Northeastern University
Center for Research Innovation

THE 2025 IMPACT REPORT

ROOTED IN DISCOVERY RISING IN IMPACT

Fiscal Year 2025 (FY25)

This report highlights achievements from July 2024–June 2025

About This Report

This annual report showcases the progress, partnerships, and innovations supported by CRI during Fiscal Year 2025. Designed for faculty, leadership, and partners in industry and academia, it highlights the ways CRI drives translational research forward.

LETTER FROM THE EXECUTIVE DIRECTOR

At the Center for Research Innovation (CRI), we believe that discovery doesn't stop at the lab bench. It's only the beginning. This year's theme–Rooted in Discovery, Rising in Impact–reflects the growing momentum we've seen across Northeastern's innovation community.

Every day, we support researchers who are pushing the boundaries of knowledge. Our job at CRI is to help turn that knowledge into impact by protecting inventions, supporting spinouts, building commercialization strategy, and connecting faculty with the people and resources they need to succeed.

In FY25, we saw this mission come alive in bold, exciting ways. From a record number of invention disclosures to national awards and a wave of entrepreneurial activity, CRI played a central role in translating academic excellence into real-world solutions. We helped launch 10 new spinouts, expanded CRI Academy to empower more faculty with on-demand commercialization tools, and deepened industry relationships through programs like the Spark Fund and our growing Entrepreneurial Consultants network.

We also made major strides in scaling impact. Our partnership with NobleReach is helping CRI deliver robust, repeatable support to emerging ventures, ensuring that more federally funded research finds its way into the world. At the same time, our Northeastern Chapter of the National Academy of Inventors (NAI) events created space for faculty and students to learn from industry leaders, connect with mentors, and explore how their ideas could shape the future. Venturium, our signature venture showcase, continued to grow as a national platform for early-stage innovation, bringing together investors, researchers, and institutional partners to accelerate the path from lab to market. Those relationships, and the enthusiasm they sparked, are already turning into new startups and promising licenses.

Our team continues to invest in programs that serve our researchers where they're at and then grow with them. We've built a support system that evolves alongside discovery, ready to meet our faculty wherever they are in their commercialization journey. Because we know that real impact isn't measured by patents alone–it's measured by lives improved, challenges solved, and ideas that make it into the world.

Thank you to our university leadership, partners, funders, and most of all, the researchers who trust us to help shape their path forward. Your commitment to solving real-world problems is what drives everything we do. We're proud to be rooted in discovery. And we're even more excited about where that discovery is headed next.

Jennifer Boyle-Lynch
Executive Director
Center for Research Innovation

YEAR IN REVIEW

By the Numbers: Celebrating a Year of Unprecedented Growth

Licensing Income and Patent Reimbursement

$1.08m

37% INCREASE OVER FY24

Granted Patents

RECORD BREAKING

82

32% INCREASE OVER FY24

Licenses & Options

8

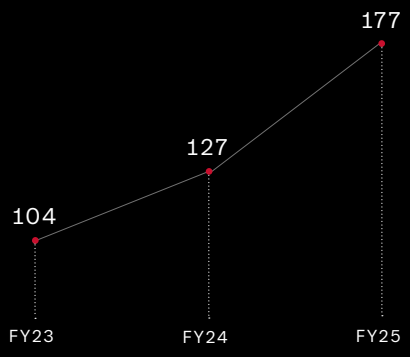
University Spinouts

10

Invention Disclosures

RECORD BREAKING

177



39% INCREASE OVER FY24

YEAR IN REVIEW

ISSUED PATENTS

Salman Abbasi
- 12,174,534

Jeffrey Agar
- 12,171,854

Mansoor Amiji
- 12,186,428
- RE50,096 E
- 12,121,608

Joseph Ayers
- 12,302,871

Sidi Bencherif
- 12,303,618

Lorenzo Bertizzolo
- 12,230,150
- 12,231,297

Ahmed Busnaina
- 12,235,236

Cristian Cassella
- 12,255,603
- 12,034,434

Run Chang
- 12,319,752

Kaushik Chowdhury
- 12,191,656
- 12,028,824

Salvatore D'Oro
- 12,127,006

Yunqing Du
- 12,213,784

Kerem Enhos
- 12,176,947

Slava Epstein
- 12,116,558

Randall Erb
- 12,269,212

Yunsi Fei
- 12,177,328

Yun Fu
- 12,062,249
- 12,205,317

Roger Giese
- 12,181,440

Davoud Hejazi
- 12,104,958

Yi Hong
- 12,187,834

Josep Jornet
- 12,107,331

Neel Joshi
- 12,060,398

Wenjing Kang
- 12,121,899

Jonghan Kim
- 12,098,286

Hyehee Kim
- 12,092,773

Matthew Kling
- 12,196,866

Kim Lewis
- 12,247,245
- 12,233,081

Yaning Li
- 12,092,182

Shuangjun Liu
- 12,226,203

Tommaso Melodia
- 12,095,513
- 12,192,792
- 12,120,096
- 12,127,059

Giulia Menichetti
- 12,308,125

Shashi Murthy
- 12,157,901
- 12,331,279
- 12,065,632

Peter Nguyen
- 12,201,654

Sarah Ostadabbas
- 12,288,360

Ozan Ozdemir
- 12,091,754

Michele Polese
- 12,218,734

Alireza Ramezani
- 12,128,721

Bradley Reese
- 12,230,437

Matteo Rinaldi
- 12,169,145
- 12,055,438

Aatmesh Shrivastava
- 12,040,703
- 12,034,310

Steven Soper
- 12,280,374

Srinivas Sridhar
- 12,121,339

Nian X Sun
- 12,178,140
- 12,072,396

Eugene Tunik
- 12,322,299

Moneesh Upmanyu
- 12,296,948

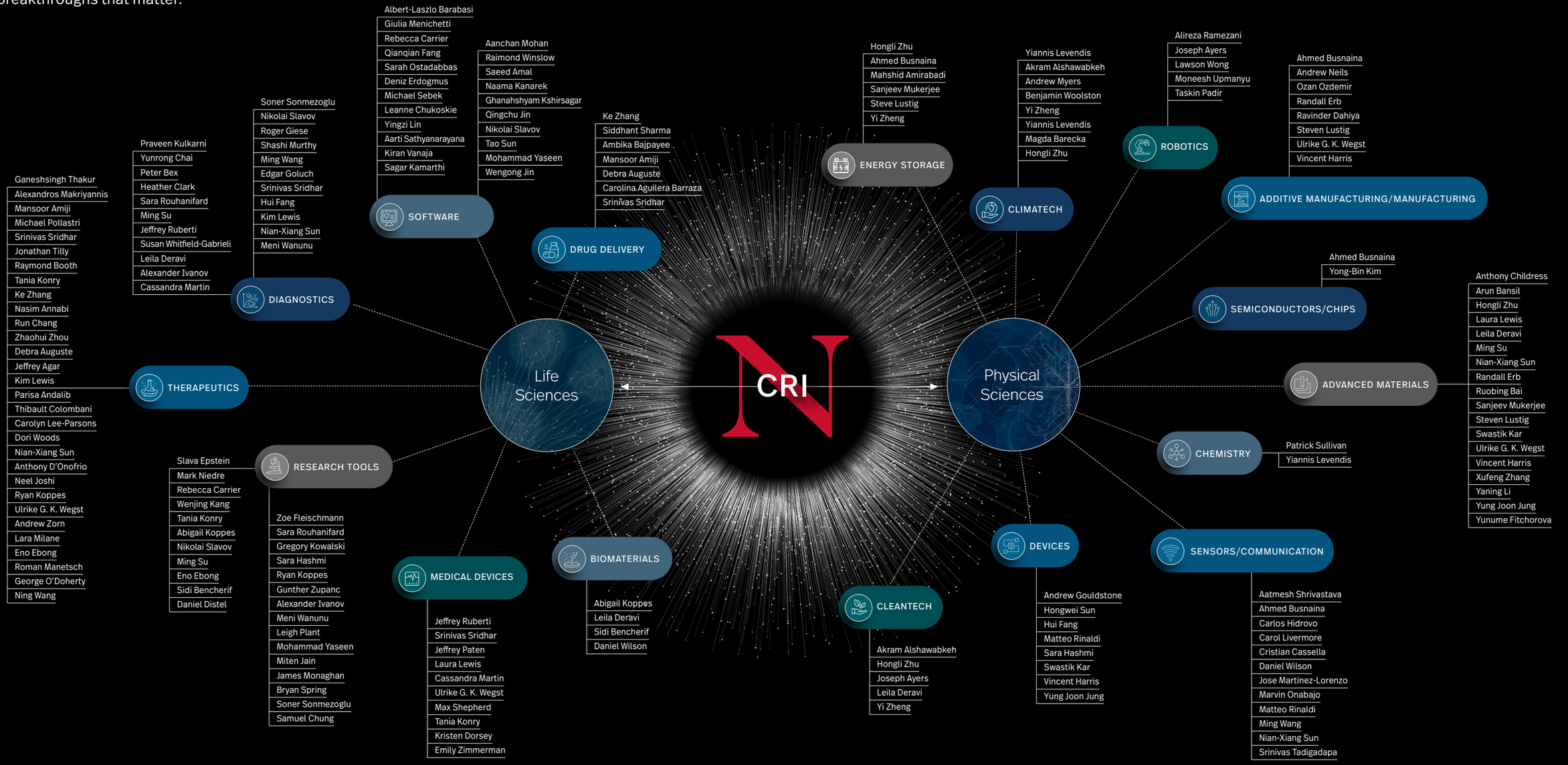
Meni Wanunu
- 12,320,796

Thomas Webster
- 12,138,952
- 12,090,209

Edmund Yeh
- 12,289,205
- 12,155,738

CRI Network

Harnessing diverse research to deliver breakthroughs that matter.



This map represents a selection of Northeastern's research technologies and does not constitute our complete portfolio.

SPINOUTS

Launching Impact: Spinouts Fueled by Northeastern

At the CRI, spinouts are one of the most powerful pathways for translating academic discoveries into real-world solutions. CRI helps faculty and research teams navigate every step of the spinout journey–from evaluating commercial potential and protecting intellectual property to securing early funding, recruiting entrepreneurial talent, and structuring ventures for long-term growth. With an extensive network of innovators and investors across disciplines, CRI ensures that promising lab-based research becomes market-ready ventures that attract investment, generate impact, and drive innovation forward.

290

JOBS CREATED SINCE 2011

68

CO-OPS CREATED SINCE 2011

$27m

SPINOUT CAPITAL FY25

To support these efforts, CRI offers a suite of tailored Venture Support Programs designed to accelerate commercialization success. These include grant writing assistance, subsidized pitch preparation tools, access to experienced Entrepreneurship Consultants, and industry event funding to connect founders with potential partners. In collaboration with external partners like Portal Innovations, CRI also facilitates subsidized lab space and strategic mentoring to help new companies scale. By combining mentorship, resources, and commercialization expertise, CRI's Venture Support Programs help Northeastern's spinouts reach critical milestones faster. This fuels economic development, creates high-skill jobs, and reinforces Northeastern's role as a national leader in research translation and innovation.

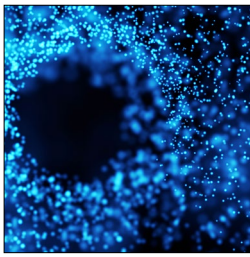
Building a Pipeline from Lab to Market

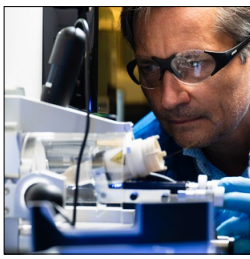
CRI continues to expand its suite of strategic programs designed to accelerate promising spinouts from lab discovery to market success. Through its Build Space Support program, the CRI partners with leading startup ecosystem players, such as Portal Innovations, to offer subsidized build space that moves Northeastern teams out of the university lab and into specialized commercial environments. These dynamic spaces provide early spinouts with access to critical infrastructure, entrepreneurial networks, and mentorship, positioning them to raise capital and scale more quickly.

This past year, three Northeastern spinouts–pacDNA, DeepCharge, and zTouch–advanced through the Build Space program, unlocking partnerships, leadership talent, and early data that support their venture-readiness. In parallel, CRI's Strategic Co-op Support program connects resource-constrained startups with Northeastern's top student talent. By subsidizing co-op placements, CRI helps early-stage spinouts accelerate development while giving students hands-on experience building companies from the ground up. This year's co-op support recipients, BrilliantStrings and zTouch, illustrate how CRI's model develops future founders while helping spinouts grow with skills they might not otherwise have access to.

Together, these programs exemplify CRI's commitment to removing barriers for academic innovators, strengthening the region's innovation pipeline, and ensuring that Northeastern research has real-world impact.

SUPPORT PROGRAMS





pacDNA Advances Gene Therapy with CRI Spark Fund Support & DOD Grant

Northeastern spinout pacDNA, a pioneer in oligonucleotide delivery for gene therapies, continues to build momentum following CEO and Professor Ke Zhang receiving the 2023 Spark Fund award. The company recently secured a $490,000 Department of Defense Congressionally Directed Medical Research Program (CDMRP) grant to accelerate the development of novel therapies for Duchenne Muscular Dystrophy (DMD), targeting patient groups that require dual exon skipping.

> "The CRI Spark Fund helped us get into this field and generate the first batch of preliminary data. It has truly been a 'spark' for us," said Dr. Ke Zhang, founder of pacDNA and Northeastern professor of Chemistry and Chemical Biology.

The DOD grant supports preclinical efficacy work by enabling pacDNA to develop animal models aimed at restoring functional dystrophin–a crucial protein lost in DMD–within two years. pacDNA's proprietary Brushield™ delivery platform overcomes traditional delivery challenges by using a single carrier to safely deliver multiple oligonucleotides to the same muscle cell nucleus.

Subsidized Space Pilot & Leadership Boost

As part of a subsidized space pilot program, pacDNA moved into Portal Innovations' Ex^3 incubator program, where it secured early subsidized lab space and strategic mentoring. This program facilitated their match with Dr. Carl LeBel, a Northeastern alum, who joined pacDNA as fractional CEO–marking a powerful reunion "returning to the pack," blending academic credibility with seasoned leadership.

> "Supporting a Northeastern spinout as an alum has been meaningful," said Dr. Carl LeBel. "I'm proud to partner with Ke and the team–I see strong preclinical data and a mission-aligned leader–a perfect match for catalyzing our Seed/Series A fundraise."

Under LeBel's leadership, pacDNA and Zhang have collected important preclinical data in preparation for venture investment and partnered research. The company is now aiming for IND-enabling studies, institutional investment, and broader commercialization efforts.

WATCH VIDEO

COMMERCIALIZATION

Translating Innovation Through Licensing and Commercialization

At Northeastern, commercialization is more than a pathway–it's a responsibility. Under the Bayh-Dole Act of 1980, universities are allowed to retain ownership of inventions made with federal funding but are required to commercialize these inventions. CRI's commercialization and licensing efforts capture and translate the vibrancy of our innovation ecosystem to our industry, government, and academic partners to create a better world.

177
INVENTIONS DISCLOSED

ISSUED PATENTS
82

290
PATENT APPLICATIONS

CRI's commercialization and licensing efforts connect faculty inventors with industry, government, and nonprofit collaborators, helping ensure that breakthrough ideas don't stay in the lab but move toward market, deployment, and meaningful use. Whether enabling new therapies, smarter infrastructure, or sustainable technologies, licensing and commercialization are essential tools in advancing discovery toward a better world.

GRIK Therapeutics Secures Licensing Agreement to Develop Novel Epilepsy Drugs

A promising new approach to epilepsy treatment is moving closer to patients, thanks to a licensing agreement between Northeastern University and GRIK Therapeutics–a startup founded to commercialize innovations from Andrew Zorn, Northeastern PhD, out of the lab of Professor Diomedes Logothetis. The exclusive license grants GRIK access to foundational intellectual property (IP) developed at Northeastern that targets ion channels in the brain to reduce seizures and restore neuronal balance. For individuals with drug-resistant forms of epilepsy, this represents the potential for a new class of small-molecule therapies that could offer greater selectivity, fewer side effects, and improved quality of life.

> **"This license allows us to build from foundational knowledge developed at Northeastern and translate it into clinical-stage assets," said Andrew Zorn, a Northeastern PhD candidate, co-inventor of the IP, and CEO of GRIK Therapeutics.**

The agreement reflects a core part of CRI's mission: supporting research-driven ventures and helping them reach the market. In 2023, CRI awarded the Logothetis Lab a Spark Fund grant to advance these compounds and has since worked closely with Zorn and his team to shape the startup's licensing strategy, support IP management, and connect the venture to essential resources. GRIK's lead program, which focuses on rare and drug-resistant pediatric epilepsies such as Dravet Syndrome, stems from over 30 years of academic research. The company's compounds operate through allosteric modulation of ion channels–a mechanism that enables precise targeting of neuronal behavior, with applications that extend beyond epilepsy to conditions like chronic pain and psychiatric disorders.

> **“We expect this technology to redefine how we can drug ion channels,” said Zorn. “By unlocking this target class, we can open the door to better treatments for epilepsy and other neurological disorders.”**

In just over a year since its founding, GRIK has earned early momentum through non-dilutive awards from Biogen and Servier Pharmaceuticals, participation in federal screening programs, and acceptance into top-tier accelerator platforms. With strong preclinical data in hand and a fundable score on a recent SBIR application, the company is preparing for IND-enabling studies and raising a venture-backed funding round.

READ MORE

AIWover Inc., Secures Licensing Agreement to Advance AI-Powered Infant Health Monitoring

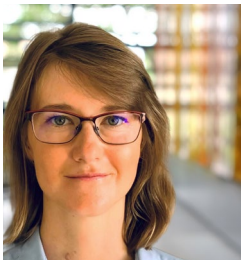
Northeastern University continues to advance its mission of transforming breakthrough research into societal impact with the successful licensing of new infant monitoring technology to AIWover, Inc., a spinout founded by Dr. Sarah Ostadabbas, Associate Professor of Electrical and Computer Engineering. The licensing agreement, executed through the CRI, provides AIWover Inc., with exclusive rights to novel artificial intelligence technology developed in Dr. Ostadabbas’s Augmented Cognition Laboratory. The technology combines advanced computer vision and machine learning frameworks to analyze infant posture and motion, helping detect early signs of neurodevelopmental conditions such as autism spectrum disorder and cerebral palsy.

> **“By addressing small-data challenges in video-based AI, particularly in infant monitoring, we aim to push the boundaries of computer vision in real-world environments where data is limited, noisy, or sensitive,” said Dr. Ostadabbas.**

Unlike conventional baby monitors, this system aims to capture subtle movement patterns that can be difficult or costly to identify manually. By tackling the “small data” challenge–where privacy protections and limited labeled data often constrain

AI in sensitive medical domains–Dr. Ostadabbas's approach demonstrates how domain-specific, data-efficient AI models can unlock new tools for healthcare providers and families. This license represents Northeastern's commitment to supporting faculty innovators from discovery through commercialization. With the CRI's guidance, the team protected critical intellectual property, structured licensing terms that support future growth, and ensured that the technology can continue to evolve to meet real-world needs. By securing this agreement, AIWover Inc., is positioned to build on its prototype and deepen collaborations with pediatric health researchers, aiming to bring cloud-based monitoring solutions to market in the coming years.

WATCH VIDEO



Advancing Carbon Capture and Conversion

- Dr. Magda Barecka's research on carbon transformation continues to show strong commercial promise. This year, her lab received a competitive grant from ARPA-E to support the development of next-generation carbon capture and conversion technologies. With the global push toward decarbonization, this work has significant implications for industrial-scale CO_2 utilization and energy transition. CRI is actively supporting the evaluation and positioning of Dr. Barecka's IP portfolio for market impact.

WATCH VIDEO

Harnessing AI to Improve Patient Outcomes

- Dr. Saeed Amal, co-founder of Santovia and faculty at Northeastern, is leading work that demonstrates how AI can personalize and enhance healthcare. In collaboration with PathAI, his innovations apply machine learning to improve diagnostic accuracy and treatment planning–especially in under-resourced or high-risk clinical settings. Santovia is part of Northeastern's growing pipeline of healthtech commercialization efforts, reflecting the university's investment in responsible, AI-powered innovation.

WATCH VIDEO

Northeastern RES and CRI Finalized $15M in Industry Research Partnerships

In FY25, CRI partnered with Research Enterprise Services (NU-RES) to support over $15 million in sponsored research agreements across 135 partners. These agreements play a critical role in advancing university technologies, helping bridge the gap between early-stage discovery and real-world application. These collaborations span sectors from biotech and software to energy, defense, and telecomunications.

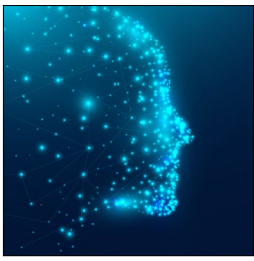
Each agreement reflects Northeastern's growing role as a hub for applied research and innovation. CRI's team ensures university intellectual property is protected and positioned for future licensing, while building long-term industry relationships that often lead to new invention disclosures and commercialization opportunities. Together, CRI and NU-RES are advancing research with real-world impact, strengthening Northeastern's innovation ecosystem, and expanding its reach across industries.

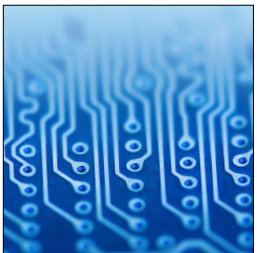
Climatech Studio Program: Two Northeastern Technologies Selected

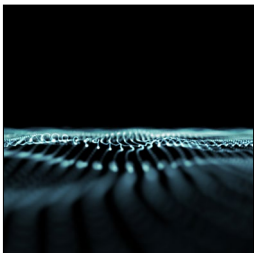
Two Northeastern University climate technologies were selected for the 2024-2025 Climatech Studio program, a MassCEC and FedTech initiative that accelerates early-stage climate solutions. The 16-week program concluded with a pitch showcase on November 19 at Greentown Labs. Both teams completed the full commercialization program, gaining market discovery insights, venture coaching, and investor feedback, though neither has yet incorporated as a startup.

Seascale features ocean iron fertilization technology from Professor Akram Alshawabkeh's lab that enables carbon dioxide sequestration and hydrogen generation through marine interventions. Co-invented by Alshawabkeh and PhD student Amir Taqieddin, the technology is jointly owned by Northeastern and Woods Hole Oceanographic Institution. Entrepreneur Evan Redd presented its commercial potential for large-scale decarbonization.

OceanGuard is a hydrophone array system developed by Professor Purnima Makris for wide-area ocean sensing and monitoring, with applications in marine conservation, naval systems, and environmental compliance. Professor Makris presented the technology at the showcase.







EVENTS

Ecosystem in Action: Venturium ‘25

On April 23, 2025, Venturium ’25 convened more than 120 investors, academic leaders, and startup founders for a high-impact virtual showcase of emerging technologies. Organized by Northeastern University’s CRI in collaboration with the Technology Transfer Venture Consortium (TTVC), the event spotlighted twelve pre-seed and seed-stage spinouts from eight leading institutions–including Cornell, Rutgers, the University of Connecticut, and Northeastern.

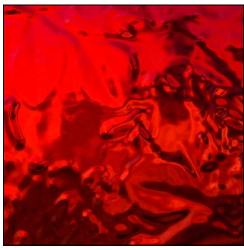
This year's event marked a clear evolution in how academic ventures meet the moment. Rather than a passive pitch session, Venturium fostered active, targeted engagement, allowing spinouts to connect directly with VC firms, accelerators, and commercialization partners. The showcase has become a launchpad for raising capital and building lasting relationships that continue long after the event.

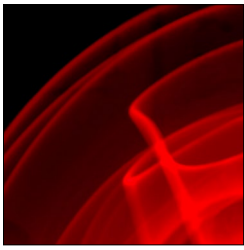
> **"Venturium has proven an impactful platform for educating funders and growing support for our spinouts," said Katie Hemphill, Director of Technology Ventures at CRI. "This year, the majority of presenters converted their Venturium connections into ongoing conversations–exactly the kind of momentum we aim to generate."**

A National Stage for University Spinouts

Venturium is the flagship initiative of TTVC, a multi-institutional collaboration that exists to streamline access between academic technologies and venture capital. Through curated presentations, intentional networking, and a shared commitment to early-stage innovation, TTVC reduces barriers for funders who want to engage with university research but lack a clear entry point. Rather than approaching commercialization through institutional silos, Venturium creates a collective front door for some of the most ecosystem-ready startups in the academic landscape. This year's program featured ventures developing technologies in AI, cleantech, deeptech, and life sciences–each backed by rigorous research and strong university support. Presenters had the opportunity to pitch, participate in interactive Q&As, and follow up with personalized introductions and second meetings facilitated by CRI and partner institutions.

LEARN MORE





Advancing Innovation: Northeastern's Venture Launchpad

Venturium '25 also highlighted the strength of Northeastern's growing venture pipeline. Two of those ventures–DeepCharge and zTouch Networks–took the virtual stage at Venturium, showcasing transformative technologies in predictive power systems and 5G infrastructure.

ADVANCING

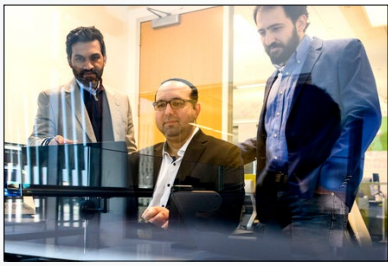
Their presence reflected not only their technical maturity but the readiness of CRI-backed ventures to scale.

> **"It takes a village to support our early-stage spinouts," Hemphill noted. "Venturium is part of a larger ecosystem approach that helps founders gain visibility, build credibility, and accelerate their path to impact."**

Looking Ahead

As TTVC continues to grow, so too does the reach and reputation of Venturium. Plans are already underway for a fall 2025 event, and participating institutions remain engaged throughout the year–sharing resources, collaborating on programming, and co-developing strategies to strengthen the national research-to-venture pipeline. Rooted in discovery and rising in impact, Venturium is more than a showcase. It's a model for how academic institutions can work together to amplify innovation, reduce friction, and create opportunity at scale.

DeepCharge: Solving Downtime in High-Stakes Operations



When mobile devices fail in warehouse and logistics environments, the consequences are costly. Delayed shipments, idle teams, and communication breakdowns can ripple into millions in annual losses. DeepCharge, a Northeastern spinout, is solving this $3.2 billion problem with an AI-powered platform that keeps essential devices charged, tracked, and operational, before failures ever occur.

Unlike traditional mobile device management (MDM) systems that only respond after disruptions, DeepCharge uses predictive analytics to identify early signs of degradation, mischarging, or performance issues. By analyzing unique device signals and usage patterns, their platform delivers over 60% reduction in downtime–ensuring devices are available when and where they're needed most.

Adopted by Fortune 500 clients and already delivering ROI in under six months, DeepCharge's technology is designed for scale and built for resilience. In industries where every minute matters, it's not just about charging–it's about uptime, predictability, and operational efficiency. As part of Venturium '25, DeepCharge demonstrated not only technological maturity, but venture readiness–reinforcing its place as a CRI-supported spinout with real-world traction and a compelling growth trajectory.

WATCH VIDEO

zTouch: Automating Private 5G with AI-Native Intelligence

As private 5G networks become essential for smart manufacturing, defense systems, and enterprise operations, the challenge isn't just deployment–it's automation. zTouch Networks, a Northeastern spinout, is meeting this need with zTouch.OS: the first network slicing application built for AI-native performance.

zTouch.OS streamlines the management of complex 5G infrastructures by using natural language commands and intelligent automation to control spectrum, CPU/GPU resources, and radio access networks. The result? Fully autonomous, real-time optimization of private mobile networks–reducing costs, accelerating deployment, and enabling new monetization opportunities.With support from the NSF, DoD, and ONR, zTouch has secured over $2 million in federal contracts, completed multiple live deployments, and signed its first commercial customer. Backed by six issued patents and a deep bench of technical expertise, the company is redefining what's possible in mobile connectivity. At Venturium '25, zTouch's presentation highlighted both its technical edge and its strategic vision. As demand for secure, agile, and scalable 5G networks grows, zTouch is positioning itself as a leader in the next generation of digital infrastructure.

WATCH VIDEO

Advancing Research Translation at Northeastern NobleReach Science to Venture™ Partnership

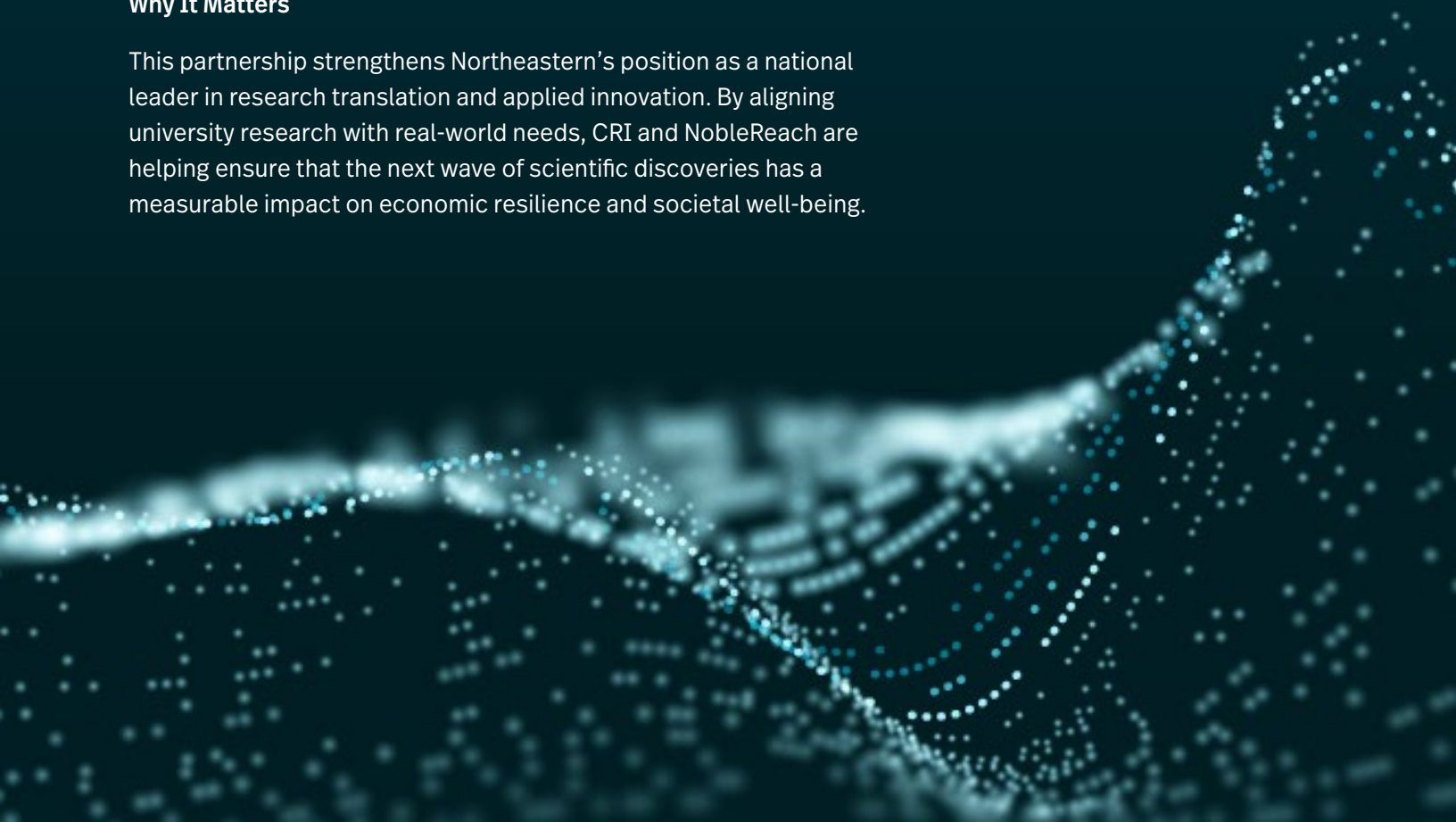
Northeastern University partnered with NobleReach on their Science to Venture™ initiative–a national effort to accelerate the commercialization of federally funded research. Through this collaboration, CRI is piloting proven tools and training methods to help researchers translate early-stage innovations into ventures that serve both the public good and national security interests.

NobleReach brings together expertise from academia, industry, and the public sector to create repeatable pathways for research translation. At Northeastern, this means a sharpened focus on commercialization-readiness assessments, entrepreneurial coaching, and new opportunities for student and faculty involvement in mission-driven innovation. The partnership will help scale CRI's ability to identify and advance high-impact technologies, complementing federal priorities in areas such as AI, sensing, materials, and biotechnology.

LEARN MORE

Why It Matters

This partnership strengthens Northeastern's position as a national leader in research translation and applied innovation. By aligning university research with real-world needs, CRI and NobleReach are helping ensure that the next wave of scientific discoveries has a measurable impact on economic resilience and societal well-being.



EVENTS

Advancing Inventorship Through National Academy of Inventors (NAI) Northeastern Chapter

Northeastern's chapter of the National Academy of Inventors continues to grow as a hub for recognizing and empowering academic innovation. Over the past year, the chapter increased membership by 78% and event attendance by 77%, reflecting rising momentum across the university's inventor community. Northeastern celebrated the election of two new NAI Fellows and one Senior Member to the global academy, further cementing its reputation for research excellence and translational impact. This surge in engagement and recognition earned the chapter a spot as a national finalist for the 2025 NAI Chapter of the Year–joining peers from Tufts University, the University of Iowa, and the University of Texas at Arlington in this prestigious distinction.

78%

INCREASE IN MEMBERSHIP

77%

INCREASE IN ATTENDANCE

TOP 100

U.S. UNIVERSITIES GRANTED U.S. UTILITY PATENTS

WORLDWIDE FOR GRANTED PATENTS

Northeastern University
Chapter of the National Academy of Inventors

JOIN TODAY

Northeastern NAI Chapter Annual Meeting Highlights: Rising in AI-Driven Impact

The Spring 2025 NAI Chapter Annual Meeting highlighted Northeastern's momentum in translating bold ideas into healthcare solutions, with a focus on AI's role in diagnostics, precision medicine, and patient outcomes. Experienced venture investor and keynote speaker Gaye Bok captured the spirit: "Northeastern is like a rocket ship for invention. The momentum here is unmistakable."

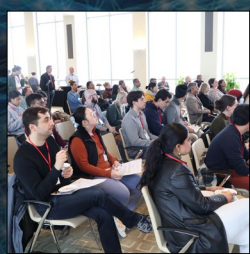
The meeting also celebrated innovators whose work embodies this mission

- **Innovation Impact Award: Distinguished Professor Vincent Harris,** for pioneering RF technologies and founding Metamagnetics
- **Student Innovation Impact Award: Justin Hayes**–PhD candidate and co-founder of Concordance Therapeutics
- **Emerging Visionary Award in AI in Healthcare: Dr. Saeed Amal, Assistant Research Professor,** for AI-powered tools advancing precision medicine

These awardees represent Northeastern's strength in turning research into real-world impact through entrepreneurship, translational science, and ecosystem partnerships.

READ MORE





INGENUITY

Northeastern NAI Chapter Fall Meeting Highlights: Inventing a Cleaner, Smarter Tomorrow

The Fall 2024 NAI event put Northeastern's leadership in sustainable innovation on full display. Centered on green technology and energy resilience, the event highlighted how faculty and industry partners are leveraging intellectual property, advanced materials, and scalable design to address one of society's greatest challenges: decarbonization.

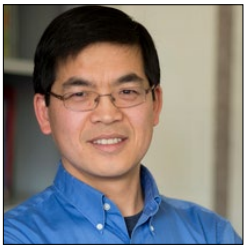
> "When breakthroughs scale, industries change," said Distinguished Professor Sanjeev Mukerjee. "That's where Northeastern thrives."

Presentations on hydrogen, clean energy commercialization, and IP strategy demonstrated how Northeastern inventors are not only rooted in research, but rising in real-world relevance. By bringing together experts across disciplines, the NAI chapter fosters a rare environment–where academic ideas are backed by business insight and global vision.

READ MORE

Honoring Excellence: 2024 National NAI Fellows and Senior Member

- **Tommaso Melodia, William Lincoln Smith Professor of Electrical and Computer Engineering,** was named a 2024 NAI Fellow for his contributions to wireless network systems and their real-world applications.



- **Nian X. Sun, Distinguished Professor of Electrical and Computer Engineering,** was named a 2024 NAI Fellow for his groundbreaking research in magnetic, ferroelectric, and multiferroic materials.

- **Steve Lustig, Associate Professor of Chemical Engineering,** was named 2025 NAI Senior Member for his contributions to innovation, research, and technological advancement.

READ MORE

GAP FUNDING

Igniting Impact: Spark Fund Awardees

Each year, Northeastern's Spark Fund helps bridge the critical gap between academic research and market readiness. These awards fuel translational projects with the potential for real-world impact, providing not only seed funding, but also strategic support, intellectual property guidance, and commercialization insights. For many Northeastern University researchers, the Spark Fund is a turning point–the catalyst that moves ideas out of the lab and into the world. In September 2024, Spark Fund recipients tackled urgent challenges, ranging from infrastructure resilience to novel diagnostics and advanced gene therapy. Their work is rooted in rigorous science and propelled by a shared goal: to solve real-world problems with bold, implementable solutions.

30

APPLICANTS

SPARK FUND

$200k

AWARDED

Dr. Max Shepherd: Engineering a Smarter Step for Amputees

For over a million Americans with lower limb amputations, most current prosthetic ankles use rigid, fixed-stiffness designs that don't adjust to movement, making stairs and uneven terrain unnecessarily difficult. Dr. Max Shepherd, Assistant Professor at Northeastern University, is developing a Variable-Stiffness Ankle (VSA) with Fall 2024 CRI Spark Fund support. This lightweight, energy-efficient prosthesis dynamically adapts to the wearer's movement in real time. The VSA combines fiberglass springs for energy efficiency with a small motor that adjusts stiffness only when needed–like transitioning from standing to walking. A novel mechanism eliminates mechanical backlash, improving control without adding bulk.

LEARN MORE

> "An open question in the field of prosthetics is, 'How do we best adapt a prosthesis to a patient depending on what they do?'" says Dr. Shepherd. "Our work tries to answer that."

The team is now building a prototype for real-world testing and take-home studies. With a provisional patent filed, they're pursuing partnerships with prosthetics manufacturers to bring the VSA to market.

Dr. Sara H. Rouhanifard: Unlocking Live-Cell Discovery with InCu-Click

For decades, Click Chemistry has been a powerful tool for labeling and tracking biomolecules, but it's been off-limits for studying living cells due to copper toxicity. With Northeastern CRI's Spark Fund support, Dr. Sara H. Rouhanifard, Assistant Professor of Bioengineering, has developed InCu-Click–a proprietary reagent enabling live-cell biomolecule labeling for the first time while preserving cell health.

LEARN MORE

InCu-Click works by tightly binding copper and delivering it safely into living cells, enabling the same efficient reaction as traditional Click Chemistry without toxicity. This breakthrough accelerates drug development, diagnostics, and biological research by allowing scientists to observe molecular interactions in real time. The Spark Fund is helping optimize the reagent for broader applications, including potential live-animal use, while exploring commercialization pathways. Dr. Rouhanifard aims to make InCu-Click as widely available as current commercial kits.

> "As soon as people are able to track things inside of live cells, it opens up entirely new research avenues," says Dr. Rouhanifard. "It allows you to track drugs in real time while they perform their functions inside of cells."

Dr. Jeffrey Lipton: Accelerating Innovation in Custom Orthotics

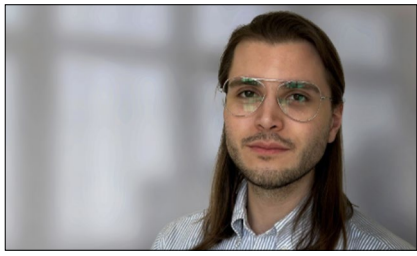
Foot pain affects millions, but traditional custom orthotics are costly, time-consuming, and inaccessible for many patients. Dr. Jeffrey Lipton, Assistant Professor of Mechanical and Industrial Engineering at Northeastern, is developing a breakthrough solution with Fall 2024 CRI Spark Fund support. His team is creating 3D-printed custom insoles deliverable in just 24 hours at a fraction of traditional costs.

LEARN MORE

Using proprietary Viscous Thread Printing (VTP), they print highly customizable, variable-stiffness foams that conform precisely to individual feet. The process requires no casting molds or post-processing and works with standard 3D printers–making it scalable for clinics and even in-home use. The Spark Fund is enabling real-world durability testing through a wear-testing system that simulates hundreds of thousands of steps. The team is also connecting with potential partners from podiatrists to sportswear brands, with the long-term vision of same-day custom insoles available at the point of care.

> "We're bringing the future of foot care closer to reality," says Dr. Lipton. "We want to make custom insoles accessible to everyone who needs them."

Jack Watson: Strengthening Infrastructure Resilience Before Disaster Strikes



As climate-driven disasters escalate, Jack Watson, a PhD candidate in Interdisciplinary Engineering at the Roux Institute, is developing InfRA-DST–a decision-support platform that models infrastructure risk across interconnected systems. The platform helps government agencies, utilities, and emergency planners understand how single failures can cascade across transportation, communication, and public services, enabling strategic resilience investments.

LEARN MORE

Watson's work is moving toward commercialization through spinout company Enodia Inc., co-founded with Professor Auroop Ganguly and collaborators. With Fall 2024 CRI Spark Fund support, they're refining the platform and building stakeholder relationships for deployment in public and private sectors. The platform offers more than disaster response–it helps cities prioritize long-term investments, design fail-safe infrastructure, and plan smarter recovery strategies when crises occur.

> "Traditional resilience planning often misses the big picture," Watson explains. "InfRA-DST helps decision-makers assess risk across interconnected systems before, during, and after disasters–ensuring that investments in resilience are both effective and strategic."

RECOGNITION

Beyond the University: National Recognition & Awards

In FY25, Northeastern spinouts and inventors earned national and international recognition that underscored both the strength of their innovations and the vitality of CRI's innovation ecosystem. These honors validate the university's role as a leader in translational research, showcasing how early-stage discoveries supported by CRI are gaining traction across industries, earning competitive awards, and capturing the attention of funders, accelerators, and global partners. Together, these achievements demonstrate how Northeastern research is rooted in discovery, rising in real-world impact.

BrilliantStrings Therapeutics Earns National Recognition for Collagen-Based Healing Innovation

BrilliantStrings Therapeutics, a Northeastern spinout, is earning national and international acclaim for its groundbreaking injectable therapy made from Complete Human Collagen (CHC™)–a first-of-its-kind solution aimed at healing connective tissue injuries without the need for surgery. Founded by Professor Jeffrey Ruberti and supported early on by CRI's Spark Fund, the company is transforming decades of university research in collagen biology into a powerful orthopedic innovation. Its CHC™ platform is designed to help millions suffering from chronic tendon pain by accelerating healing directly at the injury site, offering a faster, less invasive alternative to traditional treatments.

In recognition of its scientific and commercial promise, BrilliantStrings won LabCentral's 2025 Luminescence Competition, securing a $200,000 prize and rising to the top among more than 40 high-potential ventures. The company also earned two JLABS Quickfire Challenge awards–JLABS Korea in November 2024 and JLABS Japan, each with a $50,000 prize. In addition, BrilliantStrings was selected for a $10,000 award through the ARPA-H Dash to Accelerate Healthcare Outcomes competition. These honors reflect growing validation of the company's platform across healthcare, biotech, and venture innovation communities–and affirm the strength of Northeastern's translational research pipeline. Since receiving Spark Fund support, BrilliantStrings has raised $2.7 million, moved into LabCentral in Cambridge, and continues to accelerate toward clinical translation.

From early university research to an award-winning biotech venture, BrilliantStrings exemplifies the power of mission-driven innovation backed by strategic support.

WATCH VIDEO

Scipher Medicine Named Finalist in AUTM Better World Awards

Scipher Medicine, a Northeastern spinout, was recognized as a finalist in the 2024 AUTM Better World Awards, which celebrate technologies that make a meaningful difference in people's lives. Scipher's pioneering blood-based diagnostic, PrismRA, helps patients with rheumatoid arthritis avoid ineffective treatments by identifying whether they are unlikely to respond to widely prescribed TNF inhibitors before therapy begins. Founded by Drs. Joseph Loscalzo and Albert-László Barabási launched Scipher using Northeastern's startup-friendly express license and have since raised more than $200 million in venture capital. Its flagship product, PrismRA, now has Medicare coverage, is available nationwide through Quest Diagnostics, and has demonstrated both clinical utility and healthcare cost savings.

> "Scipher Medicine's innovative approach sets a new standard in precision medicine," said Jennifer Boyle-Lynch, Executive Director of CRI. "We proudly support their mission to improve outcomes for autoimmune patients."

Scipher's underlying technology, the Spectra AI Platform, maps disease mechanisms at the molecular level using network science and AI. Covering 89% of all human proteins, it enables precise matching between a patient's biology and the treatment most likely to help.

LEARN MORE

Fourier Named a Finalist in the 2025 Eddies Innovation Program & Selected for MassChallenge U.S. Early Stage 2024 Cohort

Fourier LLC, a Northeastern University spinout, is gaining national recognition as one of the most innovative advanced materials startups in the region. In FY25, the company was named a finalist in the 39th annual Eddies Innovation Program and selected for the prestigious MassChallenge U.S. Early Stage 2024 Accelerator–two honors that reflect its growing impact and commercial momentum. Co-founded by Jason Hoffman-Bice (CEO) and Northeastern faculty member Dr. Randall Erb (Scientific Advisor), Fourier is commercializing thermoformable ceramic matrix composites–a groundbreaking platform that transforms thin, dielectric ceramic sheets into complex 3D parts. The resulting materials offer multifunctional thermal and packaging solutions for high-demand sectors including communications, aerospace, and energy.

Through the Eddies accelerator, Fourier receives tailored mentorship and commercialization support from regional innovation leaders. During the MassChallenge program, the team unlocked access to global partnerships, funding opportunities, and advanced testing environments–including receipt of the MassChallenge Technology in Space Prize in February 2025. This prize enables Fourier's materials to be tested aboard the International Space Station (ISS)–a milestone that highlights both the innovation and real-world applicability of the company's platform. Furthermore, Hoffman-Bice was named to the Activate Fellowship's 2025 cohort, a two-year program that empowers scientists to build high-impact startups grounded in breakthrough research. The team was also selected for the NSF I-Corps National Spring 2025 program, providing intensive customer discovery training to help align Fourier's deeptech solutions with market needs.

Together, these honors illustrate the company's strong trajectory and the growing validation for its vision: transforming how mission-critical systems are cooled, shielded, and packaged through scalable, high-performance ceramic technologies. With deep roots in Northeastern research and continued support from CRI, Fourier is positioning itself at the forefront of advanced manufacturing and delivering innovation built for the future.

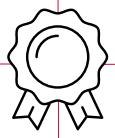
WATCH VIDEO

Invented Here! Honors Northeastern Innovators Meni Wanunu and Aatmesh Shrivastava

Northeastern researchers Meni Wanunu and Aatmesh Shrivastava were named honorees in the 14th Annual Invented Here! Awards by the Boston Intellectual Property Law Association, recognizing their outstanding New England inventions that are accessible, impactful, and ready for real-world application.

Northeastern Spinouts Shine at the 2024 Eddies Awards

Northeastern ventures earned recognition across categories, with pacDNA and Tret Therapeutics named finalists in Life Sciences – Biotech. MyAtlas Health won for Minority-Owned Innovation and Nanolyx won for Greentech & Cleantech Innovation.



Aatmesh Shrivastava Awarded the DARPA Director's Fellowship Award

Aatmesh Shrivastava was awarded the highly selective DARPA Director's Fellowship Award in June 2025. He is one of only 12 recipients of this year's award across all disciplines.

Planck Energies Receives $137,500 MassCEC AmplifyMass Award

Planck Energies, a Northeastern spinout, received a $137,500 MassCEC AmplifyMass award to develop a passive cooling roof coating. The award supports climate tech innovators with commercialization-ready solutions.

Alexander Ivanov Advances to STAT Madness® Sweet 16

Northeastern Associate Professor Alexander Ivanov advanced to the Sweet 16 of the competitive 2024 STAT Madness tournament for his breakthrough work on native N-glycome profiling–a transformative diagnostic technology that analyzes complex cellular sugars with ultra-sensitivity.

Four CRI-Affiliated Spinouts Featured in the Science Coalition's 2025 National Innovation Report

Four Northeastern-affiliated spinouts–Flightpath Biosciences, Scipher Medicine, MatrixSpace, and MetaMagnetics–were featured in the 2025 Sparking American Economic Growth report by the Science Coalition. This national recognition highlights the power of federally funded research to drive real-world impact.

EDUCATION

CRI Academy & Learning Engagement

The CRI Academy is Northeastern's comprehensive training series designed to equip researchers with the tools, knowledge, and strategies to transform their innovations into real-world impact.

18
LEARNING MODULES

93%
AVERAGE GRADE UPON COMPLETION

CRI Academy: Igniting the Next Generation of Innovators

The CRI Academy offers bite-sized learning modules and short video segments that make it easy to fit commercialization training into your busy schedule. Through a curated library of educational videos, the Academy demystifies the commercialization process–from protecting intellectual property to licensing technologies and launching startups.

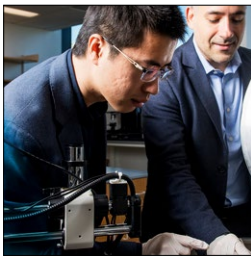
This year, the CRI expanded its Academy with new learning modules that build entrepreneurial fluency and empower faculty innovators across disciplines. Highlights from the series include:

- **IP Essentials**
  Foundational training on patents, copyrights, trade secrets, and compliance frameworks like Bayh-Dole
- **From Disclosure to Patent**
  A step-by-step guide to protecting innovations through Northeastern's patenting process
- **Licensing and Commercialization**
  Deep dives into how technologies are assessed for market fit and brought to industry through exclusive or non-exclusive licenses
- **Spark Fund and Venture Support**
  Insights into CRI's funding programs and startup guidance, including how to build effective teams, navigate fundraising, and structure cap tables

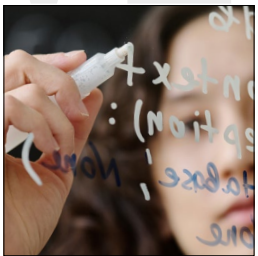
The Academy complements CRI's broader educational outreach, which includes customized presentations to departments, live webinars, and in-person workshops throughout the year. Together, these offerings create a robust learning environment for researchers at every stage of their commercialization journey.

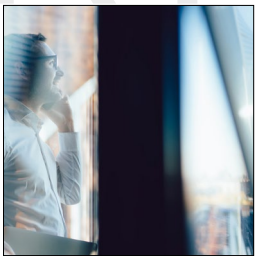
Whether you're a seasoned innovator or new to tech transfer, CRI Academy offers an accessible path to understanding the ecosystem of research commercialization.

LEARN MORE



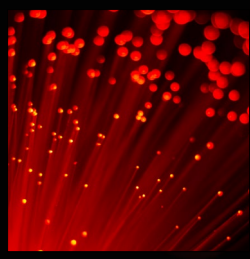
DISCOVERY

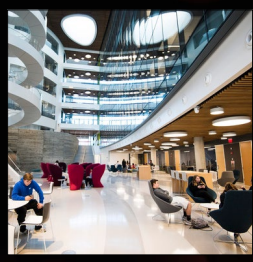




FUTURE

What's Next: Catalyzing Tomorrow's Breakthroughs



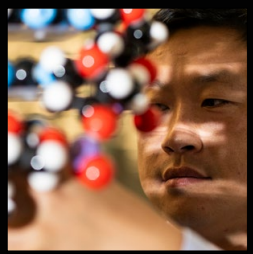


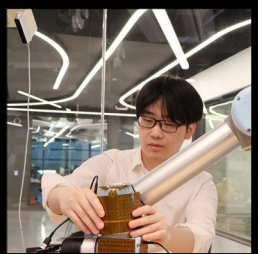
As Northeastern's innovation ecosystem continues to expand, the Center for Research Innovation is charting a bold path forward–one focused on deeper engagement, strategic support, and amplified impact.

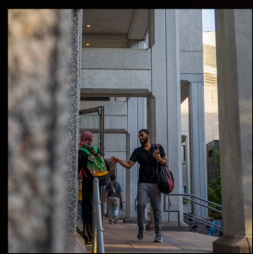
Next year, CRI will build on its robust portfolio of spinouts and protected technologies and by concentrating efforts on a select group of high-impact innovations with strong market potential. Rather than broad coverage, CRI will adopt a quality-over-quantity approach–prioritizing breakthrough discoveries and dedicating focused resources to their advancement. This will include developing targeted commercialization pathways, forging deeper industry partnerships, and expanding tailored support systems to accelerate the journey from lab to market. By aligning strategic focus with societal need, CRI will maximize the impact of Northeastern's most promising technologies–ensuring they don't just remain protected, but become deployed, adopted, and transformative.

Technology transfer is more important than ever and requires a paradigmatic shift to transform research into products that improve lives, services that solve problems, and companies that create jobs. This work extends far beyond the university–it's an economic engine where every patent that becomes a product, every spinout that scales, and every license that launches represents opportunity and societal benefit.

With a strong foundation and clear vision, CRI remains a catalyst for impact, a partner in progress, and a champion for Northeastern research reaching its full potential in serving society.







CRI Team

Jennifer Boyle-Lynch
Executive Director

The CRI team is agile and responsive–focused on the translation of university innovations into tangible solutions through licenses, spinouts and collaborations. Our dedication to establishing ongoing dialogue with industry informs Northeastern's progressive research, enabling a productive balance between exploration and implementation.

INTELLECTUAL PROPERTY AND CONTRACTS

Andy Curtin
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Intellectual Property

Elmira Zenger
Associate Director
Intellectual Property &
Contracts Counsel

Monika Kasprzak
Patent Administration
Manager

COMMERCIALIZATION

Nancy Wetherbee
Director
Commercialization

Mark Saulich
Associate Director
Commercialization

Vaibhav Saini
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Commercialization

VENTURE DEVELOPMENT

Katie Hemphill
Director
Technology Ventures
and Talent Network

FINANCE AND OPERATIONS

Veronique Corrdin
Associate Director
Finance & Operations

Jacqui Mitchell
Technology Transfer Data
& Operations Analyst

James Ssemata
Finance & Operations
Associate

MARKETING AND PROGRAMS

PJ Dupuis
Assistant Director
Marketing & Programs

SUBMIT A DISCLOSURE | PARTNER WITH US | STAY IN TOUCH

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