



Dr. Tina P. Srivastava

Candidate for INCOSE Secretary

Position Statement

INCOSE has been a valuable part of my professional life, from technical collaboration on specific engineering projects to a social and professional network of colleagues to brainstorm and debate today's most pressing challenges.

Systems engineering encompasses manifold disciplines and several aspects of a given engineering project, from costs and environmental impact, to timelines and life expectancy of equipment, and risk and uncertainty management. Engineering systems today are highly complex and dynamic systems, with thousands of interconnections, which will eventually create unanticipated undesirable technical hitches. Complex technology integration failures are difficult to anticipate.

In this sense Systems Engineers need to be equipped with the latest research and best practices in their arsenal. Experienced engineering professionals who have been leading the complex engineering projects across disciplines for years can no longer adequately manage the complexity without the knowledge and access to the latest scientific research on the principles and the processes of architecting the 'System' itself in terms of the subsystems, technology connections, and overlapping components. Current research also includes methodologies for successful staged integration of the entire system after extensive validation testing.

One of INCOSE's greatest strengths is its diversity of members spanning academia, industry, and government. INCOSE must continue to leverage this strength in its technical publications, in its influence in setting standards and regulations, as well as in its membership growth and recruiting.

Systems thinking and a systems mindset are concepts that encourage engineers from diverse fields like aerospace, defense, healthcare, manufacturing, transportation, government, aviation, etc. to better understand how to creatively solve incredibly complex problems. Systems engineers must meet new challenges through innovation and design solutions across management, technological, cultural as well as departmental boundaries within and across organizations for accelerated global market positioning. Successful complex organizations of the future will be recognized for their system-wide multi-disciplinary sustainable technology that creatively and effectively innovates to meet challenges of global significance.

INCOSE offers a unique opportunity to understand technical challenges from the lenses of a wide array of industries. INCOSE must capitalize on the recent growth in membership from the Biomedical, Healthcare, and Automotive industries.

I have been honored to serve as INCOSE Secretary for the last year and a half. This opportunity has helped me learn more about our great organization and work with dedicated volunteers who have inspired me to continue my service. I have also focused on learning from our newest members, understanding their perspectives, and incorporating their perspectives into our future vision for systems engineering. If re-elected as INCOSE Secretary, I will build on our progress, leveraging the unique strengths of INCOSE to advance our membership, empower our volunteers, and enhance our brand around the world.

Biography

Dr. Tina P. Srivastava is currently serving as INCOSE's Secretary since her election in 2015. She has supported INCOSE's operations in areas such as membership growth and alliances with strategic organizations. Dr. Srivastava received the INCOSE Inaugural David Wright Leadership Award in 2014 for technical and interpersonal competencies in the practice of system engineering as a means for solving the great challenges of our planet.

Dr. Srivastava previously served as an elected member on the INCOSE New England Chapter Board of Directors as the Membership Committee Chair. In this role, she focused on increasing chapter membership and participation. She developed a "heat map" depicting the locations of members across New England in order to hold events that will be accessible to the membership. Dr. Srivastava also served on the INCOSE Communications Committee where she helped implement innovative new technologies and social media to engage to members during and in between symposia.

Dr. Srivastava has held senior engineering leadership and technical management roles across the aerospace, national security, and commercial sectors. She is Chief Architect at Gigavation, a small business focused on cyber security founded by MIT and Harvard graduates. Dr. Srivastava earned her Ph.D. from MIT in Strategy, Innovation, and Engineering from Aeronautics and Astronautics Engineering, Engineering Systems, and the Sloan School of Management. She is in the MIT Strategic Engineering Research Group, Foundations of System Design and Management graduate curriculum development Core Team, and lecturer in the areas of complex systems and technology roadmapping and selection. Dr. Srivastava earned her S.M. from MIT in System Design and Management from the School of Engineering and Sloan School of Management. She earned her S.B. from MIT in Aeronautics and Astronautics Engineering.

Dr. Srivastava was awarded the MIT Legacy Award for "making a sustained and outstanding contribution to the MIT community". She was also awarded the National Technical Innovation Award as Chief Engineer of a >\$40M advanced radar program at Raytheon. She has been published in the areas of aerospace systems, cyber security, lean product and service platform strategies, design structure matrices, hybrid vehicle design, advanced thermal management, and radar systems.

Dr. Srivastava is a frequent invited speaker at the annual MIT R&D Conferences, MIT Industrial Liaison Program, MIT Information and Communication Technologies Conferences, and MIT Sloan CIO Symposia. She has been invited to speak at international conferences, such as at the INCOSE IS, Advanced Cyber Security Center, TU Automotive flagship Detroit Conference, and Project Management Institute (PMI) Global Congress. She is the author of publications in IEEE and INCOSE, and the upcoming book *Integrating Program Management and Systems Engineering: Processes, Tools, and Organizational Systems for Improving Performance*.

She also volunteers as a team mentor at the FIRST Robotics competition for middle and high school students. She also has been the invited Keynote Speaker at the annual Amelia Earhart events encouraging young women to pursue careers in engineering, science, and aviation. Tina is a certified pilot and flies a Cessna 172S.