COMPREHENSIVE CELL SOLUTIONS

A CDMO pioneering advances in the research, development, and manufacture of cellular therapies

• Producing off-the-shelf solutions & customized cell therapies from preclinical through commercialization
• Leveraging NYBC’s cord blood bank
• Providing unique clinical and regulatory advisory

NYBC

LFKRI

TM+LO

CCS
NOTABLE RESEARCH ACHIEVEMENTS

- Testing and identification of Hepatitis B and Hepatitis C, including Hepatitis B vaccine
- Solvent detergent technology for manufacturing safe plasma products for transfusions
- HIV treatments and participation in first HIV vaccine efficacy trial

*First FDA-approved stem cell product, HEMACORD®, for advanced leukemias*

- Prototypic SARS, MERS, HIV and COVID-19 vaccines
- Immunohematology of Sickle Cell Disease
REAL ESTATE SUPPORTS OUR INNOVATION MISSION

PORTFOLIO HIGHLIGHTS

• 66 assets across the NYBC Enterprise
• 1 million square feet
• Mission-driven uses include:
  • Basic and translational research
  • Cell therapy manufacturing
  • Blood processing and distribution
  • Donor centers
  • Community access and engagement
NEW YORK METRO DEVELOPMENT PROJECTS (I)

527k SF

LONGFELLOW REAL ESTATE PARTNERS
DEVELOPER PARTNER

- State-of-the-art laboratory, incubator, core and community space
- Proximal to UES Life Science Ecosystem
- Union and STEM job creation
- $Bs in short- and long-term economic output
NEW YORK METRO DEVELOPMENT PROJECTS (II)

187k | SF

GEORGE COMFORT | LANDLORD

- Former Avon headquarters
- Contiguous to I-95/I-287
- 187K sf on 18-acre campus
- Co-locates key operating functions
  - Donor center
  - Blood processing
  - Administration
  - Cell manufacturing
  - Research swing space

5k | SF

- State-of-the-art donor center
- Ideally located with access to diverse donor population
- Includes cell therapy collections
- Launches new NYBC corporate branding and identity
CENTER EAST LIFE SCIENCE HUB VISION

New York Blood Center has partnered with Longfellow to develop Center East, a new research center that will serve as the heart of NYC’s research institutions.

Center East will be the catalyst for a new biotech and life sciences ecosystem

Centrally located at the center of NYC’s premier institutions

Anchored by NYBC as the building’s primary occupant

Space for startups, graduate companies and mature biotechs

Hub for growth, mentorship, collaboration and community

Programming to bring together NYBC with life science partners

Mission: help keep life science entrepreneurs in NYC while furthering life saving research, drug commercialization and building a better life science community
City Council Approves Blood Center Rezoning

Tuesday, November 23, 2021

Vote supports a critical NYC project that provides the blood supply for our safety net hospitals, delivers good-paying jobs necessary for an equitable recovery, and research that supports underserved New Yorkers.

Supermajority of the City Council joins citywide grassroots coalition to support the proposal that will enhance the Blood Center’s lifesaving work.
THANK YOU

⚠️ New York Blood Center

JAY MOHR
Executive Vice President, Chief Financial & Business Officer
New York Blood Center
Hospital for Special Surgery
Hospital for Special Surgery is the world’s leading medical center focused on musculoskeletal health. Ranked No. 1 in orthopedics for 12 years in a row by *US News & World Report*

- HSS Perform Launched in 2021, offering a one stop shop for musculoskeletal needs
- Locations in Manhattan, Brooklyn, Queens, Long Island, Westchester, New Jersey, Connecticut and Florida
- Main Campus is in the heart of Academic Alley at 535 East 70th Street
- Plans to expand include the Anna-Maria and Stephen Kellen Tower. 94,000 sq ft, 12-story tower rising over the FDR Drive, adding inpatient units and recovery floors
  - Supported by $130 million in philanthropic donations
Weill Cornell Medicine Enterprise Innovation
An Introduction to WCM Enterprise Innovation

Lisa Placanica, PhD., CLP
Senior Managing Director, CTL@WCM

Jahan Ali, PhD
Director, BioVenture eLabs

NYC Builds Bio+
May 31, 2022
Weill Cornell Medicine Enterprise Innovation
What: The Mission

Accelerating the best of biomedical innovation to market & translating groundbreaking research into revolutionary care through collaboration
Weill Cornell Medicine Enterprise Innovation
Why: Impacting Care; Delivering Discover; Broadening Teach

Care.
Exceptional patient care is the heart and soul of our mission
Medicine is constantly changing, but Weill Cornell Medicine’s compassionate, superior patient care is constant.

Discover.
Translating breakthroughs and revolutionizing care
Research by faculty and graduate students at Weill Cornell Medicine is collaborative, groundbreaking and always patient-focused.

Teach.
Best of the Best
Weill Cornell Medicine is among the nation’s top-ranked medical and graduate schools, striving for excellence in its education of the world’s future healthcare leaders.

Successful realization of efforts to “Deliver on Discover” can positively impact Care @ WCM and beyond

Identifying, nurturing, and partnering groundbreaking discoveries to enable dissemination for public benefit

Providing education and mentorship re innovation and entrepreneurship to faculty and trainees
Weill Cornell Medicine Enterprise Innovation
How: Mission-directed processes, activities, and strategies

**Plant:** Fostering an innovative and entrepreneurial culture through programming, education, and faculty/trainee engagement

**Cultivate:** Sourcing, screening, and advancing new innovations through application of technical expertise, timely and formal disclosure assessment and provision of development funding opportunities

**Protect:** Building a robust, commercially relevant intellectual property portfolio through rigorous management of portfolio investments

**Connect:** Securing collaborations with industry leaders to advance commercial development of portfolio through deployment of active and integrated business development strategies, negotiation and execution of fair and mutually beneficial agreements with industry and inventors, and expansion and strengthening of external networks

**Collaborate:** Ensuring products make it to market and maximizing financial return through application of consistent post-execution compliance oversight and alliance management support of partnered programs
Weill Cornell Medicine Enterprise Innovation
Who: Collaborative teams supporting the innovation life cycle

- **Nurture, protect, and commercialize** innovative life sciences technologies developed by WCM faculty and students.
- Further strengthen WCM’s research enterprise through dedicated research collaborations and alliances with external partners.
- Foster a robust entrepreneurial ecosystem at WCM by providing life sciences entrepreneurship training and resources.
- Accelerate early-stage translational research projects by funding generation of critical data needed to catalyze external investment.
- Empower Tri-I community to translate research discoveries from bench to bedside through dedicated preclinical development resources.
Tri-I TDI/Bridge Medicines
A Multi-Institution Drug Development Engine
## Tri-I TDI Scope of Support
**Developing biotech-grade lead candidates**

### Small Molecule Team
- **Medicinal Chemistry**
  Optimization of chemical matter via design and synthesis of small molecules

- **In vitro & in vivo ADME Profiling**
  Permeability, metabolic stability, solubility, pharmacokinetics, toxicity

- **Computational Modeling**
  Docking models, structural analysis, virtual screening, compound design

- **Crystallography**
  Protein production and crystallography

### Antibody Team
- **Antibody Generation**
  Mouse immunizations (regular & AlivaMab transgenic), proprietary phage library

- **Protein & Cell Line Production**
  Recombinant protein expression, stable cell line generation, antibody production

- **Assay Development & Screening**
  Biochemical or cell-based assay development, high throughput screening

- **Antibody Engineering & Bioanalytics**
  Antibody humanization, formatting, manufacturability assessment

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**Projects are structured as a collaborative effort:**
- PI's lab executes disease-relevant assays and animal models that fall within their capabilities
- TDI supports efforts that are required but are not within the PI's lab capabilities/expertise
Weill Cornell Medicine: Research Overview

Research Funding FY2020 – 2021*

- **$219M** NIH funding
- **$42M** Private foundation grants
- **$23M** Clinical trials
- **$52.5M** Other government agencies
- **$22.5M** Industry contracts

Total = $360M

Faculty Memberships*

- **44** America Society for Clinical Investigation
- **12** National Academy of Medicine
- **4** National Academy of Science
- **1** Howard Hughes Medical Institute
- **1** Nobel Laureate

Highlights 2019 – 2020*

- **1,017** National institutes of Health awards
- **6** new start-up companies
- **396** active U.S. patents
- **848** active clinical trials
- **3,317** published peer-reviewed journal articles
- **505,000+** square feet research space

* Does not include affiliates.
Weill Cornell Medicine: We’re Changing Medicine
A $1.5B transformational campaign to shape the future of medicine to care for the whole patient their whole life

Disease Priority Areas
WCM is actively expanding institutional capabilities in computational research, starting with a renewed focus on precision medicine and AI through Systems & Computational Biomedicine and the establishment of a Biomedical Informatics clinical department.
Based on analysis of available WCM patent portfolio in May 2022. N = 334 Available Technologies
Select Startups Launched with WCM Technology
Select Startups Launched with WCM Technology
Staying in the greater NYC area and contributing to the ecosystem…

- LEXEO therapeutics
- aufbau medical innovations
- AKELOS™
- IpiNovyx
- C2i Genomics
- Acuamark DX
- ONE THREE BIOTECH
- Bionic Sight
- XyloCor Therapeutics
- Fesarius Therapeutics
- Weill Cornell Medicine
WCM Enterprise Innovation: Working Together

Translating Breakthroughs * Revolutionizing Care * Mentoring Healthcare Innovators
The Bioventure Entrepreneurship Lab

Jahan Ali, PhD
Director, BioVenture Entrepreneurship Lab
Our mission is to foster a robust entrepreneurial ecosystem at WCM by providing life sciences entrepreneurship training, expertise and resources.
Early-Stage Entrepreneurial Journey

IDEA

MANAGEMENT

STARTUP BASICS

CUSTOMER DISCOVERY

MARKET RESEARCH

FUNDING

EXPERTISE

INVESTIBLE COMPANIES
## Venture Catalysts

### Programming
- Accelerating BioVenture Innovation Course – 12-week intensive course on biomedical entrepreneurship
- Annual $100K Biomedical Business Plan Challenge
- I-Corp Customer Discovery
- Strategic Investor Networking and Partnering Sessions
- Dedicated SBIR/STTR tutorials
- Startup Symposia
- How to write a business plan
- Various intercampus initiatives
- Regular series of guest speakers and workshops

### Expertise and Resources
- Dedicated cadre of Entrepreneurs-in-Residence (EIRs)
- Seasoned Venture and industry mentors w/ deep domain expertise
- Investor pitch coaching – “The Art of the Pitch”
- Specialized startup services
- Engineering and prototyping workshops, 3D printing lab
- Regulatory affairs
- How to work with CROs
- Access to operational talent pool
- Unique access to the principals of leading venture capital groups
- Specialized Med-tech and device expertise
Accelerating Bioventure Innovation

ABI builds teams around patented technologies to develop business plans

- **12-Weeks** covering different business plan topics
- Patents and invention disclosures assigned to a multidisciplinary team
- Each team is matched with 2-3 industry mentors
- **Ecosystem building:** Last year 400+ combined registrants
- **Over 40 participants in pre-class information session**

Winning teams on Final Pitch Night

Final Pitch Night: Uris Auditorium

[Logos of Weill Cornell Medicine and Memorial Sloan Kettering Cancer Center]
InvestConnect - Curating a Robust Pipeline of WCM NewCos

Startup Symposium + InvestConnect
- 200 attendees
- 23 Faculty/Entrepreneur Teams
- 26 Top-Tier Investment Firms
- 52 One-on-One Investor/Faculty Meetings
- Numerous follow-up meeting requests

*Inaugural Resnick Prize Winner: Wave.AI*

Keynote Speaker
Dr. Stanley Lapidus, founder Exact Biosciences
## Programming + Expertise Work Together: From EIR to CEO

<table>
<thead>
<tr>
<th>Company</th>
<th>Faculty founder</th>
<th>EIR</th>
<th>Talent pool: identifying CEO</th>
<th>SBIR</th>
<th>Programs</th>
<th>Other value adds</th>
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<tr>
<td>Adiutrix Therapeutics</td>
<td>Randi Silver</td>
<td>Ron Lennox</td>
<td>Yes</td>
<td>No</td>
<td>Business Plan Challenge; InvestConnect; SBIR workshop</td>
<td>Investor intros Schrodinger</td>
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<tr>
<td>Chimerna Therapeutics</td>
<td>Sami Jaffrey</td>
<td>Loren Busby</td>
<td>no</td>
<td>Yes</td>
<td>CEO Peer; InvestConnect</td>
<td>Lab space; pitch coaching Capstone</td>
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<td>STORK.ai</td>
<td>Olivier Elemento</td>
<td>Loren Busby</td>
<td>ongoing</td>
<td>No</td>
<td>ABI; Business Plan Challenge</td>
<td>Incorporation; CEO</td>
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<td>CULNEXIN Therapeutics</td>
<td>Pengbo Zhou</td>
<td>Suman Lal</td>
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<td>ABI; SBIR workshop</td>
<td>CEO search</td>
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<td>Iris</td>
<td>Jyoti Pathak, Alison Hermann</td>
<td>Michael Laskoff</td>
<td>ongoing</td>
<td>Yes</td>
<td>Business Plan Challenge; I-Corp; SBIR workshop</td>
<td>Business model</td>
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</table>
Women Founders Initiative: Goals

- Raise profile of women in C-level roles and women scientific innovators
  - Podcasts and
- 12 monthly workshops on developing leadership skills to lead an entrepreneurial venture
- Website resources for women entrepreneurs
- Fund women-led or founded companies
  - $50K competition winner

Advisors:
- Jennifer Friel Goldstein, Silicon Valley Bank
- Monica Tocchi, Meditrial
- Sapna Daly, board member, Nuvalent, Inc., Talaris, Inc.

Amplifyher Competition Judges
Howard Morgan, PhD ‘68, Chairman, B Capital Group
Scott Nolan, Cornell ‘03, MEng ‘04, Partner, Founders Fund
Beckie Robertson, Cornell ‘82, Managing Director, Versant Ventures
Meghan Cross Breeden and Tricia Black, Partners, Amplifyher Ventures
MedTech Initiative: Expertise

- Connecting Engineering to Clinicians
- 3D models from idea to a full model
- 3D printing services
- Guide the teams with manufacturing options (injection molding, machining etc.)
Partnering to Provide Resources to Startups

Capstone projects enable experienced student teams to conduct projects for our startups

Each Year select companies work with business student teams to do projects related to:
• Market Research
• Figuring out the best indication
• Financial & Strategic Analysis
• Reimbursement
• Partnerships
Expertise: Entrepreneur in Residence

Suman Lal, MD, PhD
*Founder & CEO Deck Therapeutics*

**Serial Entrepreneur**
- Deck Therapeutics
- Solvuu
- Cardiatrics

Michael Aberman, MD
*Senior Biotech Executive*

An executive who has founded, led and scaled life science companies
- Quentis Therapeutics
- Excision Bio-Therapeutics
- Immunai
- Regeneron

Yaron David, MS
*Medical Device Expert*

An experienced executive with a track record of bringing medical devices to market cost effectively
- Medinol
- Valve Medical
- Microtech

Loren A. Busby, CFA
*Entrepreneur-in-Residence*

20+yr VC professional. Fund affiliations/experience includes:
- NGN Capital LLC, Princeton University Investment Co., Walden Capital Partners
- Venture Economics/Thomson Financial
- CFO / Operator for numerous NYC startups
- CFA Institute New York
Metrics

• 12 companies have applied for SBIR/STTR
• $331MM raised by companies that have participated in ABI, BPC or SBIR workshops*
• Helping launch 8-11 companies / year
• >2,000 people attend our events each year
• We refer companies to EFL, IndieBio, Cornell Tech, Y combinator and other accelerators
Companies We are Helping Catalyze

- DS
- STORK.ai
- GOLDILOCKS Therapeutics, Inc.
- OneThree Biotech
- C²i
- CULNEXIN THERAPEUTICS
- IRIS
- Aeton
- aufbau holdings
- Astoria
- Pelex, Inc.
- OPENCELL AI
- MyophonX
- Beat therapeutics
- Ossis
- Adiutrix Therapeutics
- Elasticure
- Fesarius Therapeutics
- ARMA
- Chimerna THERAPEUTICS
- Weill Cornell Medicine BioVenture eLab
- secret agent society
- ZelamBio
- LipidSense
Wide Network For Startup Businesses

Investors
- Deerfield
- Red Bear Angels
- Digitalis
- NEA
- Versant Ventures
- Canaan

Industry
- Pfizer
- BlueRock Therapeutics
- Merck
- Lilly
- Clarify Health Solutions
- Abbvie
- New York Bio

Service Providers
- HPA Inc
- Perkins Coie
- CBRE
- Almac
- Cooley
- QbD Vision
- Insperity
- Sartorius
- StrataCure

And Cornell Alumni!
Typical Lab View

Wire Mesh 2x2 Ceiling Panels

Rectangular Linear Pendant  Cellular Linear Pendant
Light Fixture Options
Memorial Sloan Kettering Cancer Center

- World renowned cancer research, education and care center
- Expanding its footprint to meet projects by the Centers for Disease Control that cancer cases will rise by nearly 50% in the U.S. by 2050
- Recently announced 31 story pavilion will house 200 beds, 28 operating and procedure suites as well as “advanced technology” like robotics and digital infrastructure
- The Tower will be connected via a bridge to MSK’s main hospital building at 1275 York Avenue. Expected to be completed by 2030
• MSK’s most recent expansion was the David H. Koch Center for Cancer Care, a 25-story facility facing the East River between 73rd and 74th Streets.

• Completed in 2020.
Register for NYC Builds Bio+

SEMINAR SERIES SPONSORED BY TRIUMVIRATE ENVIRONMENTAL

Register Now

Episode 6: Gateways to the East: Brooklyn and Long Island
Tuesday, June 28, 2022
SAVE THE DATE

- June 21, 2022, Commercial Observer Life Science Forum: The Ultimate Catalyst, Rapid Proliferation of Life Science Cities

- July 19th: NYC Builds Bio+ Tour and Reception at Manhattan Factory District Sponsored by Safety Partners

- July 26th: NYC Builds Bio+ Seminar Series Sponsored by Triumvirate Environmental
  - Gateways to the North: The Bronx and Westchester

- August 11th: NYC Builds Bio+ Tour and Reception at CUNY Advanced Science Center
SAVE THE DATE

- September 13, 2022: PHILLY BUILDS BIO+ Inaugural Life Sciences Real Estate Symposium, The Union League of Philadelphia
- November 1, 2022: NYC BUILDS BIO+ Life Sciences Real Estate Symposium, Times Center