

Application for the Position of SATC Vice Chair

Submitted by Melodie Yashar, July 20, 2023

Biography

Melodie Yashar is a space architect, technologist, and researcher. She is the VP of Building Design & Performance at ICON, a construction technologies company focused on large scale additive manufacturing for Earth and in space. Melodie oversees the architectural direction of ICON's built work as well as the performance of ICON's building systems to deliver optimally performing structures that shift the paradigm of homebuilding on Earth and beyond. Collaborating across technology and construction teams, her department supports the design and construction of dignified and resilient terrestrial housing solutions in addition to supporting the development of ICON's off-world construction systems. Divisions within her department include: Construction Architecture, Architectural Technology, Structural Engineering, Building Science & Performance, and Regulatory Affairs.

In prior roles, Melodie was a Senior Research Associate with the Human Systems Integration Division at NASA Ames via San Jose State University Research Foundation (SJSURF) within the Human Computer Interaction Lab. She was also a co-founder of Space Exploration Architecture (SEArch+), a research group developing human-supporting designs for space exploration, as well as a Professor within the Architecture department of Pratt Institute. Melodie currently teaches undergraduate and graduate space architecture studios at Art Center College of Design. As a space architect, a few notable projects include Mars Ice House (SEArch+ / Clouds AO) and Mars X-House (SEArch+ / Apis Cor), both first prize winners in design in NASA's Centennial Challenge for a 3D-Printed Habitat on Mars (2015-2018), as well as her leading role in the design and construction of NASA's Crew Health and Performance Exploration Analog (CHAPEA), a 3D-printed analog by ICON at NASA's Johnson Space Center (2023). Melodie is an advocate for STEM education among minorities. Melodie obtained a Master of Architecture from Columbia University and a Master of Human-Computer Interaction for Robotics from the School of Computer Science at Carnegie Mellon. A bibliography of research papers, publications, and book chapters she has authored / contributed to may be referenced at: <https://www.melodiyashar.com/research> .

Election Statement

As a fervent advocate of SATC, I firmly believe in the committee's existence and future potential as a portal into the space architecture discipline, and as a vibrant community for active research and development in the field. My goal as Vice Chair is to fully embrace SATC's role as a hub for knowledge transfer, community development, and educational advancement. My vision for SATC is to establish a dynamic and inclusive community that thrives on the exchange of ideas and promotes innovation in space architecture. I believe that by promoting collaborative endeavors (as we have), we can propel space architecture to new heights together.

I feel passionately about several objectives that I believe we can further align and advance with subcommittee teams and activities. For example, to enhance SATC's visibility and reach, I believe we can provide more regular touchpoints (internally and externally) with organizations (institutional, educational, and regulatory) via Zoom to share updates, engaging content, and host thought-provoking discussions online. Through these discussions, we can share the latest developments in SATC's activities, showcase member achievements, foster a thriving online community, and identify potential project or collaboration opportunities. I also strongly believe in and endorse organizing SATC sessions and coordinating member attendance at aerospace conferences and workshops (AIAA ASCEND, IAC, ICES, IEEE Aerospace, HFES, and more). One idea is to establish a backlog of potential topics for special sessions, panel discussions, and group events that we compile well in advance of conference deadlines. Additionally, I hope to support SATC's development of (both virtual and in person) exhibition and press opportunities that may showcase our members' groundbreaking work to broader audiences.

With regards to the education committee, as an educator myself I strongly endorse the development of a mentorship program which might support new avenues for personal and professional growth within the broader space architecture community. Another idea is to strive to strengthen ties between universities providing space architecture coursework. In my opinion collaborative projects, joint research initiatives, and student exchanges not only enrich the educational experience, but an interconnected approach can accelerate the advancement of space architecture as a whole. In conclusion, I am eager and enthusiastic to support and realize the full potential of SATC as Vice Chair. I believe that with routine and consistent follow-up on subcommittee teams and objectives relative to: conference activities and the organization of special sessions, exhibitions, publicity opportunities, social media, as well as educational opportunities, that we will expand our community and nurture the future leaders of the global space architecture discipline. Thank you for your consideration.