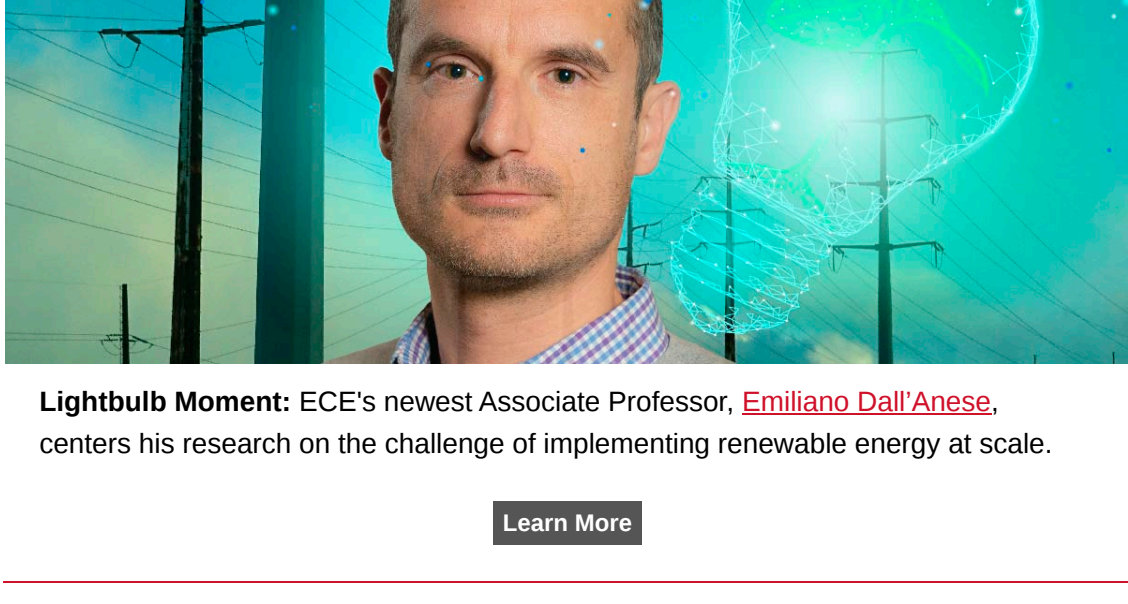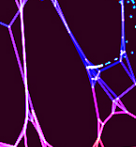# ECE 2024 FALL NEWSLETTER
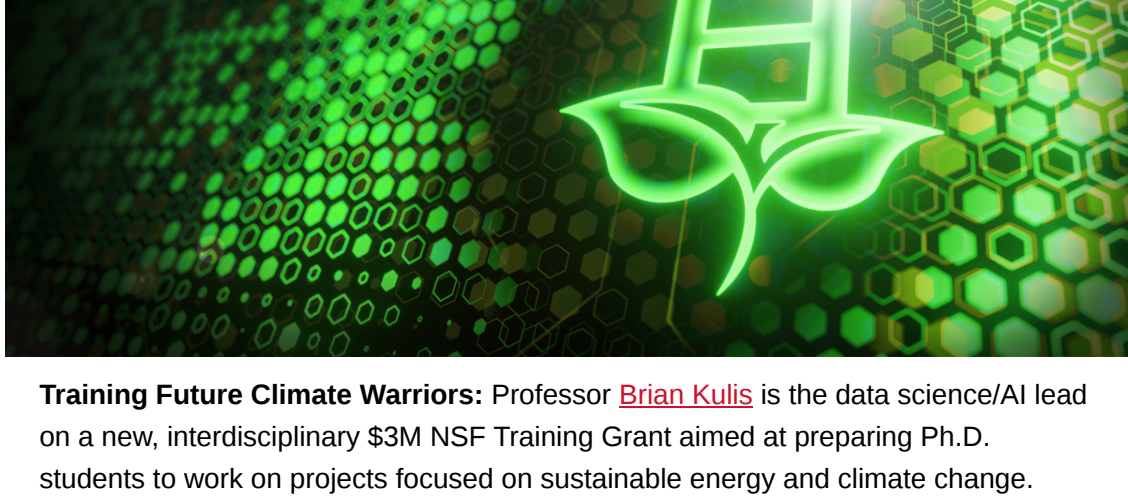
Open Faculty Positions

INTRODUCING NEW FACULTY

Lightbulb Moment: ECE's newest Associate Professor, Emiliano Dall'Anese, centers his research on the challenge of implementing renewable energy at scale.
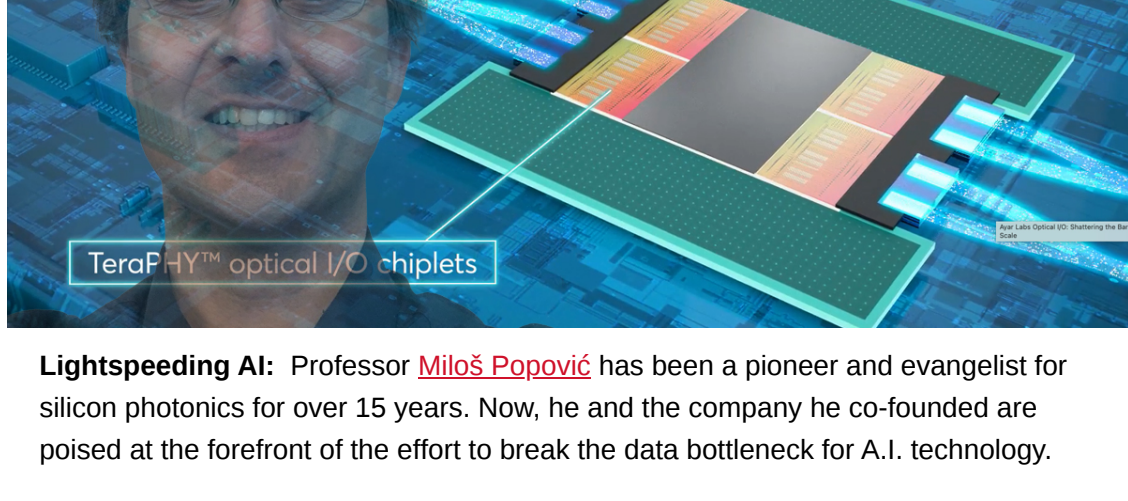
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RESEARCH SUPPORT

Bringing the Brain into Focus: Professor Tianyu Wang, recipient of the 2024 Peter J. Levine Career Development Professorship, is inventing a quantum-inspired light source to improve deep-tissue imaging under the auspices of a $2.5M collaborative multi-institutional grant from the Chan-Zuckerberg Initiative.
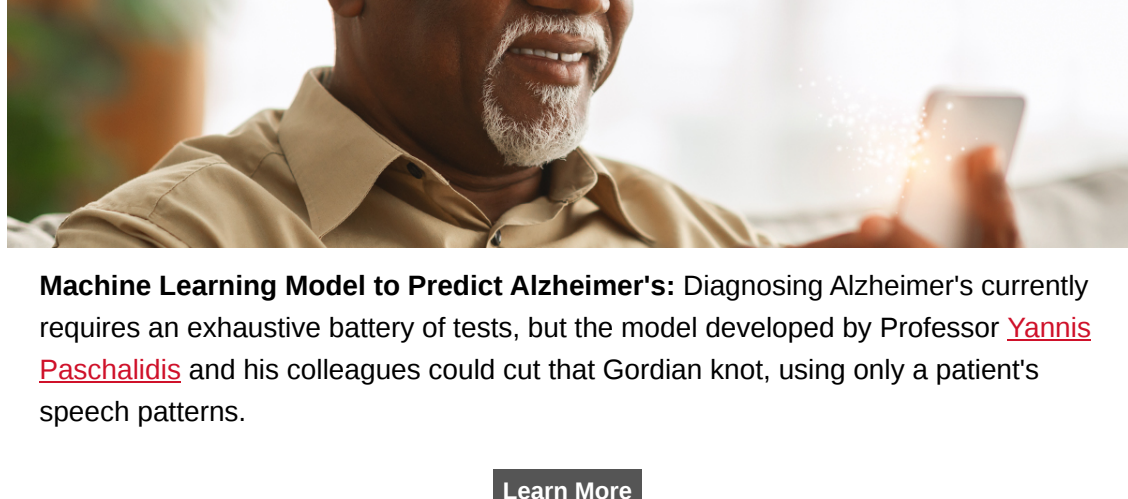
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Training Future Climate Warriors: Professor Brian Kulis is the data science/AI lead on a new, interdisciplinary $3M NSF Training Grant aimed at preparing Ph.D. students to work on projects focused on sustainable energy and climate change.
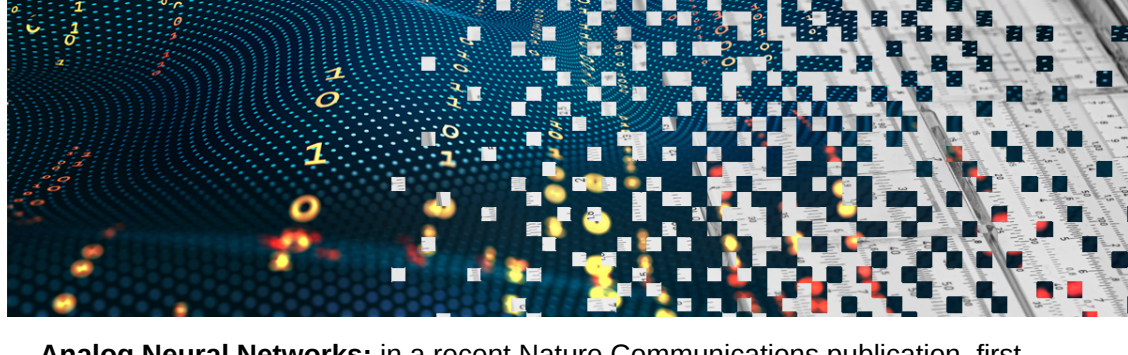
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RESEARCH OUTCOMES

Lightspeeding AI: Professor Miloš Popović has been a pioneer and evangelist for silicon photonics for over 15 years. Now, he and the company he co-founded are poised at the forefront of the effort to break the data bottleneck for A.I. technology.

Learn More

Machine Learning Model to Predict Alzheimer's: Diagnosing Alzheimer's currently requires an exhaustive battery of tests, but the model developed by Professor Yannis Paschalidis and his colleagues could cut that Gordian knot, using only a patient's speech patterns.

Learn More

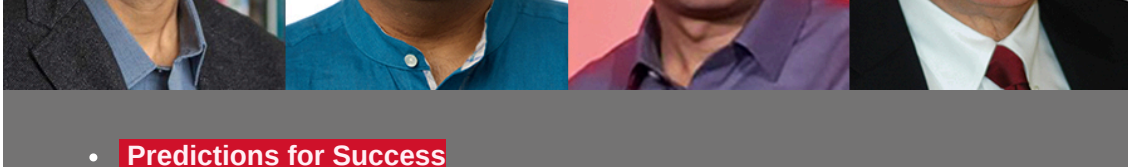**Analog Neural Networks:** in a recent Nature Communications publication, first author Cansu Demirkiran (ECE PhD'24) and advisor Ajay Joshi provide a blueprint for the efficient acceleration of deep neural networks (DNNs) using modern analog computing, without sacrificing precision.

Learn More

Kudos for Breakthrough in Chip Thermal Simulation: Professor Ayse Coskun and her Brown University collaborators received the prestigious 2024 IEEE Transactions on Computer-Aided Design (TCAD) Donald O. Pederson Best Paper Award for their groundbreaking research.

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ACHIEVEMENTS

- **Predictions for Success**
  Professor Vivek Goyal is the recipient of the prestigious 2024 Guggenheim Fellowship, in honor of his groundbreaking work on computational imaging based on probabilistic models.

- **A Singular Light**
  Distinguished Professor Siddharth Ramachandran has been elected to the rank of Fellow of the American Association for the Advancement of Science, in recognition of his pioneering contributions to "the generation, control, and propagation of singular states of light."

- **Multimodal Honors**
  Professor Ji-Xin Cheng is the recipient of the 28th International Conference on Raman Spectroscopy's Raman Award for Most Innovative Technological Development, and the American Chemical Society Division of Analytical Chemistry's 2024 Spectrochemical Analysis Award, both with reference to his work on medical imaging and microscopy.

- **Pioneering and Enduring**
  Optica has presented Professor Emeritus Theodore Moustakas the Nick Holonyak Jr. Award for his pioneering contributions to the development of nitride semiconductor materials and optical devices, the foundation for efficient blue and UV LEDs.
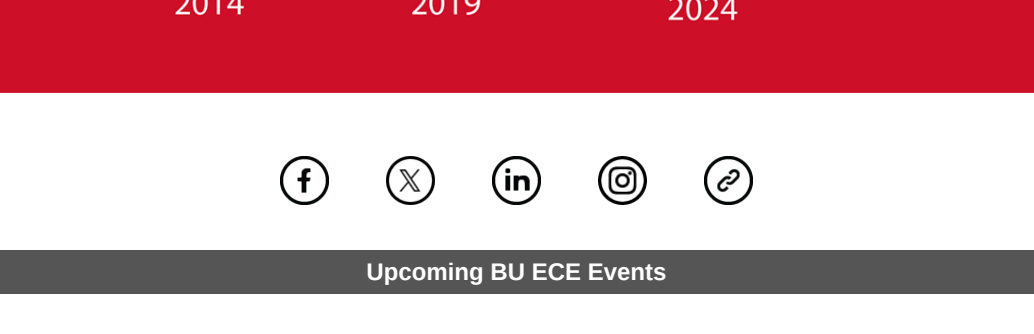
AT A GLANCE

Distinguished Faculty

4 National Academy Members

3 Current/Former IEEE Society Presidents

7 Current/Former Editors-in-Chief

48 Society Fellows

32 NSF, DOE and DOD Early Career Awards

42 Average H-Index per Faculty

9,500 Average Number of Citations per Faculty

51 Tenure-Track Faculty

RESEARCH FUNDING

$45M		$43M
$30M	$36M	
$15M	$18M	
	2014	2019	2024

↑**140%** GROWTH OVER 10 YEARS

Upcoming BU ECE Events

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