DOCTOR OF PHILOSOPHY

Hooding and Graduation Ceremony

1 MAY 2023

CONTENTS

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A UNIVERSITY ENGAGED WITH THE WORLD

THE HISTORY OF NORTHEASTERN UNIVERSITY

Founded in 1898, Northeastern is a global research university and the recognized leader in experiential learning. Despite the university's current preeminence, Northeastern had modest origins.

At the end of the 19th century, immigrants and first-generation Americans constituted more than half of Boston's population. Chief among the city's institutions committed to helping these people improve their lives was the Boston YMCA. The YMCA became a place where young men gathered to hear lectures on literature, history, music, and other subjects considered essential to intellectual growth.

In response to the enthusiastic demand for these lectures, the directors of the YMCA organized the "Evening Institute for Young Men" in May 1896. Frank Palmer Speare, a well-known teacher and high-school principal with considerable experience in public schools, was hired as the institute's director. Two years later, under Speare's direction, the YMCA advertised the creation of the "Department of Law of the Boston YMCA," and on October 3, 1898, Robert Gray Dodge taught the first class. The program, an immediate success, marked the birth of Northeastern University. Speare would later remark, "We started with an eraser and two sticks of chalk."

When demand for other courses grew, Speare moved to add more programs, and in 1909 the full-time day colleges began instruction. That same year, the Evening Polytechnic School announced "cooperative engineering courses," in which students would have an opportunity to apply classroom knowledge in the workplace—the beginning of Northeastern's signature cooperative education program.

Decades of expansion

The school continued to grow, and in 1922 the College of Business was founded. More space was needed. The university purchased the former home of the Boston Red Sox in 1929, and in 1934 the Boston architectural firm Shepley, Bulfinch, Richardson, and Abbott was awarded the contract to design Richards Hall. Using what was to become the campus signature—white brick—Shepley, Bulfinch presented plans for a neoclassical building. Opened in 1938, Richards Hall was the first building to appear on the front quadrangle.

As the campus grew, so did Northeastern's programs. In 1935, the College of Liberal Arts was added, signaling that Northeastern was on its way to becoming a major university.

When Speare stepped down as president in 1940, he was replaced by Carl Stephens Ell, dean of the College of Engineering. It was under Ell's leadership that Northeastern first admitted women to full-time day programs.

In the postwar world, Northeastern, like its peer institutions, saw a phenomenal increase in the number of people attending college. The university expanded its programs to

accommodate this growing population of increasingly diverse students. In rapid succession, additional programs and colleges were established: College of Education, 1953; University College, 1960; College of Pharmacy, 1962; College of Nursing, 1964; Boston Bouvé College, 1964; College of Criminal Justice, 1967; and College of Computer Science, 1982.

This expansion of programs brought with it a need for more buildings—and land. When Ell retired as president in 1959, he was succeeded by Asa S. Knowles. Under his leadership, suburban properties in Weston, Nahant, and Burlington were acquired and the Boston campus blossomed with new buildings, including various undergraduate dormitories designed to accommodate the increasing number of residential students at what had been primarily a commuter campus.

Transforming the Boston campus

When Knowles retired in 1975, he was succeeded by Kenneth G. Ryder, who had begun his career at Northeastern as a member of the history department and had risen through the ranks to become executive vice president before his election as president. Under his leadership, the university expanded and enriched its programs, particularly in the arts and humanities, and continued to improve its facilities. Plans for the Snell Library were finalized during Ryder's tenure, and the campus was beautified. During these years, Northeastern also deepened its commitment to Boston and its neighborhoods.

In 1989, Ryder stepped down as the fourth president of the university. He was succeeded by John A. Curry, Northeastern's executive vice president and its first alumnus to become president. With President Curry in charge, the university embarked on a series of ambitious undertakings, including a new science and engineering research center, a state-of-the-art classroom building, a recreation complex, and several new graduate and undergraduate programs.

To support these new ventures, Curry led Northeastern in a successful fundraising campaign. His years of leadership also featured significant restructuring as the university prepared to enter its second century. In June 1996, after four decades of service, Curry retired from Northeastern. To succeed him, the trustees elected Richard M. Freeland as the university's sixth president.

Elevating experience

A distinguished historian and administrator, President Freeland brought to the university a renewed sense of energy and mission. His programs were designed to support his vision of Northeastern as a university that would be student-centered, practice-oriented, and urban. Northeastern developed the West Campus with architecturally acclaimed residence halls and teaching facilities for the health sciences and computer science, and added new spaces to enrich student life on campus.

When Freeland stepped down in 2006, he was succeeded by Joseph E. Aoun, an internationally known linguistics scholar. Northeastern's seventh president came from the University of Southern California, where he served as dean of the College of Letters, Arts, and Sciences. President Aoun developed an academic plan outlining the university's vision in several areas: experiential learning, global outreach, use-inspired research, urban engagement, and intellectual life. He greatly expanded global co-op opportunities. He also aligned the university's research with three worldwide imperatives—health, security, and sustainability—with a focus on interdisciplinary solutions.

A rising global profile

Under Aoun's leadership, Northeastern launched a system of campuses designed to be platforms for lifelong learning aligned with area economies. The first two opened in Charlotte, North Carolina (2011), and Seattle (2013). Three more campuses followed in San Francisco and San Jose, California (2015), and in Toronto (2016).

In 2016, Aoun led the development of a new academic plan, Northeastern 2025. The plan was a blueprint for transforming the university into a global university system—featuring networks of learners and innovators—designed to empower people to succeed in this era of unprecedented technological change. Accordingly, the university expanded the role of its global campuses to serve as platforms for learning, research, and industry partnerships. In 2019, it opened another location in Vancouver and acquired New College of the Humanities in London, now officially Northeastern University London and offering undergraduates a unique opportunity to earn a dual U.S./U.K. degree. Later in 2019, Northeastern launched a research campus in Arlington, Virginia, an addition to two existing research campuses in Nahant and Burlington, Massachusetts (formed in 1967 and 2012 respectively).

Then in January 2020, technology entrepreneur David Roux and his wife, Barbara, made an investment in the university to open the Roux Institute in Portland, Maine. The institute focuses on graduate studies and research in fields such as AI, digital engineering, and advanced life sciences, amplified by industry partnerships. It was specifically designed to be a model of how higher education can ignite economic development in regions of the country largely bypassed by the innovation economy, setting a new bar for what the global university system could achieve.

Resilience and momentum

The same revolutionary vision for global learning and discovery that inspired Northeastern 2025 infuses the university's latest academic plan, Experience Unleashed. The plan is designed to deepen the impact of Northeastern's global network by maximizing the power of experience to understand and solve the world's interconnected, ever-evolving challenges.

In 2022, the university took a significant step in realizing the potential for its global system by merging with Mills College in Oakland, California, becoming the first university with comprehensive residential campuses for undergraduate and graduate students on both U.S. coasts. Northeastern's Oakland campus is now home to Mills College at Northeastern and the Mills Institute, focused on equity, social justice, and women's leadership. Later in 2022, Northeastern announced its newest campus in Miami, with graduate education and innovation partnerships aligned with South Florida's economic growth.

Thanks to the dedication and hard work of our university community, Frank Palmer Speare's "eraser and two sticks of chalk" have evolved into one of the world's most innovative universities and a platform for significant impact. Our faculty collaborates more fluidly with experts across industry, government, and community-based organizations. Ideas and solutions can be scaled. And our students are empowered to be true global citizens, scientists, entrepreneurs, and creators—prepared to make an impact wherever they go.

PROGRAM

Presiding

David Madigan
Provost and Senior Vice President for Academic Affairs

Prelude

Processional

The audience is requested to remain seated during the processional of the graduates and faculty. Upon a signal from the Chief Marshal, the audience will rise and remain standing until instructed to be seated.

Music provided by Northeastern University's brass quintet.

We kindly ask those in attendance to silence their electronic devices.

DOCTOR OF PHILOSOPHY HOODING AND GRADUATION CEREMONY

MATTHEWS ARENA, ONE O'CLOCK

Opening Remarks

David Madigan, *Provost and Senior Vice President for Academic Affairs*

Graduation Speaker

Drew Conway, Managing Director and *Head of Science for Two Sigma Private Investments*

Conferring of Degrees

David Madigan, *Provost and Senior Vice President for Academic Affairs*

Degree in Course

Debra Franko, *Senior Vice Provost for Academic Affairs*

KHOURY COLLEGE OF COMPUTER SCIENCES
Elizabeth D. Mynatt, *Dean*
Amal Ahmed, *Associate Dean*

COLLEGE OF ENGINEERING
Gregory Abowd, *Dean*
Sagar Kamarthi, *Associate Dean*
Mark Niedre, *Associate Dean*

BOUVÉ COLLEGE OF HEALTH SCIENCES
Carmen Sceppa, *Dean*
Jennifer L. Kirwin, *Associate Dean*

COLLEGE OF SCIENCE
Hazel Sive, *Dean*
Carla Mattos, *Associate Dean*

COLLEGE OF SOCIAL SCIENCES AND HUMANITIES
Uta G. Poiger, *Dean*
Thomas J. Vicino, *Associate Dean*

Recessional

The audience is requested to remain seated during the recessional. All graduates, guests, and other participants are invited to a reception immediately following the ceremony.

Graduation Speaker
Drew Conway

Drew Conway is a prominent data scientist, entrepreneur, author, and speaker at the forefront of shaping the fast-growing and complex field of data science. He has built companies and advised and consulted on the application of data science and engineering across industries, ranging from fledgling startups to Fortune 100 companies to academic institutions and government agencies.

He is renowned for developing the Data Science Venn Diagram, which outlines the inherently interdisciplinary components of data science. Conway's definition of data science hinges on the value of applying computational methods to social and behavioral problems at scale. He emphasizes the need for not only technological, math and science, and subject matter expertise, but also the often elusive ability to clearly communicate the outputs of data science to lay audiences.

Gathering data has become easier in recent years, he explained in an interview, but what hasn't is asking good questions and interpreting the analysis in ways that non-data-driven industries can use.

Conway has made a career at that intersection. Today, he is the managing director and head of data science for Two Sigma Private Investments Group. There, he leads R&D for tools that support the investment process across Two Sigma's private investment businesses, including venture capital, private equity, and real estate.

He started his career as a computational social scientist in the U.S. intelligence community, supporting the nation's counter-terrorism mission. He later founded Alluvium to bridge the gap between industrial machine data and the business and consumer users who use this data to make better decisions. As CEO, he was the driving force behind the company's vision and growth until its acquisition in 2019.

Conway's advice, leadership, and big-picture thinking are well-respected in the New York City technology community and throughout the world. In 2011, he co-founded DataKind, a global nonprofit network of pro bono data scientists dedicated to leveraging data for the greater good. He was senior advisor to the Mayor's Office of Data Analytics for the city of New York, which aggregates and analyzes data from across city agencies to address crime, public safety, and quality of life issues. And he was an advisor to the data companies Mortar Data (acquired by Datadog in 2015) and Yhat (acquired by Alteryx in 2017).

Conway is the author of *Machine Learning for Hackers*, a popular introductory text on machine learning techniques. He earned a bachelor's in computer science from Hamilton College in 2004 and a doctorate in politics from New York University in 2013, where he was the recipient of a MacCracken Fellowship.

DOCTOR OF PHILOSOPHY CANDIDATES AND DISSERTATION TITLES

KHOURY COLLEGE OF COMPUTER SCIENCES

In the field of Computer Science

Mania Abdi, MS, Northeastern University
Dissertation: Informed Optimization of Cloud Storage
Advisor: Peter Desnoyers

Leif Andersen, BS, MS, University of Utah
Dissertation: A Mechanism for Extending Programming Languages with Domain-Specific Interactive and Visual Syntax
Advisor: Matthias Felleisen

Benjamin Chung, BS, Carnegie Mellon University
Dissertation: A Type System for Julia
Advisor: Jan Vitek

Sara Di Bartolomeo, BS, MS, La Sapienza University of Rome
Dissertation: Layered Graphs and Their Layouts, Evaluations, and Applications
Advisor: Cody Dunne

John Henry Doerner II, BS, BA, University of Virginia; MS, Northeastern University
Dissertation: Three Useful Threshold Cryptography Problems with Efficient Solutions
Advisor: Abhi Shelat

Bo Feng, MS, Wuhan University
Dissertation: Towards Automated, Scalable, and Hardware-Independent Firmware Testing
Advisor: Long Lu

Claudia Ines Flores Saviaga, MS, Carnegie Mellon University
Dissertation: Collective Action Systems to Mitigate Disinformation
Advisor: Saiph Savage

Olivier Reto Flückiger, BS, MS, University of Bern
Dissertation: Just in Time: Assumptions and Speculations
Advisor: Jan Vitek

Aviral Goel, BE, Netaji Subhas Institute of Technology
Dissertation: Data-Driven Ecosystem Migration: Non-Intrusive Migration of R Ecosystem from Lazy to Strict Semantics
Advisor: Jan Vitek

Xuangui Huang, BS, MS, Shanghai Jiao Tong University
Dissertation: On Approximating by Polynomials and Several Related Models
Advisor: Emanuele Viola

Dat Ba Huynh, BS, Ho Chi Minh City University of Science
Dissertation: Learning With Less Labels via Textual-to-Visual Knowledge Transfer
Advisor: Ehsan Elhamifar

Sarthak Jain, BTech, Delhi Technological University
Dissertation: The Model Thinks What?! Interpreting Deep NLP Models with Rationales and Influence
Advisor: Byron Wallace

Sammie Katt, BS, MA, University of Amsterdam
Dissertation: Bayesian Model-Based Reinforcement Learning in Partially Observable Environments
Advisor: Chris Amato

Pushyami Kaveti, BTech, Jawaharlal Nehru Technological University Hyderabad; MS, University of Florida
Dissertation: Using Multi-Camera Systems for Robust SLAM
Advisor: Hanumant Singh

Lucianna Carvalhaes Kiffer, BS, Tulane University
Dissertation: Centralization in Blockchains: Causes and Mitigations
Advisors: Alan Mislove and Rajmohan Rajaraman

Yashvanth Mohan Kondi, BTech, MTech, International Institute of Information Technology, Bangalore
Dissertation: Practical Threshold Elliptic Curve Cryptography from Native Assumptions
Advisor: Abhi Shelat

Mehraneh Liaee, BS, MS, Sharif University of Technology
Dissertation: Algorithms for Network Resource Allocation under Adversarial Dynamics and Assignment Constraints
Advisor: Rajmohan Rajaraman

Benjamin Nye, BA, Swarthmore College; MSE, University of Pennsylvania
Dissertation: Understanding Randomized Controlled Trials: From Free Text to Structured Data
Advisor: Byron Wallace

Talha Ongun, BS, Sabanci University
Dissertation: Resilient Machine Learning Methods for Cyber-Attack Detection
Advisor: Alina Oprea

Aditeya Pandey, BTech, Kalinga Institute of Industrial Technology
Dissertation: The Role of Data and Tasks in Visualization Design and Recommendation Systems
Advisor: Michelle Borkin

Daniel Baker Patterson, BS, Brown University
Dissertation: Interoperability Through Realizability: Expressing High-level Abstractions Using Low-level code
Advisor: Amal Ahmed

Carlos Toxtli-Hernandez, MS, Monterrey Institute of Technology
Dissertation: Artificial Intelligence Tools to Promote Social Good in Gig Markets
Advisor: Saiph Savage

Yuchen Xiao, BS, Kunming University of Science and Technology; MEng, Dalian University of Technology; MS, Columbia University
Dissertation: Macro-Action-Based Multi-Agent/Robot Deep Reinforcement Learning under Partial Observability
Advisor: Christopher Amato

Ruiyang Xu, BS, Nanjing Forestry University; MS, Northeastern University
Dissertation: Persephone: A Framework for Applying Neural MCTS to Problem Solving and Model Checking Through Recursive-FOL Based Semantic Game
Advisor: Karl Lieberherr

In the field of Cybersecurity

Bahruz Jabiyev, BS, Middle East Technical University; MS, Istanbul Sehir University; MS, Northeastern University
Dissertation: Improving Internet's Immunity Against HTTP Server Chain Attacks
Advisor: Engin Kirda

Alejandro Sebastian Mera, BS, Army Polytechnic School; MS, University of the Armed Forces; MS, Northeastern University
Dissertation: Holistic Methods for Protecting and Testing Embedded Devices
Advisor: Engin Kirda

Reza Mirzazade Farkhani, MS, Azad University of Mashhad
Dissertation: Understanding and Mitigating Memory Corruption Attacks
Advisor: Long Lu

Harshad Milind Sathaye, MS, Northeastern University
Dissertation: Towards Secure Autonomous Aerial Vehicle Navigation
Advisor: Aanjhan Ranganathan Guevara Noubir

Domien Schepers, MS, Northeastern University
Dissertation: Towards Rapid Prototyping for Wi-Fi Security Research
Advisor: Aanjhan Ranganathan Guevara Noubir

COLLEGE OF ENGINEERING

In the field of Bioengineering

Tianchi Chen, MS, Boston University
Dissertation: Analysis and Synthesis of Cellular Decision Making: Modeling Epigenetic Regulation in Cell Fate Networks and Designing a Distributed Synthetic Counter Circuit
Advisor: Eduardo Sontag

Lauren Frances Cole, BS, Tufts University
Dissertation: Transcription Factors Regulating Vindoline Biosynthesis in Catharanthus roseus
Advisor: Carolyn Lee-Parsons

Jason Mitchell Derks, BS, University of California, Santa Barbara
Dissertation: Quantifying the Proteomes of Single Nuclei
Advisor: Nikolai Slavov

Yasmeen Mariah Farra, BS, Trinity University
Dissertation: A Biomechanical Analysis of the Effects of Chronic Electronic Cigarette Exposure on Aortic Structure and Function
Advisor: Chiara Bellini

Alexander Eric Grath, BS, Rensselaer Polytechnic Institute
Dissertation: Highly Efficient Fibroblast to Endothelial Cell Transdifferentiation Using ETV2 and Sox17
Advisor: Guohao Dai

Richard Grayson Huffman, BS, The City College of New York
Dissertation: Prioritized Analysis of Inflammatory Macrophage Polarization
Advisor: Nikolai Slavov

Joshua Paul Luchan, BE, The City College of New York
Dissertation: Developing in Vitro Models of the Microbiota-Epithelial-Immune Axis
Advisor: Rebecca Carrier

Kristine Y. Ma, AB, University of Chicago; ScM, Brown University
Dissertation: Programmable Nucleic Acid Nanostructures as Platforms for Contrast Agents for MRI Analysis
Advisor: Heather Clark

Mireia Perera Gonzalez, BS, Carlos III University of Madrid
Dissertation: Dynamic Platform for Magnetic Resonance Imaging of Bioresponsive Contrast Agents
Advisor: Heather Clark

Aleksandra Agnieszka Petelski, BE, ME, Stevens Institute of Technology
Dissertation: Investigating Proteome Remodeling Using Mass Spectrometry Proteomics
Advisor: Nikolai Slavov

Samuel Djavan Salinas Utrilla, BS, Case Western Reserve University; MS, The University of Akron
Dissertation: The Role of Elastin on Multi-Scale Biomechanics of the Tricuspid Valve Leaflets
Advisor: Rouzbeh Amini

Michael William Stahl Jr., BS, Boston University; MS, Northeastern University
Dissertation: Structured Light Detection and Delineation of Tripping Hazards for Visually Impaired
Advisor: Michael Epstein

Suzanne Elizabeth Stasiak, BS, Boston University
Dissertation: The Mechanobiology of Airway Narrowing in Asthma
Advisor: Harikrishnan Parameswaran

Morris Dwight Vanegas, BS, MS, MS, Massachusetts Institute of Technology
Dissertation: Enhancing Portability, Modularity, and Optode Density in Translational Diffuse Optical Imaging
Advisor: Qianqian Fang

Yao Wang, BEng, Harbin Engineering University; MS, Northeastern University
Dissertation: Roadmaps to Automated Laser Surgery on Neurites of Caenorhabditis Elegans
Advisor: Samuel Chung

In the field of Chemical Engineering

Caterina Bartomeu Garcia, MS, Rovira i Virgili University
Dissertation: TAT-Functionalized pH-Sensitive Liposomes for the Treatment of Bacterial Meningitis
Advisor: Rebecca Willits

Adam James Bindas, BS, New Jersey Institute of Technology
Dissertation: In Vitro Characterization of Parkinson's Disease and Microfluidic Investigation of Gut-Brain Axis Biology
Advisor: Abigail Koppes

David Stephen Farina Jr., BS, Boston College
Dissertation: Automating Reaction Mechanism Generation of Halocarbon Combustion and Electrochemical Catalysis
Advisor: Richard West

Jacob M. Hebert, BS, University of Maryland, College Park
Dissertation: ICAM-1 Nanobody Density on Liposomes Affects Targeting of Triple Negative Breast Cancer and Inflamed Endothelium
Advisor: Debra Auguste

Matthew Alejandro Kim, BS, University of Arizona
Dissertation: Cobalt and Nickel-Free Layered Transition Metal Oxides for Low-cost Secondary Batteries
Advisor: Joshua Gallaway

Yiting Zheng, BS, University of Science and Technology of China
Dissertation: Enhanced Optical Detection of Chemical and Biological Species With Volume-Shrinkable Hydrogel
Advisor: Ming Su

In the field of Civil and Environmental Engineering

Irmarie Cotto, MS, University of Puerto Rico at Mayaguez
Dissertation: Characterization of Comammox Bacteria in Wastewater Secondary Treatment Systems
Advisors: Ameet Pinto and Annalisa Onnis-Hayden

Sarah Alessandra Sanchez, BS, MS, Northeastern University
Dissertation: Modeling Environmental Impacts with Care Professionals and Examining Hazardous Air Pollutants in Environmental Justice Communities in Massachusetts
Advisor: Matthew Eckelman

Alanna Claire Sparagna, BA, Smith College; MS, Northeastern University
Dissertation: Applying Passive Sampling to Study the Transport of Contaminants at Multiple Scales
Advisor: Loretta Fernandez

Katherine Jeanne Vilardi, BS, Wentworth Institute of Technology; MS, Northeastern University
Dissertation: Interactions of Comammox Bacteria with Aerobic and Anaerobic Nitrifying Bacteria in Engineered Ecosystems
Advisor: Kelsey Pieper

In the field of Civil Engineering

Silvestre Alberto Chan Esquivel, BS, MEng, Universidad Autonoma de Yucatan
Dissertation: Seismic Resilience of Communities: Building Clusters
Advisor: Mehrdad Sasani

Patrick Dennis Compton, BS, United States Air Force Academy; MS, Northeastern University
Dissertation: Electrochemical Treatment of Recalcitrant Organic Contaminants Utilizing Activated Carbon-Based Heterogeneous Catalysts
Advisor: Akram Alshawabkeh

Alpay Burak Demiryurek, BS, Middle East Technical University; MS, Northeastern University
Dissertation: Induced Partial Saturation, IPS, for Liquefaction Mitigation: Numerical Simulation and Field Verification
Advisor: Mishac Yegian

Xinlong Du, BS, Central South University; MS, Tongji University
Dissertation: Hurricane Risk Analysis of Electrical Transmission Networks
Advisor: Jerome Hajjar

Nan Gao, MS, Tianjin University
Dissertation: Cost Overruns and Automated Risk Identification for US Rail Projects Using NLP
Advisor: Ali Touran

Esmaeil MemarzadehZavareh, BS, Amirkabir University; MS, Iran University of Science and Technology
Dissertation: Structural Damage Characterization by Updating with Special Attention to Under-Constrained Problems
Advisor: Dionisio Bernal

Ugurcan Ozdemir, BS, Middle East Technical University; MS, Michigan State University; MS, Northeastern University
Dissertation: Field Implementation and Monitoring of Induced Partial Saturation IPS, for Liquefaction Mitigation
Advisor: Mishac Yegian

Pu Ren, BS, MS, Southeast University
Dissertation: Embedding Physics into Deep Learning for Spatiotemporal Systems
Advisor: Qi Wang

McNamara Buck Rome, BS, University of Massachusetts Amherst
Dissertation: From Water Quality to River Health
Advisor: Ed Beighley

Bita Sadeghinasr, MS, Northeastern University
Dissertation: Using Emerging Big Data Sources to Better Understand Travel Patterns and Bicycle Accessibility
Advisor: Peter Furth

Nan Wang, BS, Dalian University of Technology; MS, Delft University of Technology
Dissertation: Modeling of Water Waves and Sediment Transport using Physics-Based and Soft Computing-Based Methods
Advisor: Qin Chen

In the field of Computer Engineering

Shivang Aggarwal, BTech, Manipal Institute of Technology; MS, The State University of New York at Buffalo
Dissertation: Towards Reliable, High Throughput mmWave Wireless LANs for Mobile Devices
Advisor: Dimitrios Koutsonikolas

Md Navid Akbar, BS, Bangladesh University of Engineering and Technology; MS, The University of Texas at Dallas
Dissertation: Inference from Brain Imaging: Incorporating Domain Knowledge and Latent Space Modeling
Advisor: Deniz Erdogmus

Neset Unver Akmandor, BS, Bilkent University; MS, Middle East Technical University
Dissertation: Improving Computational Efficiency of Motion Planning Algorithms for Mobile and Time-Dependent Robotic Tasks in Dynamic Environments
Advisor: Taskin Padir

Sadjad Asghari Esfeden, BS, University of Tehran; MS, Northeastern University
Dissertation: SpatioTemporal Prediction of Object Handover for Human Robot Collaboration, a Computer Vision Approach
Advisor: Deniz Erdogmus

Leonardo Bonati, BS, MS, University of Padova
Dissertation: Softwarized Approaches for the Open RAN of NextG Cellular Networks
Advisor: Stefano Basagni

Parisa Borhani Darian, BS, MS, Islamic Azad University
Dissertation: Deep Learning of GNSS Signal Detection
Advisor: Pau Closas

Mithun Diddi, BTech, SRM Institute of Science and Technology
Dissertation: Multiple UAVs for Synchronous-Shared Tasks and Longterm Autonomy
Advisor: Hanumant Singh

Sara Garcia Sanchez, BS, MS, Universidad Politecnica de Madrid
Dissertation: Learning and Shaping the Wireless Environment: An Integrated View of Sensing, Computing, and Communication
Advisor: Kaushik Chowdhury

Kai Huang, BS, Shanghai Jiao Tong University; MS, Northeastern University
Dissertation: Partitioning Data Across Multiple, Network Connected FPGAs With High Bandwidth Memory to Accelerate Non-streaming Applications
Advisor: Miriam Leeser

Danlin Jia, BS, Harbin Institute of Technology
Dissertation: Towards Performance and Cost-Efficiency for Data-Intensive Applications in Distributed Data Processing Systems
Advisor: Ningfang Mi

Tong Jian, BS, Xi'an Jiaotong University; MS, Rensselaer Polytechnic Institute
Dissertation: Robust Sparsified Deep Learning
Advisor: Stratis Ioannidis

Elmira Karimi, BS, MS, Sharif University of Technology
Dissertation: Exploring High Performance Sparse Operations on GPUs
Advisor: David Kaeli

Tarik Kelestemur, BS, TOBB University of Economics and Technology
Dissertation: Combining Classical and Learning-Based Methods for Visual and Tactile Manipulation
Advisor: Taskin Padir

Shan Lu, BS, Peking University; MS, Institute of Computing Technology, Chinese Academy of Sciences
Dissertation: A Method for Identifying Relevant Information Sufficient to Answer Situation-Dependent Queries
Advisor: Mieczyslaw Kokar

Xiaolong Ma, BE, Yanshan University; MS, Syracuse University
Dissertation: Towards Efficient Deep Neural Network Execution With Model Compression and Platform-Specific Optimization
Advisor: Yanzhi Wang

Tirthak Lalitbhai Patel, BASc, University of Toronto
Dissertation: Robust System Software for Quantum Computing
Advisor: Devesh Tiwari

Nasim Shafiee, MS, Shahid Beheshti University
Dissertation: Adversarial Robustness in Fine-Grained Perception
Advisor: Ehsan Elhamifar

Abhimanyu Venkatraman Sheshashayee, BA, Bard College; MS, Northeastern University
Dissertation: Wake-up Radio-Enabled Wireless Networking: Measurements and Evaluation of Data Collection Techniques in Static and Mobile Scenarios
Advisor: Stefano Basagni

Bin Sun, BS, Beijing Institute of Technology
Dissertation: Factorization Guided Lightweight Neural Networks for Visual Analysis
Advisor: Yun Fu

Mengshu Sun, BE, Harbin Institute of Technology; MS, University of Southern California
Dissertation: Deep Learning Acceleration on Edge Devices With Algorithm/Hardware Co-Design
Advisor: Xue Lin

Alexey Vladimirovich Tazin, BS, MS, Suffolk University; MS, Northeastern University
Dissertation: Composition of UML Class Diagrams Using Category Theory and External Constraints
Advisor: Mieczyslaw Kokar

Miead Tehrani Moayyed, MS, Islamic Azad University
Dissertation: RF Channel Models for Static and Mobile Scenarios: From Simulations to Models for Large-Scale Emulations
Advisor: Stefano Basagni

Siyue Wang, BE, Huazhong University of Science and Technology; MS, Boston University
Dissertation: Towards Robust and Secure Deep Learning Models and Beyond
Advisor: Xue Lin

Zifeng Wang, BS, Tsinghua University
Dissertation: Effective and Efficient Continual Learning
Advisor: Jennifer Dy

In the field of Electrical Engineering

Meruyert Assylbekova, BS, Boston University; MS, Northeastern University
Dissertation: Aluminum Nitride and Scandium-doped Aluminum Nitride Materials and Devices for Beyond 6 ghz Communication
Advisor: Matteo Rinaldi

Stella Banou, BS, Worcester Polytechnic Institute; MS, Northeastern University
Dissertation: Coupling Methods for Wireless Intra-Body Communication and Sensing
Advisor: Kaushik Chowdhury

Nirjhar Bhattacharjee, BTech, National Institute of Technology Silchar; MS, University of Cincinnati
Dissertation: Sputtered Topological Insulator-Ferromagnet Heterostructures For Spintronic Device Applications
Advisor: Nian Sun

Sila Deniz Calisgan, BS, Middle East Technical University; MS, Northeastern University
Dissertation: Advancements on Near-Zero Power MEMS Sensors
Advisor: Matteo Rinaldi

Tianyu Dai, BS, Harbin Institute of Technology
Dissertation: Robust Data-Driven Control
Advisor: Mario Sznaier

Yixuan He, MS, Northeastern University
Dissertation: A Low Power Time-Domain Computing-In-Memory Micro for Binary Neural Networks
Advisor: Yong-Bin Kim

Bernard Herrera Soukup, BS, San Francisco de Quito University
Dissertation: Ferroelectric Micro-Machined Ultrasonic Transducers for Biomedical and In-Memory Sensing Applications
Advisor: Matteo Rinaldi

Hussein Mohamed Elsayed Hussein, BS, MS, Cairo University
Dissertation: Parametric Circuits for Enhanced Sensing and RF Signal Processing
Advisor: Cristian Cassella

Ramtin Khalili, BS, K. N. Toosi University of Technology; MS, Amirkabir University of Technology
Dissertation: Efficient State and Parameter Estimation in Three-Phase Power Systems
Advisor: Ali Abur

Zulqarnain Qayyum Khan, BE, National University of Science and Technology
Dissertation: Interpretable Machine Learning for Affective Neuroscience and Psychophysiology
Advisor: Jennifer Dy

Haoqing Li, BS, Wuhan University; MS, Northeastern University
Dissertation: Robust Processing Against Interferences in GNSS Navigation
Advisor: Pau Closas

Shuangjun Liu, BS, MS, Dalian University of Technology
Dissertation: United Human Pose: Integrating Domain Knowledge and Machine Learning
Advisor: Sarah Ostadabbas

Giuseppe Michetti, BS, MS, Politecnico di Milano
Dissertation: RF Front-End Components based on Linear-Time-Variant Modulation of Piezoelectric MEMS Resonators
Advisor: Matteo Rinaldi

Jared Franklin Miller, BS, MS, Northeastern University
Dissertation: Nonlinear and Time-Delay Systems Analysis Using Occupation Measures
Advisor: Mario Sznaier

Nikita Mirchandani, MS, Northeastern University
Dissertation: Ultra-Low Power and Robust Analog Computing Circuits and System Design Framework for Machine Learning Applications
Advisor: Aatmesh Shrivastava

Hamed Mohebbi Kalkhoran, BS, Shahed University; MS, Sharif University of Technology
Dissertation: Machine Learning Approaches for Classification of Myriad Underwater Acoustic Events Over Continental-Shelf Scale Regions With Passive Ocean Acoustic Waveguide Remote Sensing
Advisor: Purnima Ratilal

Rashida Tamiza Nayeem, BS, Worcester Polytechnic University; MS, Columbia University
Dissertation: Human Control of Objects with Nonlinear Internal Dynamics: Predictability as Primary Objective
Advisor: Dagmar Sternad

Michele Pirro, BS, MS, Politecnico Di Torino
Dissertation: Aluminum Scandium Nitride for New MEMs Technologies
Advisor: Matteo Rinaldi

Antea Risso, BS, MS, Polytechnic University of Turin
Dissertation: Zero-Standby-Power Wireless Infrared Crop Water-Stress Detectors for Large-Scale Smart Greenhouses
Advisor: Matteo Rinaldi

Jaehyeon Ryu, PhD, Northeastern University
Dissertation: Engineering Functional Nanomesh for Advanced Neuroelectronics
Advisor: Hui Fang

Mahdiar Sadeghi*, MS, Northeastern University
Dissertation: Control and Decision-Making in Systems Biology
Advisor: Eduardo Sontag

Amit Sangwan, BS, Guru Jambheshwar University of Science and Technology; MS, The State University of New York at Buffalo
Dissertation: Enabling Optical Communications for Nano-Bio Sensing and Actuation
Advisor: Josep Jornet

Matthew Edward Schinault, BS, Frostburg State University; MS, Northeastern University
Dissertation: Development of a Large-Aperture 160-Element Coherent Hydrophone Array System for Instantaneous Wide Area Ocean Acoustic Sensing
Advisor: Purnima Ratilal

Priyangshu Sen, BTech, Biju Patnaik University of Technology; MTech, University of Calcutta
Dissertation: Physical Layer Design for Ultrabroadband Terahertz Communications: From Theory to Experiments
Advisor: Josep Jornet

Jiacheng Shi, BS, Tsinghua University; MS, Columbia University
Dissertation: Towards a Programmable, High-Speed, and Robust Internet of Underwater Things
Advisor: Tommaso Melodia

Vedant Pravin Sumaria, BTech, University of Petroleum and Energy Studies University; MS, Pennsylvania State University
Dissertation: Exploring Micro-Machined Glass Shell Resonators for Sensor Applications
Advisor: Srinivas Tadigadapa

Guanying Sun, BS, PhD, Shandong University
Dissertation: Optimizing Reconstruction for Mm-Wave Body Scanner Imaging
Advisor: Carey Rappaport

In the field of Industrial Engineering

Razan Ali Hassan Al Lawati, BS, MS, Purdue University; MS, Northeastern University
Dissertation: Decision Making under Uncertainty for Variable Resource Generators Participating in Sequential Energy Markets
Advisor: Muhammad Noor Alam

***** *LEADERs Fellow, awarded the Experiential PhD Leadership Graduate Certificate*

Basma Bargal, BS, Kuwait University; MS, The American University in Cairo
Dissertation: Workforce Burnout From a Systems Science Perspective
Advisor: James Benneyan

Qingtao Cao, BS, South China Normal University; MS, Northeastern University
Dissertation: Network Perspective Modeling of Complex Sociotechnical Systems: Insight for Design and Policy Decisions
Advisor: Babak Heydari

Md Saiful Islam, MS, Texas Tech University
Dissertation: Models and Algorithms to Solve Robust Causal Inference Problems from Large-Scale Observational Data
Advisor: Muhammad Noor Alam

Yaren Bilge Kaya, BS, Ozyegin University; MS, University of South Florida
Dissertation: Operations Research and Analytics Methods to Improve Equitable Access to Public Services
Advisor: Kayse Lee Maass

Kunmei Li, BS, Beihang University
Dissertation: Analysis and Modification of Mutual Information (MI)-based Feature Selection Methods Regarding Data Imbalance and Incompleteness
Advisor: Nasser Fard

Seyed Omid Mohaddesi*, BS, University of Tabriz; MS, Raja University
Dissertation: Understanding Human Decision-Making in Supply Chains: Using Serious Gaming for Modeling Action, Thought, and the Environment
Advisor: Casper Harteveld

Reyhaneh Mohammadi, MS, Sharif University of Technology
Dissertation: Leveraging Geometric Approaches in Data Analytics and Optimization
Advisor: Mehdi Behroozi

Xiaomeng Peng, MS, Northeastern University
Dissertation: Fleet Learning-Based Fault Detection and Diagnosis in the Open World
Advisor: Xiaoning Jin

Leren Qian, BS, Donghua University
Dissertation: A Neural Combinatorial Approach for School Bus Routing System Optimization
Advisor: Emanuel Melachrinoudis

Pengfei Yao, BS, Hebei University of Technology
Dissertation: Meta-heuristic Algorithms for Solving Multi-Objective U-shaped Disassembly Line Balancing Problem
Advisor: Surendra Gupta

***** *LEADERs Fellow, awarded the Experiential PhD Leadership Graduate Certificate*

Yilin Yin, BS, Purdue University; MS, Northeastern University
Dissertation: Data-Driven Modeling and Learning Approach to Solving ICU Risk Prediction and Survival Analysis
Advisor: Chun-An Chou

Hai Yu, BS, Xihua University; MS, Southwest Jiaotong University; MS, Northeastern University; MS, University of Iowa
Dissertation: Optimizing Evacuation Traffic During Natural Disasters
Advisor: Emanuel Melachrinoudis

In the field of Interdisciplinary Engineering

Krissy Janelynn Govertsen, BS, Clarkson University; MS, Northeastern University
Dissertation: Measuring Vulnerability to Heat Waves
Advisor: Michael Kane

Bharat Dikshit Sharma, BTech, National Institute of Technology Hamirpur India; MS, Technical University of Munich Germany
Dissertation: Analysis of Global Carbon Cycle Extremes, Their Compound Climate Drivers, and Implications for Terrestrial Carbon Cycle
Advisor: Auroop Ganguly

Nishant Yadav, MS, University of Michigan Ann Arbor
Dissertation: Machine Learning for Earth System Science and Engineering
Advisor: Auroop Ganguly

In the field of Mechanical Engineering

Ahmed Mostafa Hafez Abdelaziz*, MS, Cairo University
Dissertation: Monolithically Printed Materials and Functional Electronic Devices Using Liquid Suspensions
Advisor: Ahmed Busnaina

Seyed Mohammad Ali Banijamali, BS, Iran University of Science and Technology; MS, Northeastern University
Dissertation: Portable Brain and Vision Diagnostic System for Age-Related Macular Degeneration and Multiple Sclerosis/Optic Neuritis
Advisor: Sagar Kamarthi

Fangqi Chen, BEng, Fudan University; MS, Boston University
Dissertation: Reconfigurable Materials Induced Dynamic Photonic Manipulation
Advisor: Yi Zheng

Ahmed A. Elgailani, BS, Sudan University of Science and Technology; MS, Northeastern University
Dissertation: Mechanics of Amorphous Systems
Advisor: Craig Maloney

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Elahe Javadi, BS, Sharif University
Dissertation: In Silico Study of the Blood Rheology and Dynamics Under Flow
Advisor: Safa Jamali

Zahra Karimi, BS, University of Tehran
Dissertation: Decontamination of Surfaces Exposed to Carbon-Based Nanotubes and Nanomaterials
Advisor: Ashkan Vaziri

Xiaojie Liu, BS, Harbin Engineering University
Dissertation: The Development of Solar-Driven Interfacial Photothermal Evaporators in Materials and Structures
Advisor: Yi Zheng

Mohammadamin Mahmoudabadbozchelou, BS, K. N. Toosi University of Technology; MS, Sharif University of Technology; MEng, Rutgers University
Dissertation: Investigating the Applicability of Physics-Based Machine Learning Algorithms to Meta-Modeling of Complex Fluids
Advisor: Safa Jamali

Evelyn Mendoza, BS, Tufts University; MS, Northeastern University
Dissertation: Providing Sense of Touch Inside the MRI Bore with Passive Teleoperated Devices
Advisor: J. Peter Whitney

Mohammad Nabizadehmashhadtoroghi, ME, Koc University
Dissertation: Physics of Rate Dependent Stress Response in Colloidal Gels Under Flow
Advisor: Safa Jamali

Nastaran Rabiei, BS, MS, K. N. Toosi University of Technology
Dissertation: Hydrodynamic and Thermal Characteristics of Flow in Textured Microchannel
Advisor: Carlos Hidrovo

Eric Thomas Schwarm, BS, Roger Williams University; MS, University of Miami
Dissertation: Agile Arm: A Hydraulic Arm for Robotic Avatars and Haptic Telemanipulation
Advisor: J. Peter Whitney

Milad Tatari, BS, K. N. Toosi University of Technology; MS, University of Tehran; MS, University of Nevada, Reno
Dissertation: Mechanical Design and Characterization of Biomimetic Systems and Functionally Graded Curved Beams with Applications
Advisor: Hamid Nayeb-Hashemi

Runyang Zhang, BS, Beijing University of Chemical Technology; MS, Northeastern University
Dissertation: Study of Mechanical Response of Particle-Beam Impact
Advisor: Sinan Muftu

Xiaoyu Zhang, MS, Boston University
Dissertation: Controlling Microstructure and Magnetic Responses in FeSiB System under Magnetic or Mechanical Inputs
Advisor: Laura Lewis

BOUVÉ COLLEGE OF HEALTH SCIENCES

In the field of Biomedical Science

Jordie Munkan Kamuene*, BS, BS, University of Massachusetts Amherst
Dissertation: Optogenetic Modulation of Phosphoinositides Reveals PIP2 as a Negative Modulator of Cardiac Sodium Channels
Advisor: Leigh Plant

In the field of Counseling Psychology

Laura Elizabeth Fischer, BA, University of Rhode Island; MS, Drexel University
Dissertation: Exploring the Role of Mindfulness in Psychological Help-Seeking Among College Students
Advisor: Rachel Rodgers

In the field of Medicinal Chemistry

Prisca S. Mungalachetty, BS, Framingham State University; MS, Northeastern University
Dissertation: Profiling Aldehydes by Mass Tag Mass Spectrometry
Advisor: Roger Giese

In the field of Nursing

Richard Michael Hebert, BSN, MSN, Northeastern University
Dissertation: Emergency Department to Intensive Care Unit Throughput: Impact on Length of Stay for Patients with Acute Alcohol Withdrawal Syndrome
Advisor: Rhonda Board

Vanessa Lynne Vath, BSN, MSN, Northeastern University
Dissertation: The Role of Resiliency Factors and Environmental Context in Psychological Well-Being Among College Students
Advisor: Brenda Douglas

In the field of Pharmaceutical Sciences

Rokhand Arvan, BS, MS, University of Tehran; MS, University of Toronto
Dissertation: μ-opioid Receptor Oligomerization and Functional Importance
Advisors: Diomedes Logothetis and Leigh Plant

Mohammed Baradwan, PharmD, King Abdulaziz University
Dissertation: Novel Cannabinergics: Nabilone Analogs and Functionalized Cannabilactones
Advisor: Alexandros Makriyannis

Lauren M. Gauthier, BS, University of Vermont; MS, Tufts Universeity
Dissertation: Investigating Relevant Nonclinical Toxicity Species for Immune-Modulatory Drugs
Advisor: Mansoor Amiji

***** *LEADERs Fellow, awarded the Experiential PhD Leadership Graduate Certificate*

Katarina Halpin-Veszeleiova, BS, Brown University
Dissertation: Eliminating the Hypoxia Driven Immunosuppression in Tumors to Enable Immunotherapies of Cancer
Advisor: Michail Sitkovsky

Gregory Jones, BS, Tufts University; MS, Northeastern University
Dissertation: Pharmacokinetic Characterization and Modeling of a Deferoxamine-Based Nanochelator in Rats
Advisor: Jonghan Kim

Xiaoyu Ma, MS, Northeastern University
Dissertation: Characterization of Targets Involved in Endocannabinoid Metabolism
Advisor: Alexandros Makriyannis

Matthew Ryan Sullivan, BS, University of New Hampshire
Dissertation: Development of Integrated Single Cell Platform of Lymphocyte Phenotyping, and Immunotherapy Validation in Single Cell and 3D Droplet Microfluidic Systems
Advisor: Tania Konry

Brenda Teall Winn, BS, St. Lawrence University
Dissertation: Heteromer Receptor Complex Implications on Signaling
Advisor: Diomedes Logothetis

In the field of Pharmacology

Lisa Michelle Fleischer, BS, University of Texas at San Antonio
Dissertation: TAAR1 Acts as a Breast Cancer Inhibiting Gene
Advisor: Diomedes Logothetis

Ryan Patrick McGlynn*, BS, University of Pittsburgh
Dissertation: Molecular Pharmacology of Novel Aminotetralins and Known Drug Candidates at 5-HT1-type Receptors
Advisor: Raymond Booth

Yuchen Yang, BS, Shandong University; MS, Northeastern University
Dissertation: Activation of Adenosine A2A Receptors Regulates HIF-1α Accumulation via SUMOylation
Advisor: Leigh Plant

In the field of Population Health

Diego Jose Arguello, BA, University of Colorado Boulder; MS, Northeastern University
Dissertation: Active Workstations to Reduce Workplace Sedentary Behavior: Analyses of the Effects on Physical Behaviors
Advisor: Dinesh John

***** *LEADERs Fellow, awarded the Experiential PhD Leadership Graduate Certificate*

Thomas Michael Carpenito, BS, Northeastern University; MA, University of California, Berkeley
Dissertation: MISL: Multiple Imputation by Super Learning and its Applications in Population Health
Advisor: Justin Manjourides

Samantha Ashley Meeker, BA, University of Richmond; MPH, George Washington University
Dissertation: Vicarious Trauma and PTSD: The Role of Organizational Supports under Stress
Advisor: Beth Molnar

Isabelle Catherine Pierre-Louis, BS, Westfield State University; MPH, University of Massachusetts Amherst
Dissertation: Predictors and Outcomes of Poor Health-Related Quality of Life in Atrial Fibrillation Populations
Advisor: Jane Saczynski

In the field of School Psychology

Stephanie Long, MS, Northeastern University
Dissertation: The Intersection of Toys and Play Categories for Young Children
Advisor: Karin Lifter

COLLEGE OF SCIENCE

In the field of Biology

Yunfei Dai, BS, Wuhan University
Dissertation: Cell Wall Enzymes Enabling Intrinsic Antibiotic Resistance in Acinetobacter Baumannii
Advisor: Edward Geisinger

Gabriel Fox, BS, Cornell University
Dissertation: Probing Mechanisms of Persister Resuscitation in Escherichia Coli
Advisor: Kim Lewis

Francesco Andrea Servello, BS, Framingham State University
Dissertation: The AFD Temperature Sensing Neurons Adjust Caenorhabditis Elegans Defenses to Match the Temperature-Dependent Threat of Hydrogen Peroxide Produced by Bacterial Pathogens
Advisor: Javier Apfeld

Negar Shahsavari, DDS, Shahid Behshti University
Dissertation: Natural Product Discovery: A Search for New Antimicrobial Compounds from Entomopathogenic Nematode Symbiont Bacteria
Advisor: Kim Lewis

Hannah Colleen Sheehan, BS, University of Rhode Island
Dissertation: Characterization of Subpopulations within the Cellular and Intracellular Landscape of the Aging Mammalian Ovary
Advisor: Dori Woods

In the field of Chemistry

Alhanouf Zakaria Aljahdali, BS, MS, Northeastern University
Dissertation: Asymmetric Synthesis of Analogues of Phomopsolide E and Phomopsolidone A
Advisor: George O'Doherty

Michael R. Bergman, BS, University of Minnesota Rochester
Dissertation: Illuminating Assembly Dynamics Regulating Short-Range Order Optics in Extremely Long-Lived Proteins
Advisor: Leila Deravi

Jing Chai, BS, Shandong University; MA, Temple University
Dissertation: Efforts to Expand Chemistry Toolbox for DNA-Encoded Libraries
Advisor: Michael Pollastri

Christina Ng Di Marco, BA, BS, MS, University of Virginia
Dissertation: Cytotoxicity Targeting Chimeras (CyTaCs) and Their Application Towards Tumor Associated Antigens
Advisor: Roman Manetsch

Yang Fang, BS, Sun Yat-sen University; BS, The Hong Kong Polytechnic University
Dissertation: Enabling Oligonucleotide-Based Therapeutics for Non-Liver Disease Targets
Advisor: Ke Zhang

Amanda Marie Figueroa-Navedo, BS, MA, University of Puerto Rico Mayaguez
Dissertation: Development of Data Analysis Approaches to Increase the Specificity and Performance of Thermal Shift Assays for Assessment of Protein-Small Molecule Interactions
Advisor: Alexander Ivanov

Md Amin Hossain, BS, North South University; MS, Tufts University
Dissertation: Enabling Methods for Covalent Drug Discovery and Their Application to the Preclinical Development of Cyclic Thiosulfinates to Treat Neurodegenerative Diseases
Advisor: Jeffrey Agar

Sardar Mohammed Jakaria, BS, MS, Aligarh Muslim University; MS, University of Kansas
Dissertation: A Systematic Study of Stabilizing Lipoglycopeptide (Dalbavancin) Therapeutic Drugs in Aqueous Solution
Advisor: David Budil

Kendall Ruth Johnson, BS, Villanova University
Dissertation: Development of High-Sensitivity CE-ESI-MS-Based Methods for Proteomic Profiling of Limited Samples and Single Cells
Advisor: Alexander Ivanov

Nicole Irene Langlois*, BS, BS, University of New Haven
Dissertation: Bioanalytical Workflows for Investigating the Stability of Nanostructured Nucleic Acids and Proteins
Advisor: Heather Clark

Lynne Kathleen LaRochelle Richard, BS, University of Delaware; MS, University of Pennsylvania
Dissertation: Platinum Group Metal-Free Oxygen Reduction Reaction Catalysts: Electrochemical and In-Situ X-ray Spectroscopic Investigations of Cobalt- and Iron-Doped Carbon Catalysts
Advisor: Sanjeev Mukerjee

Nathalie Myrthil, BA, College of Holy Cross; MS, Northeastern University
Dissertation: Mechanistic Analysis of Strain-Promoted Cycloadditions and HOR/HER Reactions with Quantum Mechanical Calculations
Advisor: Steven Lopez

Lakindu Samaranayake Pathira Kankanamge, BS, University of Colombo, Sri Lanka
Dissertation: Molecular Approaches in Identification of Cancerous Mutations and Protein Families
Advisors: Penny Beuning and Mary Jo Ondrechen

***** *LEADERs Fellow, awarded the Experiential PhD Leadership Graduate Certificate*

Thomas Stephen Stracensky, BS, Salve Regina University
Dissertation: Investigation into MnNC Synthesis Pathway for Improved Oxygen Reduction Reaction Activity and Examination of the Electron Transfer and Degradation Processes for Nonaqueous Redox Flow Batteries
Advisor: Sanjeev Mukerjee

Qiang Sun, MS, Tsinghua University
Dissertation: Tuning Electrochemical Interface of HER, HOR, ORR and OER: From Fundamental to Application
Advisor: Sanjeev Mukerjee

Yuyan Wang, BS, The Chinese University of Hong Kong
Dissertation: Poly(ethylene) Glycol-Based Bottlebrush Polymers as Nanocarriers for Oligonucleotide Therapeutics: Design, Synthesis, and Applications
Advisor: Ke Zhang

In the field of Marine and Environmental Sciences

Karen Elizabeth Aerni, BS, Carnegie Mellon University
Dissertation: Evaluating the Social-Ecological Consequences of U.S. Atlantic Coast Salt Marsh Mosquito Ditching as Quantified by Artificial Intelligence
Advisor: David Kimbro

Jessica Laura Annie Gould, BS, MS, Dalhousie University
Dissertation: Improved Understanding of High-Latitude Crustose Coralline Algal Growth and Application as High-Resolution Environmental Archives
Advisor: Aron Stubbins

In the field of Mathematics

Xuezhu Lu, BS, MS, Southeast University
Dissertation: Inverse Problems for Nonlinear Helmholtz Schrodinger Equations and Time-Harmonic Maxwell's Equations With Partial Data
Advisor: Xuwen Zhu

Hiu Ying Man, BS, The Chinese University of Hong Kong
Dissertation: Random Geometric Graphs With Applications
Advisor: Gabor Lippner

Dmytro Matvieievskyi, BS, Higher School of Economics
Dissertation: Unipotent Ideals and Harish-Chandra Bimodules
Advisor: Ivan Losev

Tomas Skacel, BS, MS, Northeastern University
Dissertation: Snub-Wythoffian Skeletal Polyhedra
Advisor: Egon Schulte

In the field of Network Science

Zachary Fulker, BS, University of Pittsburgh
Dissertation: Self-Organizing Social Systems: The Boundaries of Cooperation and Coordination
Advisor: Christoph Riedl

Ryan J. Gallagher, BS, University of Connecticut; MS, University of Vermont
Dissertation: The Network Structure of Online Amplification
Advisor: Brooke Foucault Welles

Syed Arefinul Haque*, BBA, University of Dhaka; MS, United International University
Dissertation: Diversity and Gender Equity in Networks of Knowledge Production and Dissemination
Advisor: David Lazer

Stefan David-Aubrey McCabe, BA, MA, George Mason University
Dissertation: Essays on the Measurement of Online Behavior
Advisor: David Lazer

Benjamin Andrew Miller, BS, MS, University of Illinois at Urbana-Champaign
Dissertation: Vulnerability and Robustness in Artificial Intelligence for Complex Networks
Advisor: Tina Eliassi-Rad

In the field of Physics

Wei-Chi Chiu, BS, MS, National Tsing Hua University
Dissertation: Topological Materials: Batteries, Correlated Charge-Density-Waves and Superconductors
Advisor: Arun Bansil

Saroj Dhakal, BSc, MSc, Tribhuvan University; MS, Ohio University
Dissertation: Dynamic Mean-Field Model of Voltage-Calcium Dynamics in Cardiomyocytes
Advisor: Alain Karma

Asem Habashi Hassan, MB BCh, Alexandria University
Dissertation: Quantifying the Kinematics and Energetics of Collective Rearrangements in a Molecular Assembly
Advisor: Paul Whitford

Douglas Gerard Hendry, BS, James Madison University
Dissertation: Traversing Quantum Many Body Hilbert Spaces with Neural Networks
Advisor: Adrian Feiguin

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Xinzhi Li, MS, Renmin University of China
Dissertation: Statistical Mechanics of Cellular Structures
Advisor: Dapeng Bi

Gabriel Alexander Madigan, BS, University of Massachusetts Amherst; MS, Northeastern University
Dissertation: A Search for Leptoquarks Decaying to Muons and Bottom Quarks in Proton-Proton Collisions at Center-of-Mass Energies of 13 TeV with the Full Run II Dataset Recorded By CMS
Advisor: Emanuela Barberis

Anindita Maiti, BTech, MTech, Indian Institute of Technology Bombay
Dissertation: A Study of Field Theories via Neural Networks
Advisor: James Halverson

Kunpeng Mu, BS, Shandong University
Dissertation: Forecasting Contagion Processes on Heterogeneous Complex Networks
Advisor: Alessandro Vespignani

Vivan Thi Nguyen, BS, BM, University of Florida; MS, Northeastern University
Dissertation: A Search for Higgs Boson Pair Production in the bbZZ(llqq) Channel with the CMS Detector
Advisor: Emanuela Barberis

Abraham Tishelman-Charny, BS, Stony Brook University
Dissertation: Search for Higgs Boson Pair Production at the CMS Experiment with Run 2 LHC Data
Advisor: Toyoko Orimoto

Zhuyao Wang, BS, Beijing Normal University; MS, Northeastern University
Dissertation: Hidden Sectors and Their Implications for Particle Physics and Cosmology
Advisor: Pran Nath

Hyojun Yu, BA, Bard College at Simon's Rock; MS, Northeastern University
Dissertation: Tools for Continuous Observation and Comprehensive Analysis of Big Behavioral and Neuronal Data
Advisor: Vivek Venkatachalam

Pengyu Zheng, BS, China University of Geosciences
Dissertation: Chromatic Time-Resolved Monitoring of Single Entities: From Nanoscale Transport Across Channels to DNA Sequencing
Advisor: Meni Wanunu

Bin Zhu, BS, Sun Yat-sen University
Dissertation: Topics in Celestial Conformal Field Theory
Advisor: Tomasz Taylor

In the field of Psychology

Summer Elizabeth Harvey*, BS, Missouri State University; MS, Northeastern University
Dissertation: Individual Differences in Target Judgeability by Friends and Strangers
Advisor: C. Randall Colvin

Nicole Elizabeth Logan, BS, MS, University of Auckland
Dissertation: Obesity, Physical Activity, Cognition, and Brain Function in Preadolescent Children
Advisor: Charles Hillman

Katherine Mary McDonald, BA, BA, Connecticut College; MS, Northeastern University
Dissertation: Cognitive, Neuroelectric, and Salivary Biomarkers Following Exercise
Advisor: Charles Hillman

Gwendolyn Mary Sandoboe, BA, University of Chicago; MS, Northeastern University
Dissertation: Intuitions About Innateness and Their Effects on the Perception of Neuroscience
Advisor: Iris Berent

Tatsuya Theodore Shigeta, BS, University of Illinois at Urbana-Champaign; MS, Illinois State University
Dissertation: The Differential Influence of Physical Fitness and Physical Activity on Cognitive Control: A Test of Potential Biological Markers of Underlying Neural Mechanisms
Advisor: Charles Hillman

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COLLEGE OF SOCIAL SCIENCES AND HUMANITIES

In the field of Criminology and Justice Policy

Monica J. DeLateur, BA, University of California, Los Angeles; MS, University of Pennsylvania, JD/PhD, Northeastern University
Dissertation: Sources and Factors of Federal Human Trafficking Sentencing Decisions
Advisor: Amy Farrell

Matthew Robert Kafafian, BA, West Virginia University; MS, Northeastern University
Dissertation: An Exploration of Victimization and Offending in Unique Contexts: Russia, Ukraine, and War
Advisor: Ekaterina Botchkovar

Eric Andrew Rodriguez-Whitney, BA, St. Bonaventure University; MA, Boston College
Dissertation: Background Justice: The Political Context of Adolescent Legal Socialization
Advisor: Kevin Drakulich

Keller Griffin Sheppard, PhD, Northeastern University
Dissertation: Fatal Police Use of Force: Cameras, Communities, and Crime Reporting
Advisor: Gregory Zimmerman

Matthew Joseph Teti, BS, Drexel University; MS, Northeastern University
Dissertation: Technology Innovations in Policing: A Framework
Advisor: Glenn Pierce

Riley Boyce Tucker, BA, Temple University; MS, Northeastern University
Dissertation: Who, What, When, Where: Using Online Data to Assess the Characteristics and Criminogenic Dynamics of Guardianship Ecologies
Advisors: Daniel O'Brien, Gregory Zimmerman, Laura Nelson, and John Hipp

Maja Milana Vlajnic, BA, BA, MA, University of Maryland, College Park
Dissertation: The Effects of Multiple Marginalization on Domestic Violence Victimization
Advisor: Ekaterina Botchkovar

Alexis Yohros, BS, Florida State University; MA, University of Central Florida
Dissertation: Examining the Interrelationships between Adverse Childhood Experiences and Neighborhood Context on Youth Recidivism
Advisor: Brandon Welsh

In the field of Economics

Xiaowei An, BBA, Hong Kong Baptist University; MA, Northeastern University
Dissertation: Essays on Labor and Development Economics
Advisor: Bilge Erten

David Casale, BA, BA University of Maryland; BSCE, MSEE, University of Maryland, Baltimore County; MA, Northeastern University
Dissertation: More People, More Problems?: A Theory of Beliefs and Opinions in a Changing Society
Advisor: William Dickens

Jiacheng Liang, BS, Xi'an Jiaotong University; MS, Rice University
Dissertation: Essays in Empirical Macroeconomics and Finance
Advisor: Jun Ma

Qiaoling Ma, MA, University of Massachusetts Lowell
Dissertation: Three Essays in Applied Econometrics: Innovation, Entrepreneurship, and Financial Crisis
Advisor: James Dana

Farzaneh Nekui, MA, Northeastern University
Dissertation: Econometrical Analysis of Airline Rivalry and Prescription Drug Compliance
Advisors: James Dana, John Kwoka, and Imke Reimers

Tuan M. Nguyen, BA, University of New Hampshire
Dissertation: Essays in Marketing and Applied Microeconomics
Advisor: James Dana

Yushuo Pan, MA, Northeastern University
Dissertation: Estimating the Demand for Differentiated Products and the Efficiency of the Production Line
Advisor: James Dana

Arvind Sharma, BEcon&Fin, University of Hong Kong; MS, Boston College
Dissertation: Three Essays in Microeconomics
Advisor: James Dana

Redina Tahaj, BA, American University in Bulgaria; MS, Northeastern University
Dissertation: Essays in Applied Microeconomics
Advisor: Mindy Marks

Zhehui Zheng, MA, Northeastern University
Dissertation: Three Essays on Applied Microeconomic Analyses of Entry, Deregulation, and Labor Supply
Advisor: James Dana

Yanchi Zou, MS, Northeastern University
Dissertation: Three Essays on the Effects of Educational and Fiscal Policies in China and a Method to Identify Maverick Firms
Advisor: Mindy Marks

In the field of English

Galen David Bunting, BA, MA, Oklahoma State University
Dissertation: 'He Would Not Quite Be A Man': Diagnoses of Masculinity, Shell-Shock, and Gender Failure in Modernist Literature
Advisor: Carla Kaplan

Laura Martin Kladky, BA, Barnard College
Dissertation: Female Egoism in George Eliot and Sensation Fiction
Advisor: Laura Green

Rachel Louise Lewis, BA, University of Massachusetts Amherst
Dissertation: The Most Realest People: Writing, Prison Abolition, and Queer Solidarities
Advisor: Chris Gallagher

David Medina, BA, MAT, University of Texas El Paso
Dissertation: Amores Amoxtli
Advisor: Elizabeth Maddock Dillion

Kyle Oddis, BA, Loyola Marymount University; MA, Northeastern University
Dissertation: Arriving at the Everyday: Building the NUWPArc Public Digital Writing Program Archive
Advisor: Neal Lerner

Kenneth Aaron Oravetz, BA, University of California Santa Barbara; MA, Northeastern University
Dissertation: The Innovations of Art Comics: Materiality, Community, and the Visual Turn
Advisor: Hillary Chute

Gregory Palermo, BA, The State University of New York College at Geneseo; MA, Northeastern University
Dissertation: Re-Landscaping Digital Scholarship: A Computational Analysis of Citations in Digital Humanities and Writing Studies
Advisor: Neal Lerner

Samantha Przybylowicz, BA, Widener University; MA, Mills College
Dissertation: "The Red Brand of Murder": Women Who Kill in Victorian Literature
Advisor: Laura Green

In the field of History

Feruza K. Aripova, BA, LLC International University; MA, Brandeis University
Dissertation: Fifty Shades of Vice: Decolonizing the Soviet Homophobic Legacy
Advisor: Heather Streets-Salter

Molly Nebiolo, BA, Butler University; MA, Brandeis University
Dissertation: Constructing Health: Concepts of Well-Being in Early Atlantic Cities
Advisor: Christopher Parsons

Aaron Thomas Peterka, BA, MA, Wichita State University
Dissertation: The Responsibility of Victory: Citizen-Soldiers and the GI Mutinies of January 1946
Advisor: Gretchen Heefner

In the field of Law and Public Policy

Saina Sheini Mehrab Zadeh, BA, Chamran University
Dissertation: Leveraging a Combination of Social Media and Administrative Data to Assess the Communities in the Face of Crisis
Advisor: Daniel O'Brien

David Franklin Sittenfeld, BS, Brandeis University; MS, Northeastern University
Dissertation: Citizen Science, Civics, and Resilient Communities: Co-Created Science-to-Civics to Facilitate Equitable Climate Resilience Planning
Advisor: Brian Helmuth

Brian Ferrer Young, BS, Emerson College; MPH, Brown University
Dissertation: Antecedents and Consequences of Net Payment Adjustments under Medicare Pay-for-Performance Programs for Hospitals Generally and Safety Net Hospitals in Particular
Advisor: Alan Clayton-Matthews

In the field of Law, Policy, and Society

Talia Kaufmann, BArch, Tel-Aviv University; MCP, Massachusetts Institute of Technology
Dissertation: Towards Computational City Planning: Data-Driven Indicators for Policies and Planning
Advisor: Daniel O'Brien

In the field of Political Science

Zachary Paul Buchanan Agatstein, BA, St. Mary's College of Maryland
Dissertation: Perpetrator, Facilitator, Resister: A Framework for Studying State Roles in Genocide
Advisor: Mai'a Cross

Garrett Thomas Morrow, BA, MA, Sonoma State University
Dissertation: The Robot in City Hall: The Limitations, Structure, and Governance of Smart City Technology Regimes
Advisor: Daniel Aldrich

Jennifer Ostojski, BA, Framingham State University; MA, Northeastern University
Dissertation: The European Union's Transactional Identity
Advisor: Mai'a Cross

Hatice Ahsen Utku, BA, MS, Marmara University; MTS, Harvard Divinity School; MALD, Tufts University
Dissertation: Mapping Citizenship and Construction of Vulnerability: Policies of Naturalization and Citizenship Acquisition and Vulnerable Youth in Greece, Germany, and UK
Advisor: Denis Sullivan

In the field of Sociology

Ran Keren, BA, The Open University; MA, University of Massachusetts, Boston
Dissertation: Political Comedy and the Public Sphere
Advisor: Daniel Faber

Michael John Shields, BA, Elizabethtown College; MA, Northeastern University
Dissertation: Heeding the Call: An Empirical Evaluation of Gentrification Research
Advisor: Liza Weinstein

Christopher Tirrell, BA, Rhode Island College; MA, Northeastern University
Dissertation: Labor Control and the Experience of Work in the Platform Economy
Advisor: Steven Vallas

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PROGRAM NOTES

HISTORICAL NOTES ON ACADEMIC DRESS

Academic dress appears to have originated at the universities of Oxford and Cambridge more than 600 years ago, and, to this day, the most colorful gowns in the world are those worn at Oxford functions. European institutions show great diversity in their academic costume, since each adopted or initiated its own dress.

In contrast, American colleges and universities follow a single system of academic apparel. In 1894, a group of leading American educators met to draft guidelines on apparel. Known as the Intercollegiate Code, these guidelines were adopted the following year and amended slightly in 1932.

The distinctions set up by the Intercollegiate Code are simple. Gowns for the bachelor's degree are to be fashioned from "worsted stuff" with a yoke, pleated front, and intricate shirring across the shoulders and back. Worn closed, the bachelor's gown is distinguished primarily by its long, pointed sleeves. The master's gown has the same yoke effect and long, crescent-shaped sleeves; it may be worn open or closed.

The doctor's gown, which may also be worn open or closed, has velvet panels draped around the neck. Three horizontal velvet bars are stitched on full bell-shaped sleeves. This velvet trimming may be black or in the color that indicates the field of study to which the degree refers.

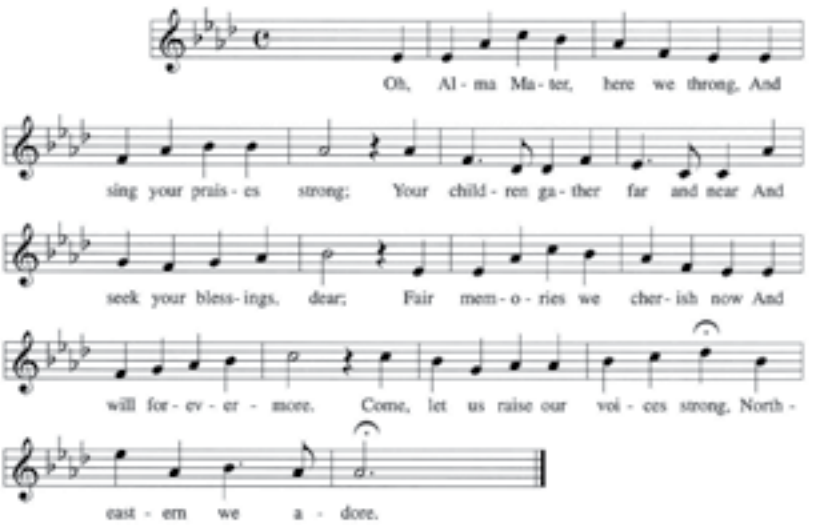
Northeastern University's distinctive doctoral gown is crimson with black velvet panels and sleeve bars. The crimson cap, or mortarboard, bears a gold metallic tassel. In accordance with academic custom, recipients of the doctor's degree, members of the university's governing boards, and government officials in the procession are entitled to wear the official regalia.

The bachelor's and master's hoods have a similar shape, while the doctor's hood has a rounded base. The length of the hood indicates the level of academic achievement, with the doctor's hood being longest; the width of the border distinguishes the degree, with the doctor's being widest. The color of the border indicates the field of study; the lining color indicates the institution conferring the degree.

At Northeastern, where only the master's and doctor's hoods are worn, a black chevron on a crimson background is used for the lining.

When colors were first assigned to signify a particular field of study, historical associations were retained as much as possible. For example, white, for arts, refers back to the white fur edging of the Oxford hood; red, for theology, to the traditional color of the church; and green, for medicine, to the color of herbs.

The tassel on the mortarboard may be black or in a color that indicates the graduate's major field of study.



Oh, Alma Mater, here we throng,
And sing your praises strong;
Your children gather far and near
And seek your blessings, dear;
Fair memories we cherish now
And will forevermore.
Come, let us raise our voices strong,
Northeastern, we adore.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98
LVX
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