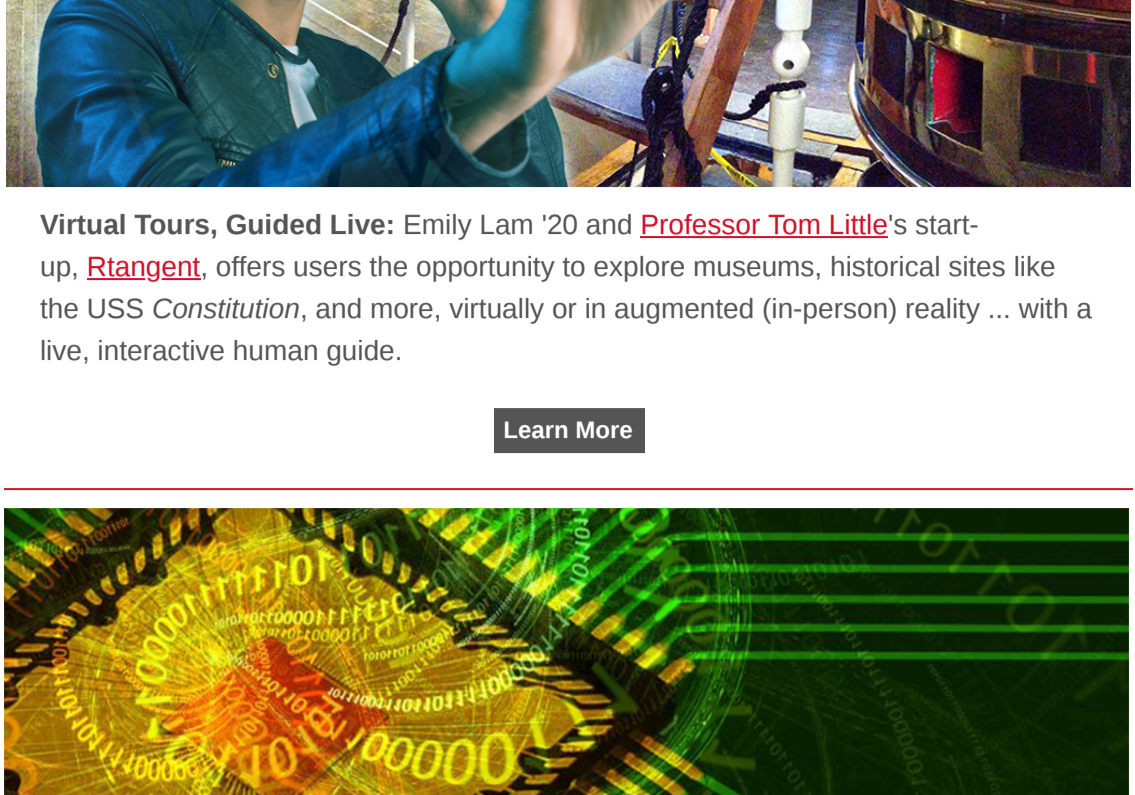
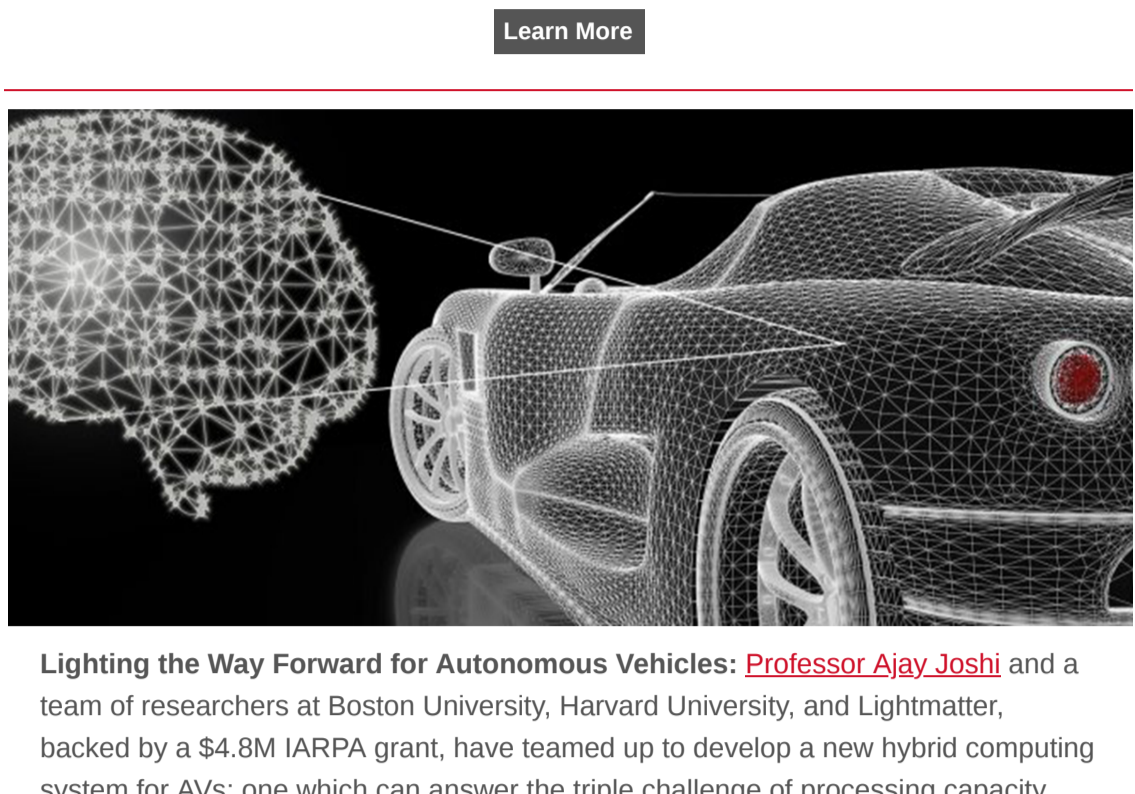


# ECE 2022 SPRING NEWSLETTER



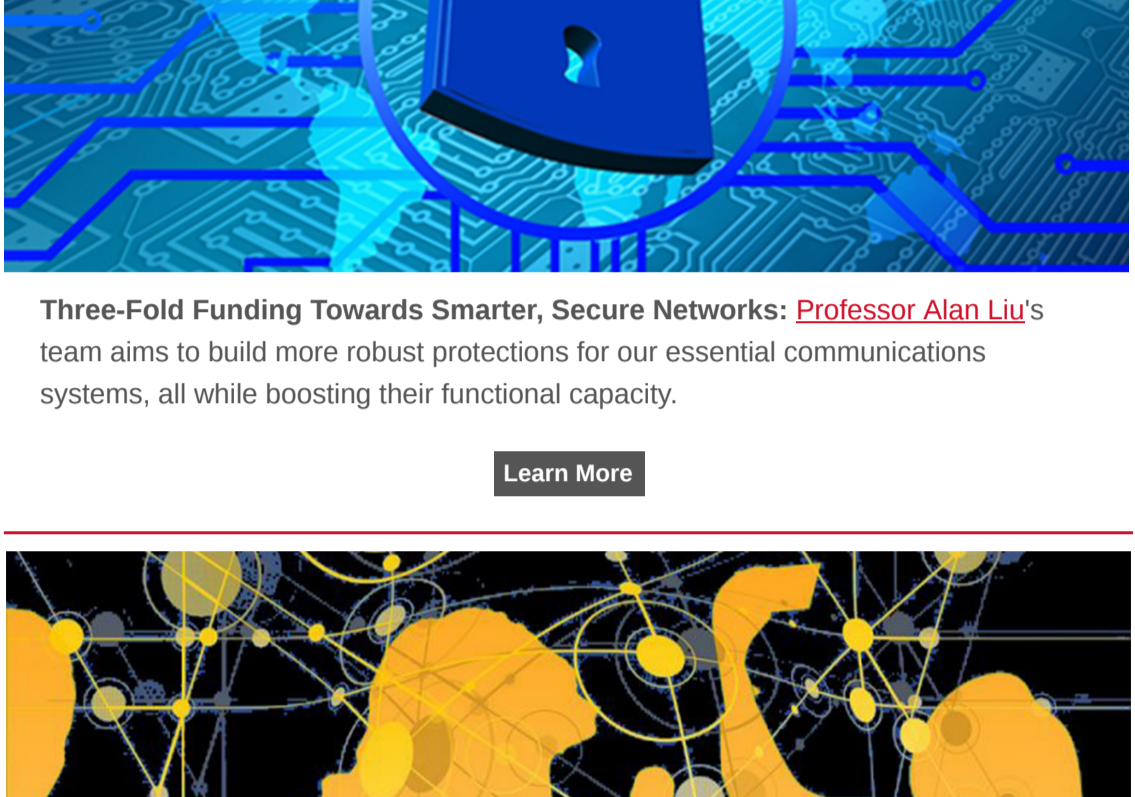
**Virtual Tours, Guided Live:** Emily Lam '20 and [Professor Tom Little](#)'s start-up, [Rtangen](#), offers users the opportunity to explore museums, historical sites like the USS *Constitution*, and more, virtually or in augmented (in-person) reality ... with a live, interactive human guide.

[Learn More](#)



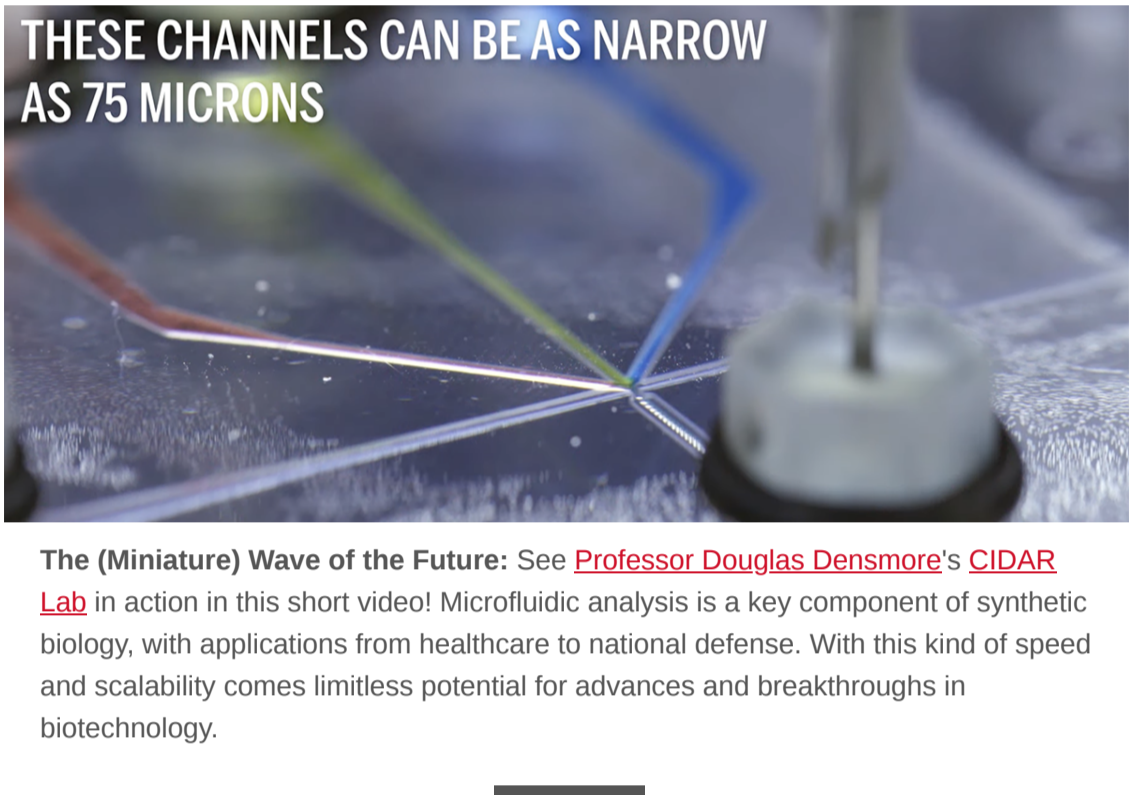
**Faster, Greener, Cheaper, More Secure:** The multi-institutional team behind the revolutionary GRAND universal decoder algorithm is on a roll. [Professor Rabia Yazicigil](#) and her collaborators have been awarded \$5M in DARPA funding to develop even faster, more secure chips using GRAND.

[Learn More](#)



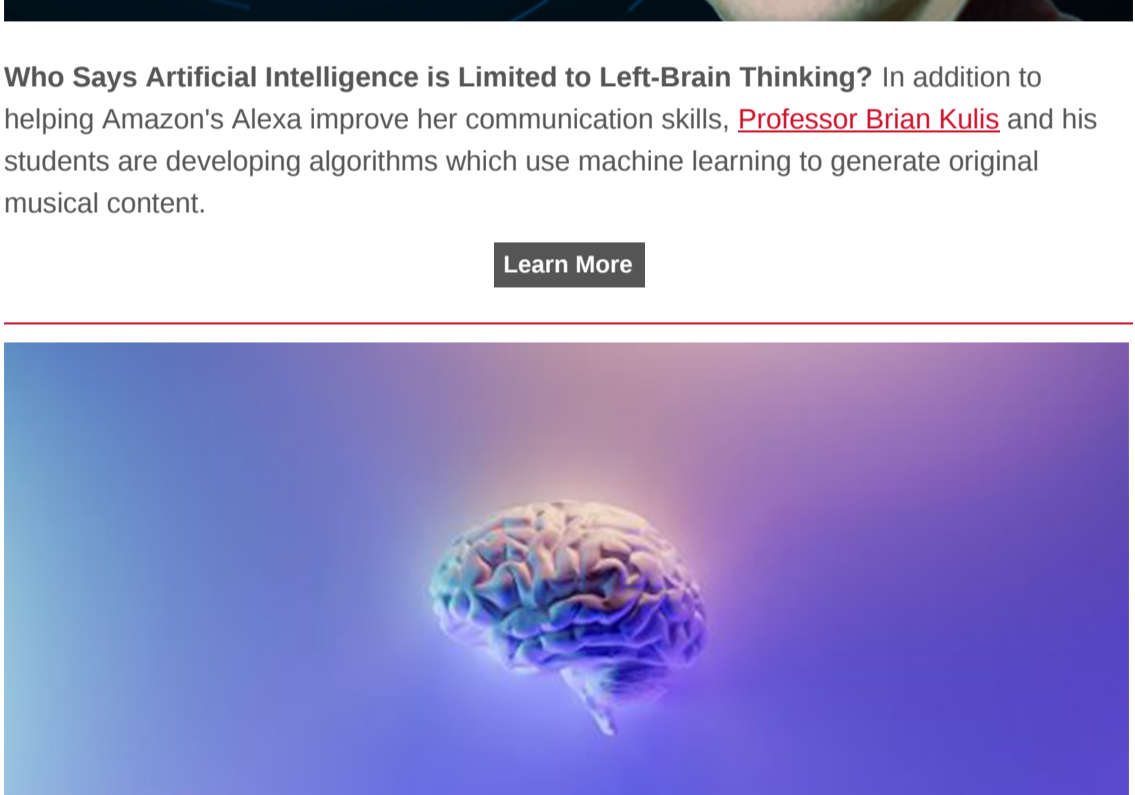
**Lighting the Way Forward for Autonomous Vehicles:** [Professor Ajay Joshi](#) and a team of researchers at Boston University, Harvard University, and Lightmatter, backed by a \$4.8M IARPA grant, have teamed up to develop a new hybrid computing system for AVs; one which can answer the triple challenge of processing capacity, low latency and energy efficiency.

[Learn More](#)



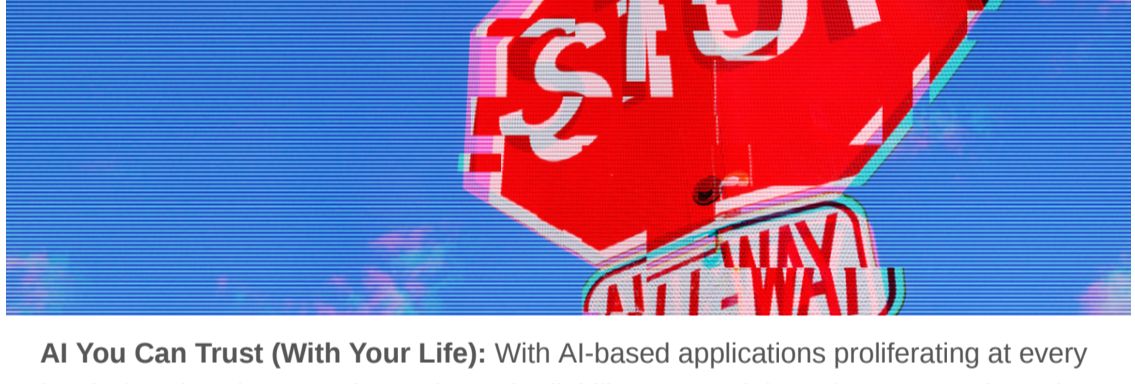
**Three-Fold Funding Towards Smarter, Secure Networks:** [Professor Alan Liu](#)'s team aims to build more robust protections for our essential communications systems, all while boosting their functional capacity.

[Learn More](#)



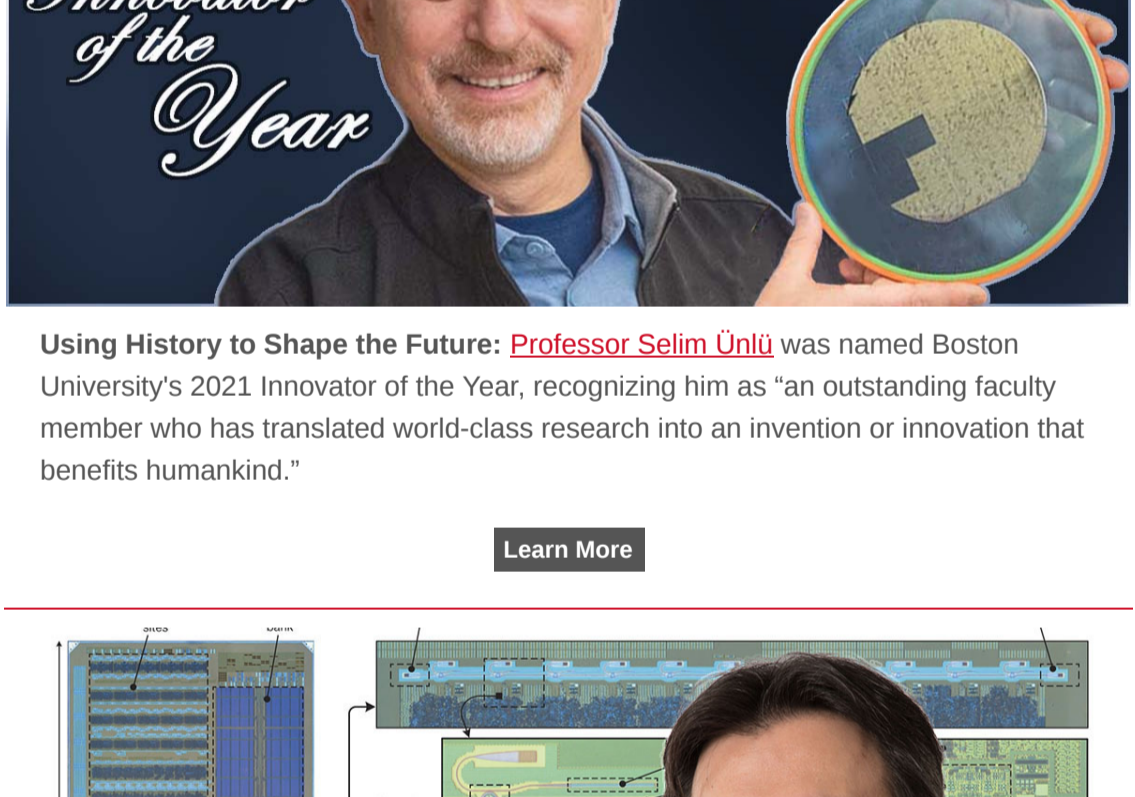
**A GRAND Endeavor:** Professors [Rabia Yazicigil](#) and [David Starobinski](#) have a few bright ideas about the future of wireless communication. Their groundbreaking work on next-generation decoding technology and accompanying educational outreach plans is moving forward with support from the National Science Foundation!

[Learn More](#)



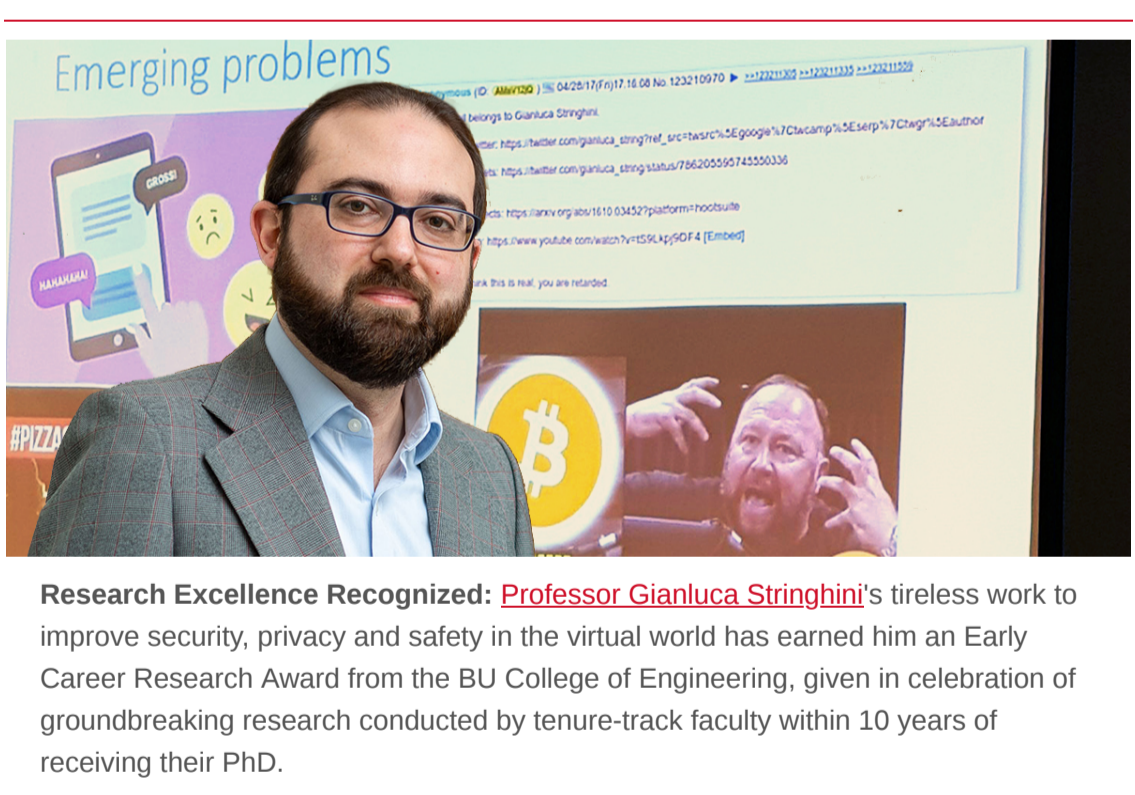
**The (Miniature) Wave of the Future:** See [Professor Douglas Densmore's CIDAR Lab](#) in action in this short video! Microfluidic analysis is a key component of synthetic biology, with applications from healthcare to national defense. With this kind of speed and scalability comes limitless potential for advances and breakthroughs in biotechnology.

[Learn More](#)



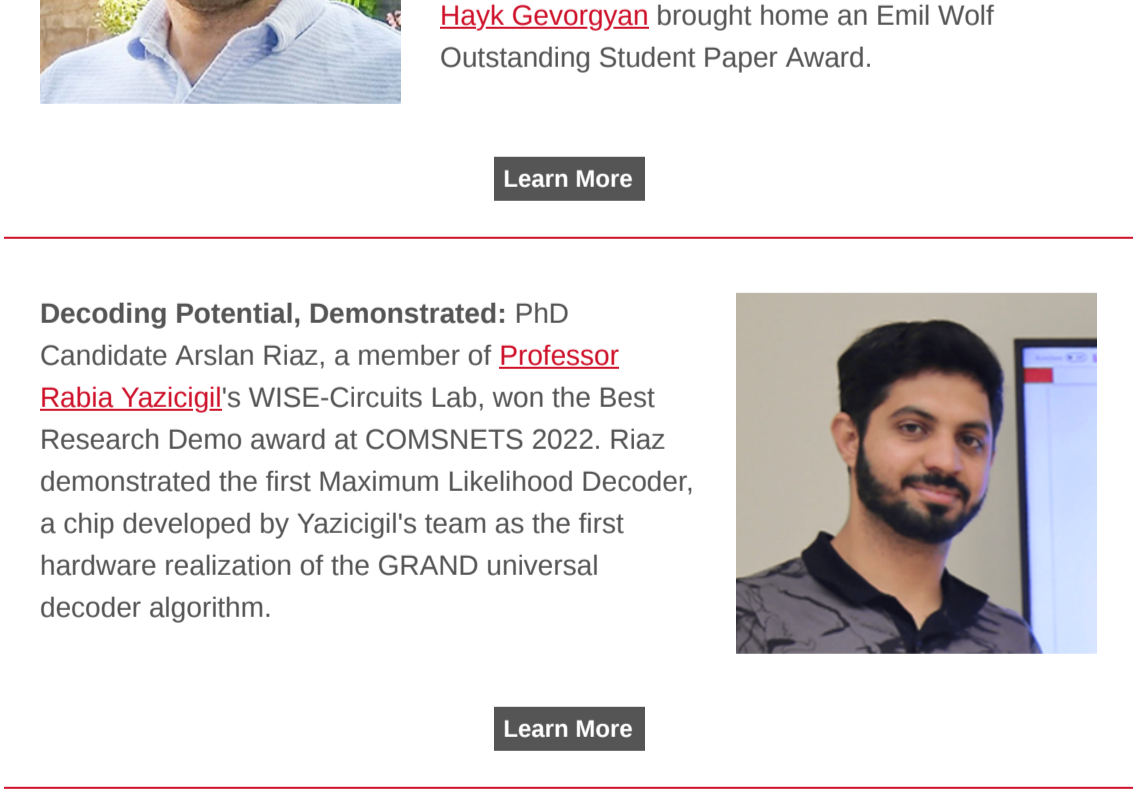
**Who Says Artificial Intelligence is Limited to Left-Brain Thinking?** In addition to helping Amazon's Alexa improve her communication skills, [Professor Brian Kulis](#) and his students are developing algorithms which use machine learning to generate original musical content.

[Learn More](#)



**Predicting the Path of Recovery:** An interdisciplinary team of BU researchers, including [Professor Prakash Ishwar](#), have published a new study using machine learning to understand how stroke survivors regain language skills after rehabilitation.

[Learn More](#)



**AI You Can Trust (With Your Life):** With AI-based applications proliferating at every level of society, increased security and reliability are crucial. [Professor Wenchao Li](#) and his team are on the case, developing a combination of computational proof methods and machine learning techniques to make AI systems more trustworthy and less vulnerable to adversarial influences.

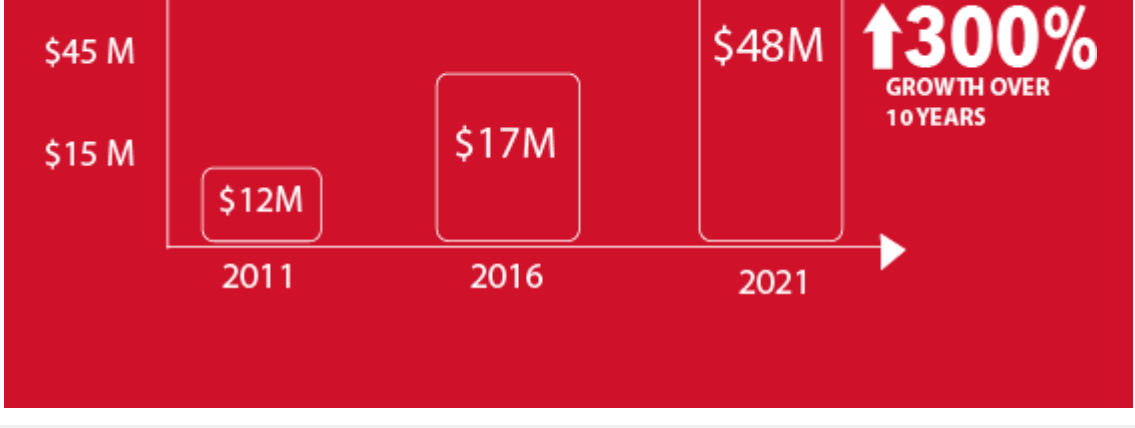
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## FACULTY RECOGNITION



**Using History to Shape the Future:** [Professor Selim Ünlü](#) was named Boston University's 2021 Innovator of the Year, recognizing him as "an outstanding faculty member who has translated world-class research into an invention or innovation that benefits humankind."

[Learn More](#)



**Shining A Light:** [Professor Miloš Popović](#) is the recipient of a 2021 IEEE Region 1 Technological Innovation Award, in honor of more than a decade of striving to build a bridge between electronics and photonics.

[Learn More](#)



**Research Excellence Recognized:** [Professor Gianluca Stringhini](#)'s tireless work to improve security, privacy and safety in the virtual world has earned him an Early Career Research Award from the BU College of Engineering, given in celebration of groundbreaking research conducted by tenure-track faculty within 10 years of receiving their PhD.

[Learn More](#)

## STUDENT ACHIEVEMENTS



**Making Waves at FIO+LS 2021!** You could hardly click a link at the Frontiers in Optics and Laser Science virtual conference without coming across [Professor Miloš Popović](#) and his prolific students. Five papers were presented by the group, two were nominated for honors, and [PhD Candidate Hayk Gevorgyan](#) brought home an Emil Wolf Outstanding Student Paper Award.

[Learn More](#)



**Decoding Potential, Demonstrated:** PhD Candidate Arslan Riaz, a member of [Professor Rabia Yazicigil](#)'s WISE-Circuits Lab, won the Best Research Demo award at COMSNETS 2022. Riaz demonstrated the first Maximum Likelihood Decoder, a chip developed by Yazicigil's team as the first hardware realization of the GRAND universal decoder algorithm.

[Learn More](#)



**Rapp's Dissertation Celebrated - Again:** Dr. Joshua Rapp (PhD '20), former advisee of [Professor Vivek Goyal](#), has won the 2021 IEEE Signal Processing Society Best Ph.D. Dissertation Award. This is only the latest accolade for Rapp's doctoral work, already the recipient both the 2020 ECE Department Outstanding Dissertation Award, and the 2020 IEEE Signal Processing Society Young Author Best Paper Award.

[Learn More](#)



**Jump-Starting Biotechnology Careers for Boston High School Students:** Synthetic biology is revolutionizing the field of biotechnology, yet many people aren't sure what it is. [Professor Douglas Densmore](#) wants to change that by engaging future scientists—namely high school students.

[Learn More](#)

## Distinguished Faculty

- 4 National Academy Members
- 3 Current/Former IEEE Society Presidents
- 45 Society Fellows
- 30 NSF, DOE and DOD Early Career Awards
- 36 Average H-Index per Faculty
- 7,000 Average Number of Citations per Faculty
- 51 Tenure-Track Faculty

## RESEARCH FUNDING

