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USFSP PROFESSOR ADDRESSES RISKS, BENEFITS OF SPACE EXPLORATION AT AAAS CONFERENCE

NASA's goal is to send humans to Mars within the next two decades. But is it safe? USF St. Petersburg professor and scientist [Norine Noonan](#) weighed the good and the bad in her presentation "Issues of Risk and Benefit in Solar System Exploration Missions," which she delivered at the [American Association for the Advancement of Science's](#) annual meeting in Boston on Feb. 17. Noonan's presentation, part of a panel that examined the various risks and benefits of discovering and studying organisms from other worlds, discussed current science and technology policies and procedures that intend to mitigate risks while still serving public and scientific interests. It also addressed and emphasized U.S. cooperation with international scientific agencies.

"As the U.S. contemplates exploration missions, either manned or unmanned, to solar system bodies that we think may have once fostered life, we have to be very careful to ensure that we don't contaminate the very mission that we're going to be spending multiple billions of dollars to complete," said Noonan, founding chair of the Planetary Protection Advisory Committee, now the Planetary Protection Subcommittee for the [NASA Advisory Council's Science Committee](#).

"In planetary protection, we don't know what we don't know," said Noonan, emphasizing that scientists have discovered previously unknown organisms thousands of feet below the surface of the ocean and acidic cave environments. "We have a whole lot of unknown unknowns, and there are many examples of organisms that we didn't expect to find here on earth, and yet we found them. So we have to be much more cautious when we go to other worlds that we do not put at risk the entire mission because we weren't careful enough."

The AAAS annual meeting attracts hundreds of scientists from around the world, representing the highest levels of talent in the profession, to engage in discussions about recent developments in science and technology. Noonan presented alongside Kevin Hand, deputy project scientist of solar system exploration at NASA's Jet Propulsion Laboratory, and Penelope Boston, director of NASA's Astrobiology Institute. John Rummel, senior scientist at the SETI Institute, served as the panel moderator. Noonan has worked with Rummel on a number of planetary protection initiatives over the years.

Noonan, who joined USFSP in 2008, was elected the incoming chair for the AAAS Governance disciplinary section Societal Impacts of Science and Engineering. She has been a member of the section since 1988 and a fellow since 1993. Noonan has spent half her career working for the government in senior positions in science and technology policy. She served as executive director for the National Space Science and Technology Center in Huntsville, Ala. She also previously served as assistant administrator for Research and Development in the Environmental Protection Agency's Office of Research and Development, and on the senior staff at the Energy and Science Division in the Office of Management and Budget for the Executive Office of the President in Washington, D.C.

Noonan received both her master's and doctoral degrees in biology from Princeton University and an undergraduate degree in zoology from the University of Vermont.



Norine Noonan

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