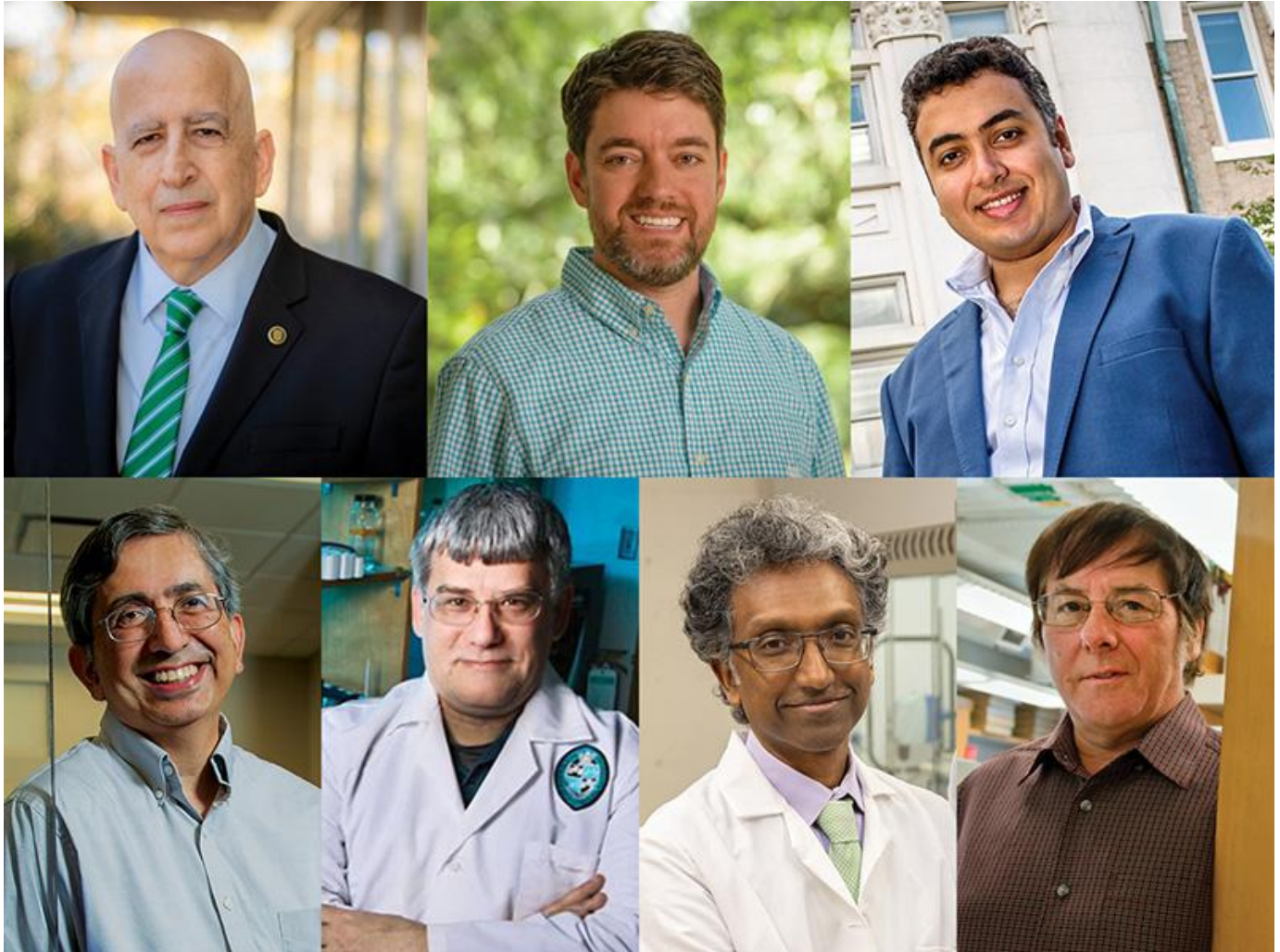


Tulane faculty named 2025 National Academy of Inventors Senior Members

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Seven Tulane University researchers have been named Senior Members by the National Academy of Inventors (NAI), a designation that recognizes rising stars who foster innovation within their communities and institutions while educating and mentoring the next generation of inventors. Clockwise from top left: Jay Rappaport, Matthew Escarra, Michael Naguib, Wayne Reed, Janarthanan Jayawickramarajah, William Wimley and Vijay John.

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foster innovation within their communities and institutions while educating and mentoring the next generation of inventors.

NAI Senior Members are active faculty, scientists and administrators with success in patents, licensing and commercialization and have produced technologies that have brought, or aspire to bring, real impact on the welfare of society.

The Tulane researchers join 155 other emerging academic inventors welcomed to NAI's 2025 class of Senior Members.

"This recognition underscores Tulane's rising stature as a leader in innovation and applied research that tackles real-world challenges," said Michael A. Fitts, president of Tulane University. "These seven researchers embody our mission to transform groundbreaking discoveries into solutions that improve lives. Their work — spanning renewable energy, advanced materials, drug delivery, infectious disease treatment, and environmental remediation — holds immense potential for meaningful societal impact."

The Tulane honorees represent diverse disciplines across the university's schools and research centers, reflecting the institution's broad approach to fostering innovation.

- [Matthew Escarra](#), PhD, professor of Physics and Engineering Physics at Tulane University School of Science and Engineering and co-director of Tulane Instrumentation for Nanoscience & Innovation, has pioneered advancements in photonics technology and renewable energy systems. His research focuses on developing more efficient solar energy capture methods that could revolutionize sustainable power generation. He also investigates new photonic materials and devices and their application in areas like biomedical sensing and chip-scale optics.
- [Janarthanan Jayawickramarajah](#), PhD, professor of chemistry at the School of Science and Engineering, has made significant contributions to the field of supramolecular chemistry. His innovative work with DNA-based structures has applications in drug delivery systems and biosensors, potentially transforming approaches to disease detection and treatment.
- [Vijay John](#), PhD, the Leo S. Weil Professor in Engineering at Tulane University School of Science and Engineering, has developed novel nanostructured materials with applications ranging from environmental remediation to drug

delivery. His inventions include innovative methods for oil spill cleanup that have practical implications for Gulf Coast environmental protection efforts.

- [Michael Naguib](#), PhD, associate professor in the department of Physics and Engineering Physics at Tulane University School of Science and Engineering, is internationally recognized for his discovery of a new family of two-dimensional materials called MXenes. These materials have promising applications in energy storage, water purification, and electromagnetic interference shielding. Naguib's research focuses on developing new functional nanomaterials for energy applications.
- [Jay Rappaport](#), PhD, director and chief academic officer of the Tulane National Primate Research Center, has made groundbreaking contributions to understanding HIV infection and developing potential therapeutics and vaccines. His research has led to several patented approaches for treating viral infections and immunological disorders. He is also advancing regenerative medicine and wound healing with innovative approaches to tissue repair and recovery.
- [Wayne Reed](#), PhD, Murchison Mallory Professor of Physics and Interdisciplinary Professor in Chemical and Biomolecular Engineering at the School of Science & Engineering, has invented paradigm-shifting technologies for polymer characterization and monitoring. His patented ACOMP (Automatic Continuous Online Monitoring of Polymerization) system promises to transform how polymers are analyzed and manufactured in industrial settings, while his SMSLS (simultaneous multiple sample light scattering) platform is being deployed in the biotechnology sector to accelerate the pace of discovery and stabilization of biologic medicines.
- [William Wimley](#), PhD, who holds the George A. Adrouny, Ph.D. Professorship in Biochemistry in the Department of Biochemistry and Molecular Biology at Tulane School of Medicine, has developed novel antimicrobial peptides that address the growing challenge of antibiotic resistance. His inventions offer promising alternatives for combating resistant bacterial infections.

The 2025 class of Senior Members will be celebrated during the Senior Member Induction Ceremony at NAI's 14th Annual Conference taking place June 23-26, 2025, in Atlanta, Georgia. The conference brings together visionaries and innovators to share ideas, foster collaborations and celebrate advancements in invention.

This year's class of new senior members, the largest to date, represents 64 NAI Member Institutions across the nation. Collectively, they are named inventors on over 1,200 U.S. patents.

“To see this program grow year over year is a testament to the dedication our Member Institutions have to fostering innovation on their campuses and supporting their inventive staff and faculty,” said Paul R. Sanberg, President of NAI. “This year’s class comes from a multitude of impressive fields and research backgrounds from across the world. We applaud their pursuit of commercialization to ensure their groundbreaking technologies can make a difference by tackling the world’s most pressing issues, improving quality of life across society, and advancing the economy.”

A full list of NAI Senior Members is available [here](#).

The ability to nominate individuals for NAI Senior Member recognition is exclusively afforded to NAI Member Institutions to recognize outstanding innovators and foster a culture of innovation and invention on their campuses. These Member Institutions are widely regarded as innovation powerhouses that continuously promote and foster the spirit of innovation in their communities.

For more information about the Senior Member program, visit <https://academyofinventors.org/about-the-senior-members-program/>.