

Conference Overview

The Space Education and Strategic Applications (SESA) Conference is sponsored annually by the American Public University System (APUS) and the Policy Studies Organization (PSO). The SESA conference is a fully virtual event spanning two full days of presentations; it is held in September each year, and registration is generously subsidized by APUS. The conference draws an international audience, with 17 countries represented and 375 registered participants. Like the *SESA Journal*, the conference features a multidisciplinary approach to space studies. Conference sessions span a wide range of space-related topics, ranging from policy to education, aerospace to astronomy, and include representation from academic, commercial, government, and military sectors.

The 2023 SESA Conference theme was “Islands in Space: From Skylab to Gateway.” The theme focused on celebrating the 50th anniversary of the launch of Skylab, the first U.S. space station to orbit the Earth, while also looking forward to the establishment of the Gateway lunar space station, the world’s first space station around the Moon, which will be a stepping stone for deep exploration of the Solar System and will pave the way for human settlements on the Moon, Mars, and beyond.

Skylab launched on May 14, 1973. Over its two-year lifespan, the space station housed three 3-person crews for a total of 171 days in space. As a research laboratory, Skylab contained four modules, including the Orbital Workshop, the Airlock Module, the Multiple Docking Adapter, and the Apollo Telescope Mount. The Orbital Workshop served as the main laboratory and living space for the crews. Skylab’s primary purpose was to serve as a research laboratory; astronauts performed astronomical observations, earth observations, experiments on crystals and metal alloys, the effects of microgravity on the human body, and more. It set the stage for the successful development of the International Space Station (ISS) and its 30+ years of operation, science, and international cooperation. Gateway will build on the success of Skylab and the ISS to become a bridge between the Earth and the Moon, a platform from which to easily access lunar bases and a jumping off point for deep space exploration.

The SESA Conference offers a variety of presentation options, including keynote speakers, research presentations, policy updates, and panel discussions. A poster session is also included, which highlights works in progress as well as student research. The keynote speakers for 2023 were an extremely distinguished group, including Dr. JD Polk, NASA’s Chief Health and Medical Officer, Dr. Robert Zubrin, the president of The Mars Society, Sean Fuller, the International Partner Manager for NASA’s Gateway Program, and Dr. Arnauld Nicogossian, former NASA Chief Medical Officer. Their presentations included a discussion of the leg-

acy of Skylab, an overview of the Gateway program, lessons learned in crew health from the ISS and how they will be applied to the Artemis missions, and a glimpse of the future of crewed exploration as humanity moves towards Mars. The panels, presentations, and posters included discussions of analog research, cultural diversity and inclusion, planetary protection, space ethics and logistics, space tourism, space weaponization, international relations in space exploration, and many more.

We are pleased to present this collection of summaries which highlight the breadth and scope of the conference. These selections represent the range of topics discussed in keynote addresses, special speakers, panels, and research presentations during SESA 2023. This conference proceeding is an editorialized review of the presentations, but not a peer-reviewed offering. It is organized by the main topics of the conference, including special presentations on Skylab, Intelligence and Policy, Space Education, and Space Exploration.