



Northeastern University and ACTION Innovation Network Welcomes You

A Partnership for Talent and Research



History of Northeastern

- Founded in 1898 in Boston, MA
- Leader in experiential education, lifelong learning, and is ranked as a top tier R-1 university
- 35,000 undergraduate, graduate and law students
- 93% of graduates are employed full-time or in graduate school nine months after graduation
- 3,000 experiential opportunities for students in online graduate programs through more than 900 employers
- \$182 million in external research funding
- 255,000 alumni



Kostas Research Institute for Homeland Security

KRI/ICBM Ecosystem

The campus, located on Boston's Route 128 high-tech corridor, is known for one-of-a-kind facilities, state-of-the-art laboratories and equipment, our venture creation center, and convening space. Our expertise accelerates innovation and discovery in emerging fields, including cybersecurity and nanomedicine to network science and life science.

Model & Approach

Here, faculty and students work closely with experts from industry, government, and academia, translating discoveries into revolutionary new technologies, materials, and systems.

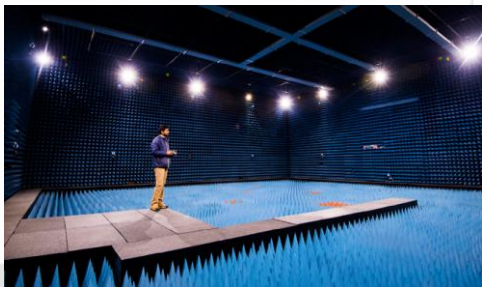
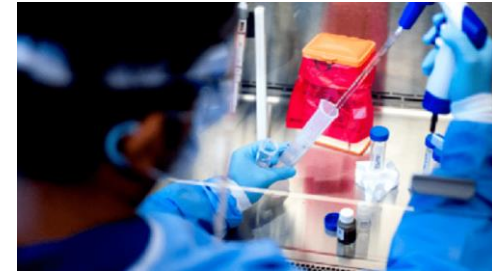
Our unique, customizable **research partnership model** offers:

- **Co-location** of university researchers, early-stage companies, mature industry, government programs
- **Rapid** development, prototyping, and transition of technology innovations
- **Agility** to bring on external research partners
- **High-trust environment** (proprietary to secure facilities)
- **Attracting** Programs of Record as co-located partners on ICBM to facilitate funding opportunities
- **Accelerating** transition from discovery into practical uses and commercializable products



Labs

Expeditionary Cyber and Unmanned Aircraft Systems R&D Facility (ECUAS) * Wireless Internet of Things (WIoT) * Colosseum RF Channel Emulator * Cold Spray Lab * APEC Center of Excellence * KRI Advanced Nan-Characterization Facility (KANCF) * Life Sciences Testing Center (LSTC) * Biopharmaceutical Analysis Training Lab (BATL) * KRI Magnetic Materials and Devices Lab * Nanoscale Technology and Manufacturing Research Center * Video Analytics Lab (ALERT)* Laboratory for Structural Testing of Resilient and Sustainable Systems (STReSS Lab)



Competencies & Industry Partners

Competencies:

Autonomous Systems
Data analytics, system modeling and network science
Drug analysis and testing
Large-structure design and testing
Manufacturing (Cold spray additive and nanomanufacturing)
National security, cybersecurity, and intelligence
Novel materials and devices
Structural testing of materials and designs

Industry Partners:

Rogers Corporation - Materials, batteries
AeroVironment – U.S - based drone development and manufacturing
Raytheon – Materials, devices, cold spray
VRC Metal Systems – Cold spray
IPG – Laser- assisted cold spray
Milara – Nanomanufacturing, robotics
Keystone Towers - Resilient Infrastructure
AM General – Humvee sustainment
Command Strategies – DoD programs
Analog Devices - Nanofabrication
Rapiscan – Sensing, security
MassPort – Security, screening
Qorvo Texas – Ferrite composite materials
Agilent – Analytical laboratory instrument manufacturing

Early-Stage Companies

- **Boston Intelligent Systems** - Millimeter wave system drone imaging and navigation systems.
- **Matrix Space**- Experts in distributed sensing and machine intelligence.
- **Autonodyne** – Advanced autonomous designs for unmanned flight systems.
- **Guardion** – Radiation, chemical, and ion detection devices.
- **BioNet Sonar** - Enable “The Internet of Medical Things” with a new generation of smart medical implants.
- **14bis Supply Tracking** - Digital and physical asset tracking solution.
- **MetaMagnetics** - High-end RF and power components for mission-critical security, surveillance and communication systems.
- **Evergreens** – Developing indoor crops without sun, soil, or pesticides cutting seed-to-harvest cycle times.
- **MakScientific** - Leader in the cannabinergic medical field including treating pain, addiction, metabolic disorders, neurodegenerative diseases and inflammation.
- **PafosPharma** - developing novel medications for therapeutic indications related to the endocannabinoid biochemical system.
- **TheraNano** – Translating nanomedicine discoveries for safe and effective therapies for prostate, breast, ovarian and other cancers.
- **NeuroFieldz** – Mobile brain and eye monitoring technologies that test for glaucoma, macular degeneration, amblyopia, traumatic brain injury and other conditions.
- **Adnab Life Sciences** - developing novel antibody drug conjugates (ADC's) for patients with cancer and other severe diseases
- **Zeptive, Inc**- Testing vaping chemical contents.
- **RegenX**- A biotechnology company focused on collagen production and its application in novel clinical treatments and therapeutics.
- **NIRA BioSciences**- Developing novel photoimmunotherapy drugs for the treatment of inflammatory skin diseases

Example of University Partners

- Boston University
- RPI
- UConn
- UMass-Amherst
- UMass-Lowell
- URI
- WPI
- Penn State
- Rowan
- Temple
- UPenn
- UNC
- UNCC
- UIUC
- UPR-Mayaguez
- USC
- UTenn-Knoxville
- NDSU
- FIU
- UNT
- USM
- UH

Global Resilience Institute

Our Mission

Develop, enhance, and deploy practical and innovative tools, applications, best practices, and skills that strengthen the resilience of:



Individuals



Communities



Enterprises



Infrastructure, Systems,
& Networks



Societies

Resilience Solution Areas

At the Global Resilience Institute (GRI), we focus on applied research that helps communities and enterprises to become more resilient so that they can thrive and adapt in the face of inevitable shocks and disruptions. GRI supports resilience-building efforts with these unique capabilities:



Integrated
Resilience
Enhancement
Solution for Communities



Integrated
Resilience
Enhancement Solution for
Enterprises



Resilience
Education
& Training



Incident
Management
& Business
Continuity
and Recovery



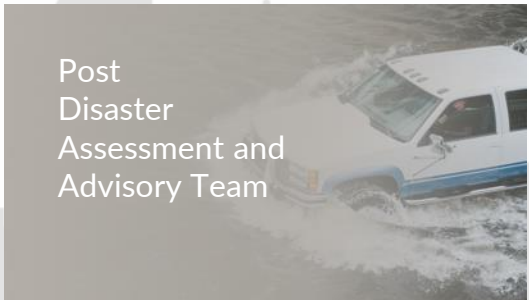
Vetted
Resilience
Technology
Solutions



Building
Cyber
Resilience



Critical
Infrastructure
Resilience



Post
Disaster
Assessment and
Advisory Team

GRI Team



Faculty Affiliates

Over 110 resilience faculty experts from all 9 of Northeastern's colleges including the College of Engineering, College of Computer and Information Science, Business School, Law School, and College of Social Sciences and Humanities



GRI Staff

29 staff members with research and educational expertise in multiple strategic areas



Distinguished Fellows

30+ real-world practitioners from the government, public and industry sectors who share GRI's commitment to advance societal resilience



Post-Disaster Assessment & Advisory Team

10 experts with deep operational expertise in disaster response

The Global Resilience Research Network (GRRN)

Founded by GRI in collaboration with the Fraunhofer Ernst-Mach-Institut (EMI), the GRRN is a **membership network** of leading universities, institutes, non-profit organizations, and companies engaged in resilience research that **informs the development of novel tools and applications**.

As a global network of researchers and practitioners, the GRRN applies interdisciplinary knowledge to support resilience across scales. Our network focuses on ensuring that societies can better cope with sudden disruptions and responding to disasters occurring anywhere in the world with resources and support aimed at rebuilding more resilient communities and infrastructures. On all continents, the GRRN draws on the expertise of diverse resilience experts to conduct assessments, innovate solutions, and enhance local capacity for resilience.



Experiential Opportunities

Co-op

Experiential
Network
(XN)

Faculty-
Sponsored
Research

Study
Abroad

Dialogues of
Civilization

Service
Learning

Cooperative Education (Co-op)

Academic | Experiential

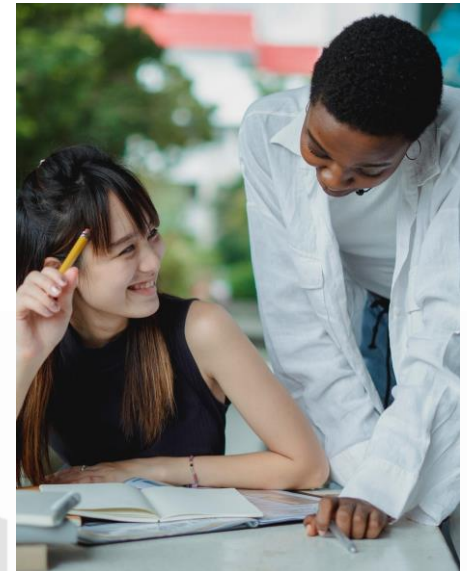
6-months | Full-time/Paid | Onsite/Remote | Flexible Options

12,000+ Students | 3,000+ Employer-partners

Domestic | Global

EECD | Co-op Faculty

Employability | Pipeline



Cooperative Education (Co-op) - Global

600 students/year

6 continents | 145 countries

International Hubs | Global Alumni Communities

NU Support Network | Global Experience Office | International Safety Office
Office of Global Services | Off-Campus Housing and Support Services

Employability | Pipeline



Experiential Network (XN) Key Points

- Projects are completed virtually via email, phone, Skype, etc.
- Flexible work schedule for both student and sponsor
- 5-6 hours per student, per week; approximately 30 hours over approximately 6 weeks
- 1 hour per sponsor, per student, per week in guidance and mentorship



Experiential Network (XN) Projects

Students take projects as **course assignments**, as **noncredit professional development opportunities**, and as **capstone projects**

Project Types

Business Strategy/Development

Data Analysis

Fundraising Strategy

Software Analysis

Social Media Strategy

Marketing Strategy

Stakeholder Analysis

Cost Analysis

Academic Programs

MS Corporate

Organization Communication

Level Data Analytics Bootcamp

MS Nonprofit Management

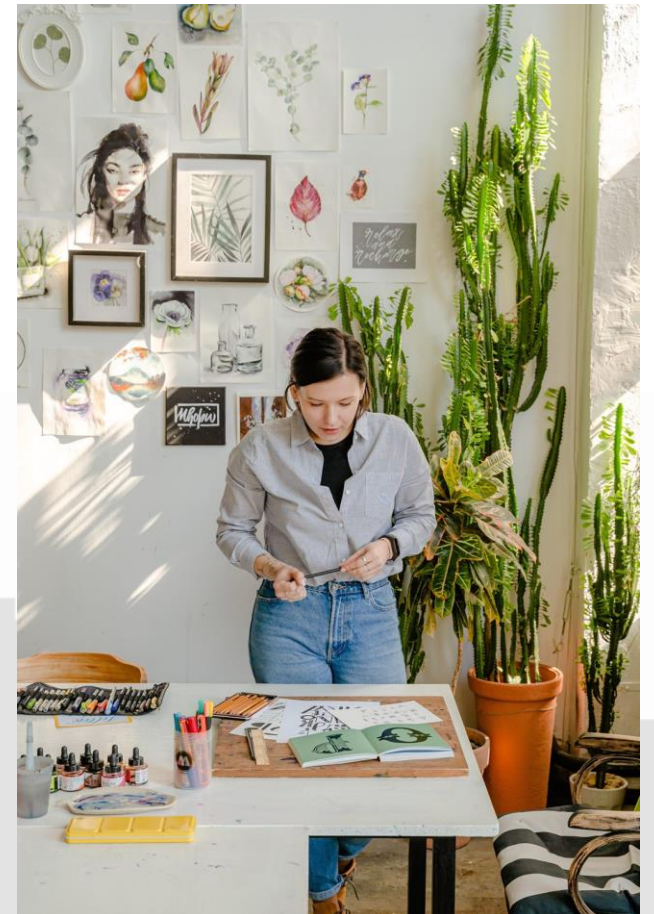
MS Project Management

BS International Business

MS Regulatory Affairs

BS Premedical Certificate

MA Legal Studies



Recent Experiential Network Projects

- ❖ **Santander**
 - Core School Selection, Boston Training Program
- ❖ **InvoiceCloud, Inc.**
 - Key Billing Software Market Research
- ❖ **World Education, Inc.**
 - E-Learning Video Production
- ❖ **Easter Seals Massachusetts**
 - Implementing Human Services Programs with Budgetary Constraints
- ❖ **USCAA**
 - Funding Strategy for US Collegiate Athletics Association
- ❖ **The Refinery, LLC**
 - Global Market Analytics and Draft Forecast



Contacts

Peter Boynton, CEO, NU Kostas Research Institute p.boynton@northeastern.edu

Scott Pickens, Director for Marketing & Development Operations, NU Global Resilience Institute
s.pickens@northeastern.edu

James Boyle, Director, NU Employer Engagement and Career Design j.boyle@northeastern.edu

Aspa Papanastasiou, Associate Director Global Partnerships, NU Employer Engagement and Career Design
a.papanastasiou@northeastern.edu

Laura Evangelista Engel, Associate Director The Experiential Network, NU Employer Engagement and Career Design l.engel@northeastern.edu

Mark Almeida, Academic Advisor and Lecturer, NU College of Professional Studies
m.almeida@northeastern.edu



Thank You for Attending our Session!

