

THREE GRAND CHALLENGES FOR ENERGY NANOSCIENCE AND SUSTAINABILITY

Dr. Susan S. Margulies.

Assistant Director for the Directorate for Engineering
NSF



Bio: Dr. Susan S. Margulies is the assistant director for the Directorate for Engineering at the U.S. National Science Foundation.

She is the first biomedical engineer to lead the Engineering Directorate, which supports fundamental research in emerging and frontier basic research areas.

Since 2017, Margulies has been professor and chair of the Wallace H. Coulter Department of Biomedical Engineering, housed jointly at the Georgia Institute of Technology and Emory University. Previously, she held positions as professor of bioengineering and neurosurgery at the University of Pennsylvania. She has won numerous awards and honors, including fellowships from the American Institute of Medical and Biological Engineering, the American Society of Mechanical Engineers, and the Biomedical Engineering Society, as well as numerous other recognitions throughout her career. Margulies is a member of the National Academy of Engineering and the National Academy of Medicine.

Margulies is internationally recognized for spurring paradigm shifts in two fields simultaneously -- pediatric traumatic brain injury and lung injury associated with mechanical ventilators. Her overall goal is to open avenues for prevention, intervention and treatment of these injuries.

"Susan Margulies' extensive experience and expertise is a valuable addition to the National Science Foundation's work to advance the frontiers of science and engineering research," said NSF Director Sethuraman Panchanathan. "Her strong leadership combined with her deep knowledge of research

translation will help accelerate our nation's progress to be at the vanguard of discovery and innovation. I am looking forward to her insights and perspectives.

"NSF's Engineering Directorate enhances U.S. innovation through its centers, partnerships and small business programs and is a driving force behind the training and development of the U.S. engineering workforce. By making education an essential element of its grants and centers, and by supporting research experiences for teachers, undergraduates, graduate students and new faculty, the directorate helps prepare the future engineering workforce to innovate and compete in the global economy. By emphasizing interdisciplinary, high-risk and potentially transformative engineering research, the directorate encourages the research community to tackle increasingly complex problems and advance the frontiers of knowledge.

"It is my honor to join NSF to lead the Engineering Directorate. This is a moment in our nation's history when engineering and science are celebrated and supported as pathways to address urgent crises and improve our society and economy," said Margulies. "The call to serve our nation and our field resonates with my values of innovation, rigor, partnership and inclusion."

Margulies' career has been marked by accomplishments such as creating and directing unique cross-campus research, training, educational and fundraising initiatives to improve faculty and student diversity, inclusion and engagement across public and private institutions. She has been instrumental in leading educational programs to teach students how to use innovative approaches to solve important problems at the interface of medicine and engineering.

In her new role, she hopes to use bold, integrated national and international strategies to draw on all types of research, exploratory, use-inspired, challenge-driven, translation to practice optimization and production, while simultaneously expanding the nation's engineering workforce. "We can see the nation is turning to NSF to address some of the most pressing challenges facing science and engineering. To do that, we must forge partnerships with industry, agencies, foundations, institutions of higher learning, communities and countries," Margulies added.

Margulies has a bachelor's degree in mechanical and aerospace engineering from Princeton University and master's and doctoral degrees in bioengineering from the University of Pennsylvania.

Margulies began her NSF appointment on Aug. 16, 2021.

Credit: Emory University