IDA Researchers Receive Award for Best External Publication

ALEXANDRIA, VA (May 2020) – Joel Williamsen, Daniel Pechkis, Asha Balakrishnan, and Stephen Ouellette are the recipients of the Institute for Defense Analyses (IDA) 2020 Larry D. Welch Award for Best External Publication.

"Characterizing the Orbital Debris Environment Using Satellite Perturbation Anomaly Data" was published in the *Conference Proceedings of the International Orbital Debris Conference*, December 2019.

The IDA authors developed a novel concept to identify space debris. NASA has identified untracked orbital debris as one of the most serious threats to satellites in low Earth orbit, where some 20,000 commercial communications and web services satellites are expected to reside in coming years. The concept involves translating changes in GPS position and temporary breaks in communications links to the corresponding mass of small impacting orbital debris. This approach can potentially provide a better understanding of the low-Earth-orbit debris environment that affects satellite design.

"Congratulations to the authors for their high-quality research and success in publishing it in the open literature," said IDA President and CEO Norton A. Schwartz. "It gives me great pleasure to acknowledge the synergy of their expertise that led to this new concept for predicting space debris."

Williamsen joined IDA as an adjunct research staff member in 2003, after working at the University of Denver's Center for Space System Survivability, NASA's Marshall Space Flight Center, and the U.S. Army Missile Defense Command. He received a doctoral degree in systems engineering from the University of Alabama, Huntsville.

Pechkis joined IDA as a research staff member in 2011, after receiving a doctoral degree in computational/theoretical physics from The College of William and Mary.

Balakrishnan joined IDA as a research staff member in 2007, after receiving a doctoral degree in mechanical engineering from the Massachusetts Institute of Technology. She is currently on leave of absence in a congressional fellowship.

Ouellette joined IDA as a research staff member in 2001, after receiving a doctoral degree in physics from the California Institute of Technology.

Named in honor of former IDA President General Larry D. Welch (USAF, ret.), the award was established in 2011 to honor individuals whose external publications exemplify General Welch's high standards of analytic excellence and relevance.

IDA is a nonprofit corporation that operates three Federally Funded Research and Development Centers in the public interest. IDA answers the most challenging U.S. security and science policy questions with objective analysis leveraging extraordinary scientific, technical, and analytic expertise.