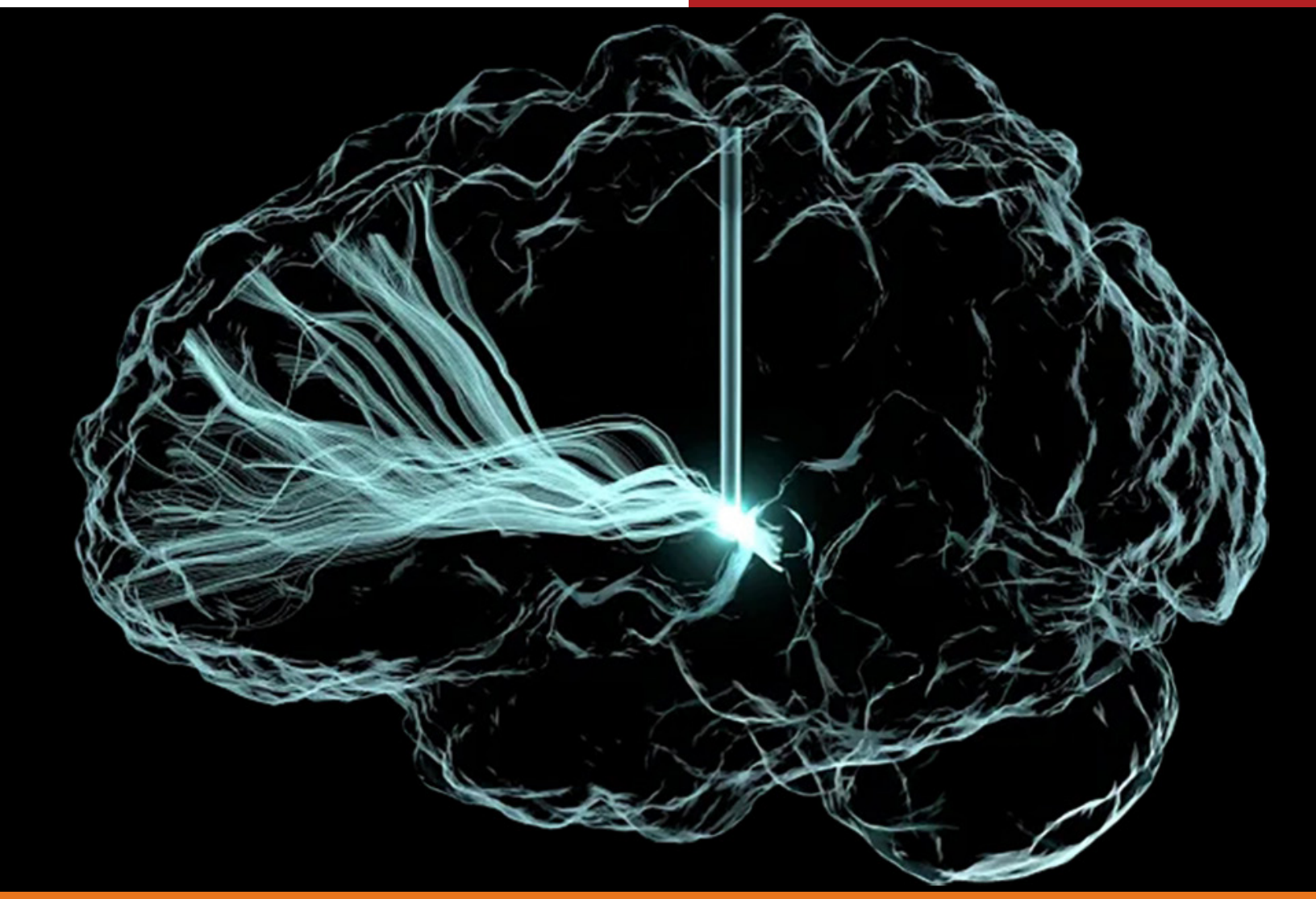
Weill Cornell Medicine

Enterprise Innovation



Annual Report Fiscal Year 2024

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Cover Image: Light-based rendering of deep brain stimulation's electrical excitation of neuronal fiber pathways to treat patients with traumatic brain injury. Dr. Nicholas Schiff, the Jerold B. Katz Professor of Neurology and Neuroscience in the Feil Family Brain and Mind Research Institute at Weill Cornell Medicine, is one of the lead investigators of this study. Learn more about Dr. Schiff's work on page 7.

Image Courtesy of Andrew Janson, Butson Lab

Message from Leadership

We are happy to share with you our FY2024 annual report.

Enterprise Innovation remains committed to its mission of bridging academia and industry and translating scientific discoveries into revolutionary patient care through collaboration. We continue to engage Weill Cornell Medicine investigators with our outreach, education programs and support throughout their journey to transform the institution's research into tangible impact. Learn more in our report on how we are harnessing the full Cornell University innovation ecosystem to support our mission. This past year, Weill Cornell Medicine innovators joined forces with faculty and students from the Meinig School of Biomedical Engineering and Cornell Tech through our entrepreneurial programming to turn their medical devices and software ideas into testable prototypes. Enterprise Innovation business development professionals were awarded a President's Council of Cornell Women Mission Grant to create a pilot program for early-stage women's health device commercial assessment.

One important ingredient in making the New York City metro area a biomedical innovation corridor is growing local talents. Enterprise Innovation collaborated with the city's economic development agencies and charitable foundations to offer undergraduate students from underrepresented communities an opportunity to discover careers in medicine and biomedical technology. We also gave undergraduate and IP law interns hands-on experience in technology transfer and IP protection.

We hope you will find the metrics and stories in this report inspiring. Enterprise Innovation is accelerating our impact, and we look forward to sharing more successes in the years to come.

John P. Leonard, M.D.

Senior Associate Dean for Innovation and Initiatives

Lisa Placanica, Ph.D., CLP

Senior Managing Director Center for Technology Licensing at Weill Cornell Medicine

Enterprise Innovation FY2024
By the Numbers

Plant

207
New Faculty Engaged

2791
Total Attendees

104
Educational and Networking Events

1477
Weill Cornell Medicine Attendees

Cultivate

15
Daedalus Fund for Innovation
Full Proposal Submissions

101
New Disclosures Received

4
Proposals Awarded Daedalus Funding

1
New TDI Project

Protect

42
Newly Issued US Patent

102
Post-Filing Decisions

Connect

28
Licenses/Options

2
NewCos Launched

3
Research Agreements

1234
Business Development Interactions

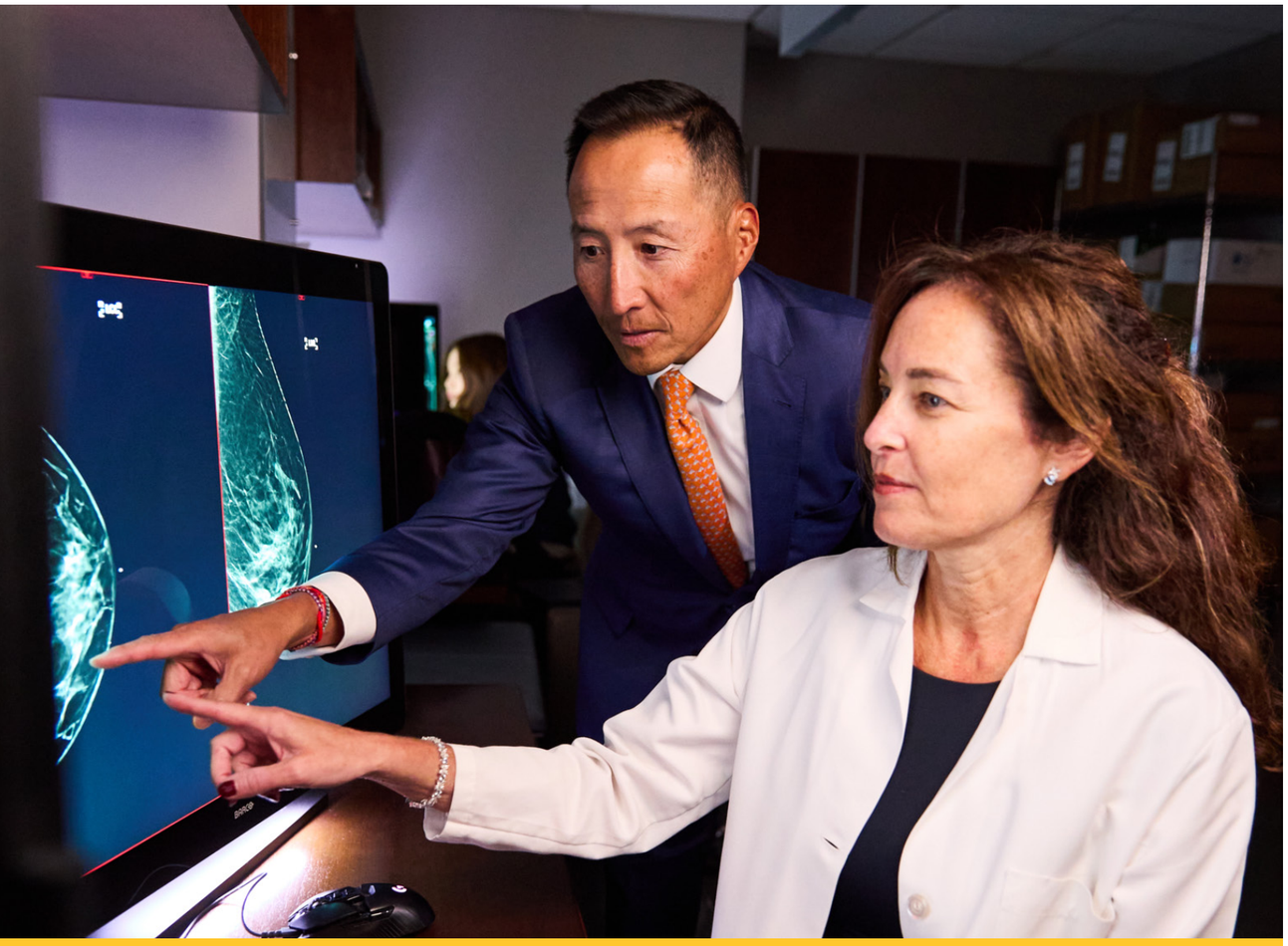
Collaborate

82
Products on the Market

$9M
Gross Revenue*

Gross revenue includes all license income plus patent expense reimbursement and material transfer fees recieved.

Translational Research with Commercialization Potential



(Therapeutics) Dr. Olivier Elemento, director of the Englander Institute for Precision Medicine and a professor of physiology and biophysics, was awarded a two-year, $200,000 philanthropic gift by Medical Excellence Foundation (MEF) to support his research project entitled “Tumor Takedown: Innovative Precision Strategies for Immune Response Amplification.” Dr. Elemento and his team aim to advance innovative therapeutic strategies for cancer patients who have developed resistance to current immune-targeted therapies.

Dr. Elemento’s project was among several showcased to MEF as Enterprise Innovation’s effort to connect Weill Cornell Medicine inventors and innovators with funding opportunities to de-risk their research and accelerate the translation of scientific discoveries into medical products and services that can benefit patients.

(Medical Device) Dr. Nicholas Schiff, the Jerold B. Katz Professor of Neurology and Neuroscience in the Feil Family Brain and Mind Research Institute, published his phase 1, randomized feasibility study for his deep brain stimulation (DBS) technology for treatment of traumatic brain injury in Nature Medicine. By stimulating the central thalamus region in the brain, the investigators were able to recover executive cognitive functions in patients and improve their quality of life even when the brain injury happened a long time ago. Dr. Schiff and his team plan a phase 2 clinical trial to optimize the treatment, to confirm its safety and efficacy and to better understand the type of patient that is best suited for it. A larger and more conclusive phase 3 study would follow.

Dr. Schiff's team, coached by the Center for Technology Licensing at Weill Cornell Medicine, participated in the Cornell University Eclectic Convergence pitch competition. Enterprise Innovation is actively working with Dr. Schiff to secure investment to launch a NewCo based on this foundational IP.

(Diagnostics) Dr. Dan Landau, the Bibliowicz Family Professor of Medicine at Weill Cornell Medicine and Dr. Adam Widman, breast cancer oncologist at Memorial Sloan Kettering Cancer Center (MSK), published their work on AI-powered, ultrasensitive liquid biopsy for detecting tumor DNA in Nature Medicine. The technology has demonstrated its accuracy in blood of patients with lung cancer, melanoma, breast cancer, colorectal cancer and precancerous colorectal polyps. CTL is in active due diligence with several commercial partners to license this technology.

(Platform) Dr. Steven Josefowicz, associate professor of pathology and laboratory medicine, published in Cell his finding that severe COVID-19 infection triggers changes that affect gene expression in immune system stem cells, causing long-lasting alterations in the body's immune response. His team developed a novel technique to isolate, enrich and analyze rare stem cells found in human blood called CD34+ hematopoietic stem and progenitor cells (HSPCs). The goal is to use the platform to build an atlas of stem cells for insights into disease mechanisms and to develop therapeutics that reprogram these HSPCs.

Dr. Josefowicz won second place and $20,000 in 2023 at the Biomedical Business Plan Challenge's final pitch competition. He and teammates are working towards launching startup Epistemyx based on the technology with support from Enterprise Innovation.

(Research Tool) Dr. Li Gan, director of the Helen and Robert Appel Alzheimer's Disease Research Institute and the Burton P. and Judith B. Resnick Distinguished Professor in Neurodegenerative Diseases in the Feil Family Brain and Mind Research Institute, and her team developed an innovative human neuron model that can robustly simulate the spread of tau protein aggregates in the brain. This model has the potential to significantly aid research into tauopathies and identification of novel therapeutic targets for Alzheimer's disease.

Published in Cell, Dr. Gan's new research tool is in high demand. CTL is actively working on ways to make it available to academic and commercial parties.

Cultivating Innovations

Enterprise Innovation proactively seeks collaboration opportunities and diligently markets our robust pipeline of therapeutics and products to accelerate the commercialization of Weill Cornell innovations.

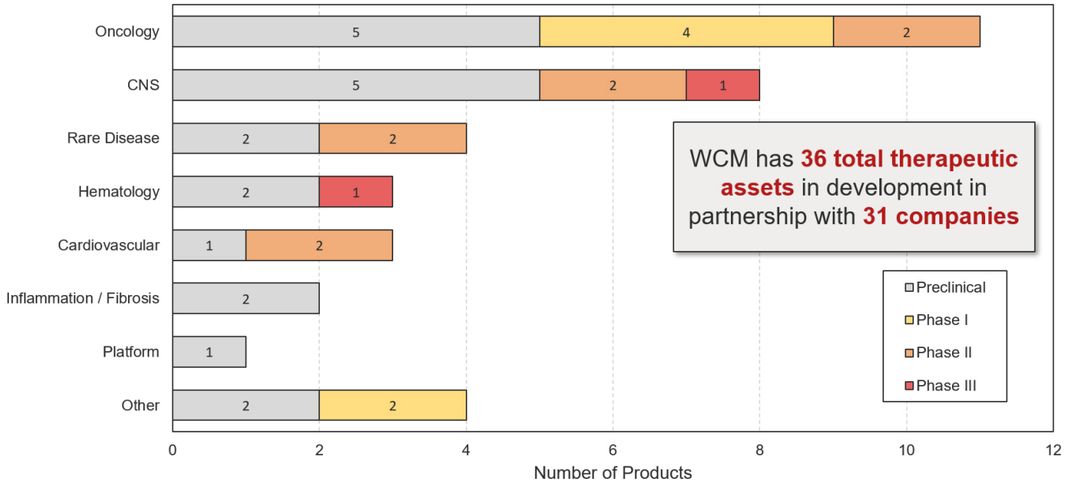
Over the past year, Enterprise Innovation:

- Engaged with **924** unique commercial entities in our outreach efforts
- Initiated **28** license/option negotiations
- Marketed **226** technologies through multiple platforms with **26** targeted commercial outreach campaigns.

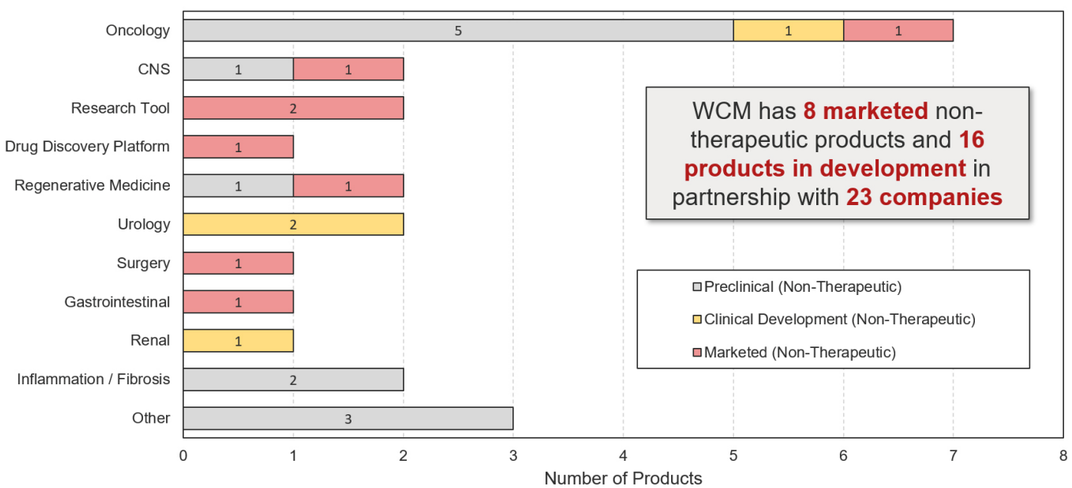
We also showcased our innovations at major partnering conferences.

BIO International Convention		J.P. Morgan Healthcare Conference	
81	Meetings Facilitated	**12**	Meetings Facilitated
64	Technologies Marketed	**74**	Technologies Marketed

WCM Partnered Pipeline: Therapeutics



WCM Partnered Pipeline: Non-Therapeutics



Enterprise Innovation, the Center for Technology Licensing (CTL) and the Center for Life Science Venture at Cornell University hosted an exclusive networking dinner for entrepreneurs, executives and investors, at the 2024 J.P. Morgan Health Care Conference in San Francisco, where four recent startups were presented including Adiutrix Therapeutics, co-founded by Dr. Randi Silver, associate dean of Weill Cornell Graduate School of Medical Sciences. Dr. Lisa Placanica, senior managing director of CTL at Weill Cornell Medicine, also met with alumni and scheduled one-on-one meetings with pharmaceutical companies and top-tier venture capital funds.

Enterprise Innovation continues to engage with colleagues and investors at prestigious business development and partnering conferences for biotech.

In September 2023, business development and licensing associate Iris Bica was invited to present at the sixth annual C&D Fair hosted by the Korea Drug Development Fund. Enterprise Innovation had the opportunity to showcase 10 assets from Weill Cornell Medicine's technology portfolios and meet with many collaborative Korean biotech and pharmaceutical companies expanding our network of potential partners.

Cultivating Innovations

Dr. Lisa Placanica also moderated a panel “Growing Regional Innovation Ecosystems” at the 2023 AUTM Eastern Region Meeting. The panelists, which included Dr. Kyle Kaniecki, vice president of life sciences and healthcare, New York City Economic Development Corporation (NYCEDC), and Tom Schryver, executive director of the Center for Regional Economic Advancement (CREA) at Cornell University, explored ways to build regional innovation ecosystems and to accelerate the development of New York City as a biomedical hub, which will bolster the local economy. They recommended collaboration among various stakeholders, public and private partnerships, anchoring on the unique strength of regional institutions, and growing local talents and entrepreneurs as the keys.

To further the discussion, Enterprise Innovation joined technology transfer leaders from 14 other universities at a roundtable convened by NYCEDC in spring 2024 that emphasized collaboration in metro areas to ensure startups have access to funding, infrastructure, equipment and talent they need to succeed.

Dr. Jeff James, associate director of business development and licensing, participated in the AUTM annual meeting for university technology managers in February 2024 in San Diego. He connected with about 15 industry partners and venture capitalists, including Archimedic, Mitsubishi Tenable, Autobahn Labs, Fortress Investment Group and 1870 Ventures. Dr. James presented Weill Cornell Medicine technologies and capabilities to companies for review, and initiated partnering discussions with those companies engaged at AUTM.

Mina Zion, associate director for innovation and commercialization, Weill Cornell Medicine – Qatar, chaired the keynote panel on biotech partnering at the RNA Leaders Europe Congress in March 2024 in Basel, Switzerland. Three RNA delivery technologies and one RNA therapeutic asset were marketed at the conference. Zion and Weill Cornell investigators held more than 20 meetings with investors and pharmaceutical companies such as Alnylam, Janssen, Roche, Novo Nordisk and Ginkgo Bioworks. Enterprise Innovation’s participation presented the institution as a global leader in advancing RNA research, delivery platforms and potential therapies that directly address unmet patient needs.

Launching NewCos

Nurturing and launching new ventures is a key component of Enterprise Innovation's business development strategies.

Astoria Biologica, Inc.

Dr. Tim Vartanian, professor of neuroscience in the Feil Family Brain and Mind Research Institute at Weill Cornell Medicine, studies the causes of multiple sclerosis (MS). Gut dysbiosis is common in MS, but specific causative species are unknown. Dr. Vartanian and his team used sensitive and quantitative PCR detection to show that people with MS were more likely to harbor and show a greater abundance of epsilon toxin-producing (ETX-producing) strains of C. perfringens within their gut microbiomes compared with individuals who are healthy, and that mouse models colonized with ETX-producing C. perfingens developed MS-like disease. Based on these findings, his laboratory then developed a novel antibody that would block the effects of ETX in mouse models of MS. This foundational IP led to the launch of Astoria Biologica, a Weill Cornell Medicine spinout developing novel therapeutics and diagnostics for MS. Astoria Biologica has successfully raised seed funding from Curie.Bio, a venture capital firm focused on building and launching therapeutic companies.

In addition to supporting intellectual property strategies and licensing of the foundational IP, Astoria Biologica also benefited from Enterprise Innovation entrepreneurial resources. Dr. Rick Rudick, company co-founder, CEO and president, participated in the BioVenure eLab 2022 Biomedical Business Plan Challenge program to prepare for the launch and fundraising.

> We are thrilled to partner with Weill Cornell Medicine innovators in their commercialization and entrepreneurial journeys. The licensing of a Weill Cornell technology to an existing company or spinning out a startup based on an invention/ innovation is an important milestone in translating research into tangible impact.
>
> - Dr. Lisa Placanica

As of FY2024, we have 47 active startups that raised $2.13 billion in equity investment cumulatively. We welcomed two NewCos to the Weill Cornell new venture family in the past fiscal year.

Sacyl Pharmaceuticals

Dr. Jochen Buck and Dr. Lonny Levin, professors of pharmacology, published a study on Feb. 14, 2023 in Nature Communications demonstrating that a single dose of a drug candidate that inhibits an enzyme called soluble adenylyl cyclase (sAC) immobilizes sperm for up to two and a half hours and prevents pregnancy in mice. Fertility returns to normal after 24 hours. Drs. Buck and Levin hope to develop a novel, reversible on-demand contraception for men based on their finding.

This discovery is a culmination of nearly two decades of research done by both PIs to identify sAC targeting small molecules. Dr. Brian Kelly, director of business development and licensing of CTL at Weill Cornell Medicine, has been supporting them during their entire journey from ideation to proof-of-concept studies by providing them with intellectual property protection and commercialization strategy guidance and connection to the Sanders Tri-Institutional Therapeutic Discovery Institute (Tri-I TDI).

To bring this scientific breakthrough to the marketplace, Dr. Buck and Dr. Levin co-founded a startup, Sacyl Pharmaceuticals, Inc. (SACYL), with Dr. Peter Meinke, the Sanders Director at the Sanders Tri-Institutional Therapeutics Discovery Institute, which contributed to the development of the proprietary sAC inhibitor. Enterprise Innovation licensed the foundational technology to SACYL which will be moving the novel compounds toward clinical validation.

Weill Cornell Startup News

Veracyte, Inc., a global diagnostics company, announced its acquisition of C2i Genomics in January 2024. C2i Genomics combined cutting-edge genomics and sophisticated AI to provide the world's first whole-genome cancer intelligence platform, founded by Dr. Dan Landau, the Bibliowicz Family Professor of Medicine. Veracyte hopes to expand its ability to serve patients across the cancer care continuum with this acquisition. It acquired C2i Genomics for $70 million and will pay up to an additional $25 million, payable in Veracyte shares or cash, based on the achievement of future performance milestones over the next two years. C2i Genomics achieved this successful exit four years after its launch.

Convergent Therapeutics Inc is a clinical-stage biotechnology company co-founded by Dr. Neil Bander, professor emeritus of urology, that is focused on developing next-generation radiopharmaceutical therapies for prostate and other cancers.

In April 2024, Convergent Therapeutics announced U.S. Food and Drug Administration clearance of IND application for CONV01-α, a best-in-class radioantibody targeting prostate-specific membrane antigen.

LEXEO Therapeutics (LEXEO), a clinical-stage biotechnology company founded by Dr. Ronald Crystal, the Bruce Webster Professor of Internal Medicine and chair of genetic medicine, on exclusive licenses of his gene therapy technologies, secured a strategic investment from Sarepta Therapeutics to fuel the advancement of its innovative adeno-associated virus (AAV) genetherapy programs.

It also announced an initial public offering (IPO) in November 2023 aiming to raise $100 million to fund the development of its FA cardiomyopathy and Alzheimer's candidates.

Additionally, the U.S. Food and Drug Administration has cleared LEXEO's Investigational New Drug (IND) application for LX2020, an AAVrh10-based gene therapy candidate targeting Arrhythmogenic Cardiomyopathy, and granted Fast Track designation to LX2006, the company's AAVrh.10hFXN-based gene therapy candidate for the treatment of Friedreich's ataxia (FA) cardiomyopathy in 2024. LEXEO completed the first dose cohort and started dosing the second cohort in the SUNRISE-FA clinical trial of LX2006 for FA cardiomyopathy in June 2023.

As LEXEO continues progress to bring products based on Weill Cornell technologies to market, Enterprise Innovation collaborates with them and licenses addition improvements to those technologies.

In 2023, **Lumendi**, which develops devices that enable less invasive endoluminal procedures in the GI tract (primarily in the colon), successfully completed customer evaluations of DiLumen EZ[1], an FDA-cleared endotherapy device for procedures like endoscopic mucosal resections (EMR) and difficult colonoscopies. DiLumen C[1], a next-generation device designed to facilitate complex polyp procedures in the colon and rectum, also received FDA 510(k) clearance and would undergo the evaluation phase.

Ratio Therapeutics Inc., a pharmaceutical company specializing in the development of targeted radiotherapeutics for the treatment of cancer, has started dosing in a Phase I study for a novel fibroblast activation protein-alpha (FAP)-targeted radiopharmaceutical in healthy volunteers, in collaboration with Lantheus and PharmaLogic.

In January 2024, Ratio announced the close of its $50 million Series B financing to advance targeted radiotherapies for cancer treatment, bringing the total raised to date to over $90 million. The Center for Technology Licensing (CTL) at Cornell University participated in this latest round of funding.

In August 2023, Stealth BioTherapeutics was awarded a research grant from The Michael J. Fox Foundation for Parkinson's Research to support the development of its mitochondria-targeted molecule SBT-272 for Parkinson's Disease.

In addition, Stealth BioTherapeutics' New Drug Application (NDA) for the treatment of Barth Syndrome, an ultra-rare, progressive, life-shortening, cardioskeletal disease, receives priority review designation from the U.S. Food and Drug Administration in May 2024.

XyloCor Therapeutics reported positive 12-month data from Phase II of the EXACT clinical trial. Gene therapy candidate XC001 shows durable improvements in refractory angina patients, pointing to its potential as a therapeutic approach. XyloCor, co-founded by Dr. Crystal, focuses on the development of novel gene therapies for patients with cardiovascular disease.

Innovators Recognition

Congratulations to 36 Lead Principal Investigators Whose Technologies Were Issued U.S. Patents in FY24.

Lead PI	Patented Technology
Neil Bander	Methods and Reagents for Tumor Targeting with Greater Efficacy and Less Toxicity
Francis Barany	Monomers Capable of Dimerizing in an Aqueous Solution, and Methods of Using Same
Sarah Bettigole (former postdoc)	IRE1 Small Molecule Inhibitors
Scott Blanchard (former faculty)	Methods for Quantifying Ligand Efficacy in G-Protein Coupled Receptors using Single-Molecule Fluorescence Energy Transfer
Lewis Cantley (former faculty)	Targeting Chromosomal Instability and Downstream Cytosolic DNA Signaling for Cancer Treatment
John Fredrick Cornhill (former faculty)	Manually-Operated Negative Pressure Wound Therapy (NPWT) Bandage With Improved Pump Efficiency, Automatic Pressure Indicator and Automatic Pressure Limiter
Ronald Crystal	Genetic Modification of the AAV Capsid Resulting in Altered Tropism and Enhanced Vector Delivery
Anthony Sauve (deceased)	Syntheses, Activities and Methods of Use of Dihydronicotinamide Riboside Derivatives
Simon Dunham	Conformal, non-Occluding Sensor Array for Cardiac Mapping and Ablation Acoustic Transponders for Wireless Pressure Monitoring Using Flexible Acoustic Resonators
Olivier Elemento	Computational Systems and Methods for Improving the Accuracy of Drug Toxicity Predictions
Roger Hartl	Bioabsorbable Implant Combined with Tissue-engineered Composite Intervertebral Disc Device and System for Repairing Intervertebral Disc herniation and Methods of Use
Timothy Hla (former faculty)	Pyridinone- and Pyridazinone-Based Compounds and Medical Uses Thereof
Xin-Yun Huang	Co-Therapies including a Metastasis Inhibitor
Romulo Hurtado	Optical Clearing and Auto-fluorescence Quenching Solutions and Method of Use for Enhanced Microscopy Imaging of Biological Tissues
Iliyan Iliev	Theranostic Test for Antifungal Treatment of Inflammatory Diseases
Samie Jaffrey	RNA Molecules, Methods of Producing Circular RNA, and Treatment Methods

Lead PI	Patented Technology
Gang Lin	Dipeptidomimetics as Inhibitors of Human Immunoproteasomes Macrocyclic Compounds as Proteasome Inhibitors Peptidomimetic Proteasome Inhibitors
Conor Liston	Systems and Methods for Identifying a Neurological Biotype of Depression in the Brain of a Patient
David Lyden	Methods and Reagents for Determination and Treatment of Organotropic Metastasis
Jeffrey Milsom	Method and Apparatus for Manipulating the Side Wall of a Body Lumen or Body Cavity
James Min (former faculty)	Left Arterial Appendage Occluder Device
Carl Nathan	Dipeptides as Inhibitors of Human Immunoproteasomes
Sadek Nehmeh	A Positron Emission Tomography System with Adaptive Field of View
John Pena (former faculty)	Compositions and Methods for Glaucoma
Shahin Rafii	Stable Three-Dimensional Blood Vessels and Methods for Forming the Same Methods and Compositions for Promoting Survival and Proliferation of Endothelial Cells and Stimulating Angiogenesis
William Reisacher	Methods for Detecting Antibodies in Mucosal Samples and Device for Sampling Mucosal Material
Nicholas Schiff	A Sensory Evoked Diagnostic for the Assessment of Cognitive Brain Function
James Min (former faculty)	Foam Actuators
Hazel Szeto (Retired)	Method and Carrier Complexes for Delivering Molecules to Cells
Gianpiero Palermo	Identifying Status of Male Fertility by Determining Sperm Capacitation
Ching-Hsuan Tung	Tumor Ablation Using Low-Intensity Ultrasound and Sound Excitable Drug
John Richard Lee Darshana Dadhania	Methods of Detecting Cell-Free DNA in Biological Samples
Yi Wang	System and Method of Magnetic Resonance Imaging Method for Monitoring Remyelination System and Method of Perceptive Quantitative Mapping of Physical Properties
Jeremy Wiygul	Catheter Assembly
Nikica Zaninovic	System and Method for Selecting Artificially Fertilized Embryos

De-Risking Weill Cornell Innovations

Daedalus Fund for Innovation Aims to Advance Four Innovative Projects to the Next Stage

Since its launch in 2014, the Daedalus Fund for Innovation, a de-risking program of Enterprise Innovation, has helped 53 principal investigators advance 66 early-stage, applied and translational research projects that have clear, relatively near-term commercial potential. The funding allows investigators to develop data packages that will strengthen their intellectual property claims and move their programs closer to commercial partnership.

Four investigators received the Daedalus Fund for Innovation award this year, and their technologies span categories of medical device, treatments for cancers and diabetes. Awardees hope to advance their innovations to the next stage of either preclinical testing or clinical trials with Daedalus funding.

Dr. Mohammed Fouda, fellow in neurological surgery, and his team are developing a prototype of a magnet actuated cranial (M.A.C) bioresorbable distraction system. This novel distractor for syndromic craniosynostosis, characterized by skull bones fusing together too early in development in children, does not require external activation ports. It utilizes a magnet and spring-like mechanism to enable more precise movements in the bone segments for safer and less costly surgical treatment.

Dr. Paraskevi (Evi) Giannakakou, professor of pharmacology in medicine, is working on a first-in-class dual androgen receptor (AR) splice variant 7 (AR-V7) and AR full length molecular glue degrader to treat prostate cancer. The potential therapy targets AR-V7, whose expression is associated with poor outcome and resistance to standard-of-care treatments.

Dr. Jonathan Villena-Vargas, assistant professor of clinical cardiothoracic surgery, is tackling solid tumors, specifically non-small cell lung cancer (NSCLC), by leveraging lymph-node-derived T cells. A unique subset of stem-like memory (SCM) CD8+ T cells within the tumor draining lymph nodes harbor a broad spectrum of cells capable of recognizing multiple tumor antigens, which could overcome the “antigen escape” by solid tumors.

Dr. Shahin Rafii, director of the Hartman Institute for Therapeutic Organ Regeneration and the Arthur B. Belfer Professor in Genetic Medicine, and his laboratory have engineered islet-specific endothelial cells (ISECs) that can readily adapt to and support stem cell-derived islets (SC-islets) after they are transplanted. The ISEC derived blood vessels can supply beta cells in the pancreas with growth factors that improve glucose-stimulated insulin secretion and increase survival of engrafted islets.

Biomedical Business Plan Challenge Supports Promising Innovations

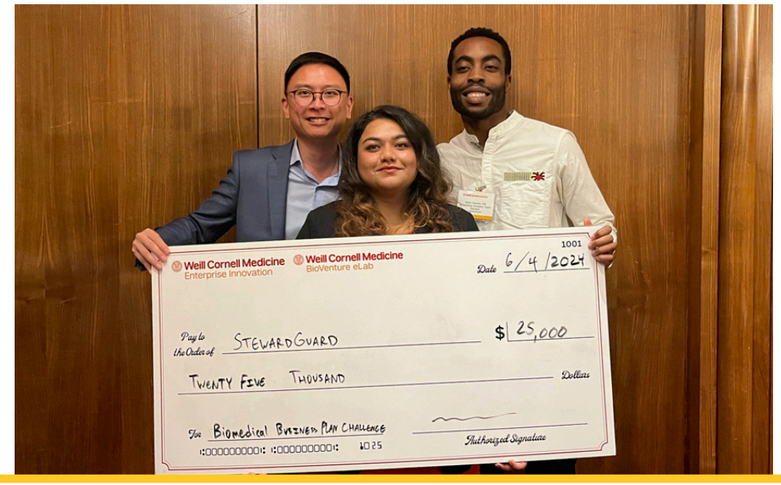
Enterprise Innovation offers a myriad of entrepreneurial education and mentoring programs to Weill Cornell Medicine faculty and trainees. The Biomedical Business Plan Challenge is a keystone program that educates interested faculty and clinicians on the commercialization and startup process. Lecture topics include industry research, intellectual property strategy, research and development plans, as well as legal, regulatory and financing aspects of company formation. Participants receive mentoring from industry experts during the eight to 10-week course. At the end of the program, selected teams compete for up to $100,000 in cash prizes by pitching their business plans based on Cornell IP in front of a panel of venture capitalist judges.

Five finalist teams presented on novel therapies to treat cancers, an application for pre-op patient education, an application for monitoring antibiotic use, and a device to assess patient's consciousness. Dr. Denise Howard, vice chair of obstetrics and gynecology at Weill Cornell Medicine, was awarded first prize for ConsenSurg. ConsenSurg is a tablet-based, interactive counseling tool and electronic consent form that clearly explains a surgical process in a patient's preferred language. By informing patients of the benefits and drawbacks of a procedure through visual interactive learning at their own pace, Dr. Howard hopes to improve efficiency, empower patients and reduce surgery cancellations and health system liabilities.

StewardGuard, led by Dr. Khanh Pham, instructor in medicine and physician-scientist in the Division of Infectious Diseases at Weill Cornell Medicine, is one of the two runners-up. It leverages AI and machine learning to support doctors in prescribing and monitoring antibiotic use based on data from a patient's hospital record, physician notes and standard-of-care guidelines. The team's goal is to improve workflow, reduce errors and the overprescription of antibiotics with its app.

TwiXimo Therapeutics secured the second runner-up spot. Dr. Elena Valdambrini, a postdoctoral associate in Dr. Francis Barany's lab, highlighted a new technology to create small protein degraders that are composed of two molecules joined together with a linker and target BRD4 to treat non-small cell lung cancer. With proof-of-concept data both in vitro and in vivo for the target protein BRD4, the team envisions this new treatment paradigm can be applied to other solid tumors.

All three winning teams plan to use the prize money to advance their innovations to the next value inflection point toward commercialization.



Center for Technology Licensing (CTL) at Weill Cornell business development and licensing professional Dr. Donna Rounds and BioVenture eLab Director Loren Busby were awarded a President's Council of Cornell Women Mission Grant to develop a pilot program for early-stage medical device commercial assessment with a focus on Femtech, technology designed specifically to address women's health needs. Donna and Loren believe this initiative will accelerate the translation of Weill Cornell investigators' ideas into commercialized medical products for unmet needs in women's health care. Here is their vision and plan.

Q: Why did you apply for the PCCW grant?

The grant can serve to pilot work in translating medical device inventions into commercial products. We hope this initiative will position Weill Cornell for a leading role in women's health.

Q: Why focus on Femtech?

Women's health has historically been underrepresented in the realm of medical technology. By directing our efforts toward Femtech, we have an opportunity to fill crucial gaps in addressing specific health concerns and needs that have been overlooked or underexplored.

Q: How many Femtech innovators are working with EI currently?

We have engaged with at least a half dozen innovators, some of whom have multiple product ideas.

Q: Can you give us a few examples of those?

One example is SmartHER MRI, an augmented reality software system for presurgical planning for fibroids developed collaboratively by Drs. Bobak Mosadegh and Tamatha Fenster. We plan on leveraging customer discovery research funded by this grant to support the launch of a startup company based on this technology and co-founded by Drs. Fenster and Mosadegh. The goal is to help women understand their treatment options.

Both PIs worked closely with Enterprise Innovation and took advantage of the entrepreneurial programming we offer. In 2021, they immersed themselves in startup formation instructions and practice in the Business Plan Challenge course. They recently applied for the Small Business Technology Transfer (STTR) grant.

Women's Health Innovation Advancing Medical Device Innovations for Women at Weill Cornell Medicine

Q: How do you plan to use the PCCW grant for your initiative?

We will pair two undergraduate and/or graduate Cornell students with prior health care technology experience with three Weill Cornell innovators (six Cornell students in total), and the teams will complete customer research, including 15-30 interviews of potential customers for each of the Femtech products. This program was designed as a "One Cornell" effort to promote collaboration between the Ithaca campus and Weill Cornell Medicine.

Q: How will you move women's health devices forward into the marketplace?

Data collected through the 15-30 interviews for each product will inform the decisions around user specifications based on expressed customer needs as opposed to the clinician's hypothesis of the customer's needs. We will also provide the resources required to develop the product and the viability of the commercial opportunity.

In New York, we have all the pieces of scientific innovation and commercialization, innovation and entrepreneurship. We've got great science and great institutions – many within five or six blocks. The financial services industry and investment vehicles are here.

What we have to do is better connect all of this in New York City to be able to spawn companies and build communities, because it does take an ecosystem – people with different skill sets – to build innovative products and approaches to taking care of patients or to diagnosing disease.

Dean Robert A. Harrington

Building Communities and Local Biotechnology and Medicine Talents

Enterprise Innovation proactively nurtures the next generation of professionals in translational biomedical research, intellectual property and technology transfer. Building a community of young talents and showing life science students pathways to careers in and outside academia can contribute to New York City's development as a biotech hub.

We have established a collaborative relationship with LifeSci NYC, in which Enterprise Innovation will host life science student interns and provide experiential exposure to academic business development modeled on the experiential learning offered to Weill Cornell Medicine graduate students. Partnering with LifeSci NYC allows us to share our expertise with student populations that may not have opportunities to explore innovation and entrepreneurship at their home institutions.

Vividha Bhaskar, who was pursuing her bachelor's degree in biomedical engineering at The City University of New York, successfully completed a 13-week internship program at Enterprise Innovation in FY23. Vividha learned to write patent claims, performed prior art searches for innovative early-stage therapeutics and leveraged market research to inform IP protection and business strategies. We are expanding the program to host more interns in the new fiscal year.

Alexander (Avi) Strauss, a Juris Doctor candidate from Fordham Law, participated in real-world intellectual property application and technology licensing discussions during his internship. He was mentored by experienced business development and licensing professionals from CTL with support from the Office of General Counsel, which positioned him well for his future as an intellectual property attorney. Avi became a member of Goodwin, a global law firm serving innovators and the investors of life sciences startups.

BioVenture eLab partnered with the Weill Cornell Graduate School of Medical Sciences (ACCESS Program) and Memorial Sloan Kettering Cancer Center to enhance undergraduate STEM students' understanding of biomedical research and potential career opportunities across industry, business development, technology licensing and academia. In addition to interviews and workshops, the BioVenture eLab showcased its 3D printing facility and gave students immersive demonstrations on how to turn an idea into a functioning prototype.

BioVenture eLab and Weill Cornell Medicine's Office of External Affairs teamed up with the RTW Foundation in its inaugural year of BioQuest STEM Mentoring Program. This initiative brings extracurricular programming to middle or high school students in underserved and under-resourced communities in the city and to inspire these students to consider careers in medicine and life sciences. Participating students presented their innovative health care ideas at Innovation Day at the BioVenture eLab as part of their career exposure and enrichment field trip.

> As a biomedical engineering student deeply immersed in academic research, I am interested in connecting laboratory findings with real-world applications for patients. The Academic Business Development Internship gives me the opportunity to jumpstart my career in the translational side of medical innovation as I learn about technology licensing and commercialization.
>
> - Vividha Bhaskar

> I had an amazing experience at Enterprise Innovation! The CTL team taught me tons about intellectual property and licensing, with weekly assignments directly supporting their ongoing work. CTL professionals were extremely generous with their time and mentorship, and I felt like a valued member of the team during my internship. Moreover, the welcoming environment made the entire experience memorable.
>
> - Alexander (Avi) Strauss

Connecting Innovators - One Cornell Innovation Ecosystem

Innovating Medical Devices Powered by Biomedical Engineering and Medicinal Knowledge

Collaboration between medical and engineering researchers has become increasingly important in the medical device space. Two Weill Cornell Medicine innovators tapped into the deep Cornell innovation ecosystem and sought out collaboration opportunities with the Meinig School of Biomedical Engineering.

On May 10, the Meinig School hosted its eighth-annual industry engagement day and project showcase with industry sponsors. Dr. Susan Pannullo, a professor of clinical neurological surgery, mentored the Master of Engineering (M.Eng.) students on a few neurosurgery-related projects including her award-winning novel craniosynostosis distractor system, a real-time monitoring system for hydrocephalus patients with ventriculoperitoneal shunts and management of hydrocephalus through third ventriculostomy for pediatric patients.

Medical students on Dr. Pannullo's team, Kyle Zappi and Myles Wood, were enrolled in the one-year, cross-campus M.D.-M.Eng. program. They gained unique perspectives on both engineering and medicine and learned design to accelerate biomedical engineering innovations.

Dr. Tamatha Fenster, an assistant professor of clinical obstetrics and gynecology, won second place in the showcase design competition with her device, TammyCup. Working with a team of biomedical engineering students led by Dr. Newton de Faria, Dr. Fenster produced the prototype of an intravaginal neural stimulation device that addresses chronic pelvic pain, including iatrogenic pain from IUD insertions, biopsies to pathological pain such as menstrual periods (dysmenorrhea) or endometriosis. The success in prototyping will allow Dr. Fenster to conduct comfort, safety and effectiveness tests and refine her design, all crucial steps toward commercialization.

Celebrating All Cornell Innovators

The Center for Technology Licensing (CTL) at Cornell University and Enterprise Innovation hosted on May 9, 2024 the inaugural Bearers of Innovation, a One Cornell cross-campus celebration of achievements by innovators and inventors who drive scientific development and impact.

Among the Weill Cornell honorees, 19 are inventors who made their first technology disclosures as lead investigators in FY2023 and 40 are inventors whose technology was licensed or optioned in FY2023. Dr. Robert S. Langer, a Cornell University alumnus and the David H. Koch Institute Professor at MIT Biological Engineering Department, delivered

the keynote address. Dr. Langer is a renowned thought leader in biotechnology and innovation. He advised Cornell researchers to remain resilient in the face of skepticism and be persistent in bringing ideas to fruition.

“The inventors celebrated as bearers of innovation by CTL exemplify the many ways Cornell nurtures and promotes impactful ideas through interdisciplinary and intercampus dialogue and collaboration,” said Dr. Krystyn J. Van Vliet, vice president for research and innovation. “Across Cornell on every campus, every inventor plays a critical part in our vibrant innovation ecosystem, not only by advancing their own research but also by supporting their peers and mentoring the next generation of inventors.”

“I am incredibly proud of the inventors and leaders across our campuses who have demonstrated extraordinary commitments to innovation and entrepreneurship,” said Dr. Robert A. Harrington, the Stephen and Suzanne Weiss Dean of Weill Cornell Medicine and provost for medical affairs of Cornell University. “As we at Weill Cornell Medicine and the broader Cornell University community drive commercialization, we are also achieving major milestones in patient care.”

Bringing Extra Resources to Weill Cornell Researchers as a Team

The Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs are valuable, non-dilutive seed fund awards that help advance a technology and create a path toward commercialization. However, the application process can be confusing to many first-time applicants. The BioVenture eLab has been hosting a series of workshops on SBIR/STTR grants for biomedical innovations, which invites experts from the NIH to elucidate the process. The BioVenture eLab also partners with Cornell’s Center for Regional Economic Advancement (CREA) to offer Weill Cornell investigators in-person, free consultation service by a firm that specializes in securing SBIT/STTR funding for startups. This third-party service walks investigators through the application, assists in writing a winning proposal and advises investigators on business development and team building.

Meet Our Team

Sourcing More Funding Opportunities with the Addition of New Team Members

Enterprise Innovation recruited additional talent to further strengthen our capability to support high risk, high reward research projects at their early stage. In December 2023, Weill Cornell Medicine became a research center of the Parker Institute for Cancer Immunotherapy (PICI) Consortium. The PICI collaboration provides funding that will enable the development of more therapeutic approaches and technologies to treat cancer.

James Bellush, Ph.D.
Manager, Scientific Scouting

James expands the pipeline of Weill Cornell innovations by sourcing and developing research projects with high commercial translation potential. He is also responsible for identifying external funding opportunities, research collaborations and strategic alliances with industry and academic partners.

Prior to joining the EI team in 2024, James worked as a venture associate with RTW Investments, a full-life cycle health care investment firm based in New York. In this role, he was responsible for the sourcing, scientific diligence and preclinical development of assets for RTW portfolio companies. James has drug development experience across a range of therapeutic areas which include cardiovascular, neurological and rare disease.

James is an alumnus of Weill Cornell Medicine. He received his doctorate in Molecular Biology from Weill Cornell Graduate School of Medical Sciences, where he used genomics approaches to study how chromatin structure influences DNA replication and transcription dynamics during C. elegans embryogenesis.

Meet Our Team

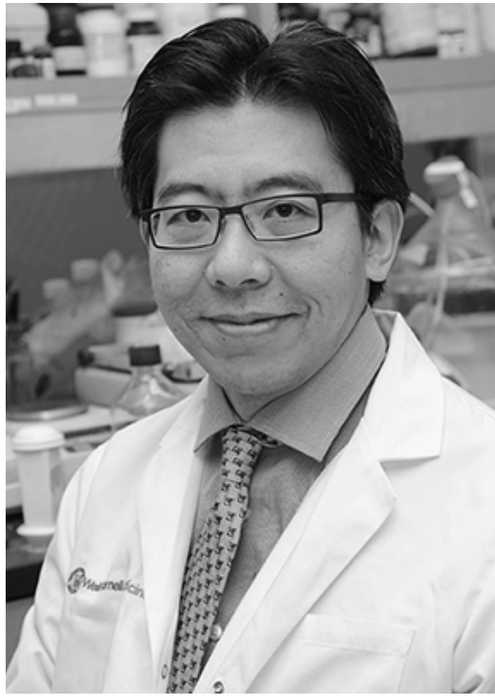
Richard Nguyen, Ph.D.
Manager, Alliance Management PICI

Richard serves as the primary liaison to manage intellectual property matters pertaining to the PICI consortium. In his role, he supports the Center for Technology Licensing (CTL) and Dr. Jedd Wolchok, the Meyer Director of the Meyer Cancer Center and Center Co-Director of the Parker Institute for Cancer Immunotherapy at Weill Cornell Medicine.

Richard leverages over a decade of experience in securing and managing strategic partnerships with academic collaborators and top pharmaceutical and biotechnology companies. He led business development efforts at Xylyx Bio, Inc., a university spinout that develops advanced preclinical drug testing platforms for metastatic cancer and fibrotic diseases. During the pandemic, Richard worked with a multidisciplinary team of experts on the National Institutes of Health (NIH) Rapid Acceleration of Diagnostics (RADx) initiative to evaluate SARS-CoV-2 point-of-care diagnostics for feasibility of accelerated scale-up manufacturing. He has developed an expansive network from working at top-tier research institutions and in various technology transfer offices including Columbia Technology Ventures. He has also participated in several accelerator and entrepreneurial programs, contributing his expertise toward evaluating innovations for commercial potential and developing business strategies for early-stage ventures.

In Memoriam

Joe Zhou, Ph.D.



On June 11, 2024, the Weill Cornell Medicine community lost Dr. Joe Zhou, associate professor of regenerative medicine in medicine.

Dr. Zhou was a founding member of the Hartman Institute for Therapeutic Organ Regeneration, as well as a faculty member of the Weill Cornell Graduate School's BCMB Allied program. His lab pioneered efforts to identify proteins that program cells to develop into key gut cell types. His breakthroughs included reprogramming pancreatic or stomach cells into insulin-secreting cells to treat type-1 diabetes, and turning small intestine cells into large intestine cells, and vice versa, with a goal of repairing intestinal damage. Dr. Zhou was passionate about moving his ground-breaking research beyond the lab to bring his bold new treatments for diabetes to patients. Dr. Zhou was awarded funding from the Daedalus Fund for Innovation and was also the winner of the 2023 Biomedical Business Plan Challenge.

Beyond being a great scientist with an entrepreneurial spirit, Dr. Zhou was an incredible colleague and collaborator, and an all-around wonderful person. He will be deeply missed across our community.

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