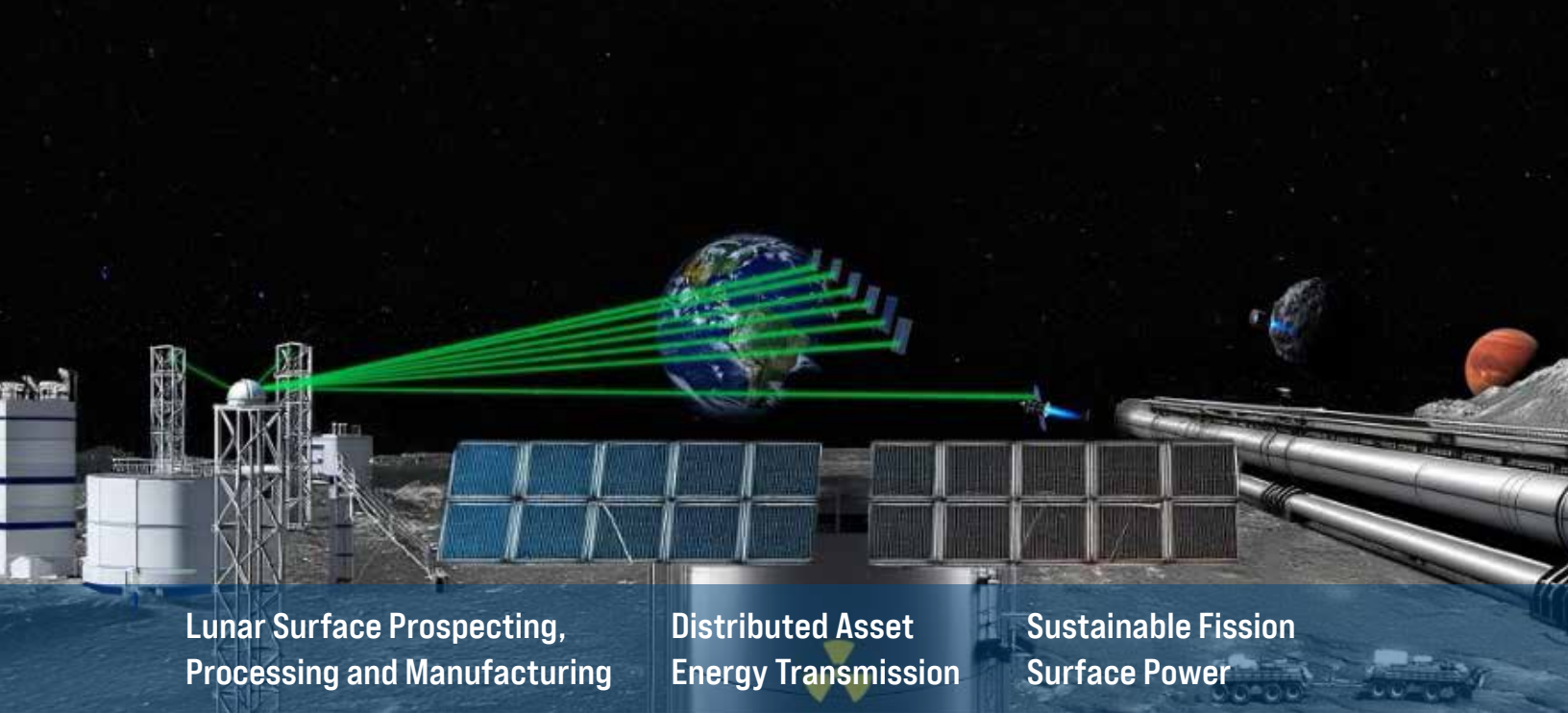




Lunar Surface Prospecting,
Processing and Manufacturing

Distributed Asset
Energy Transmission

Sustainable Fission
Surface Power

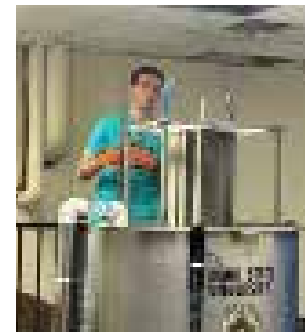
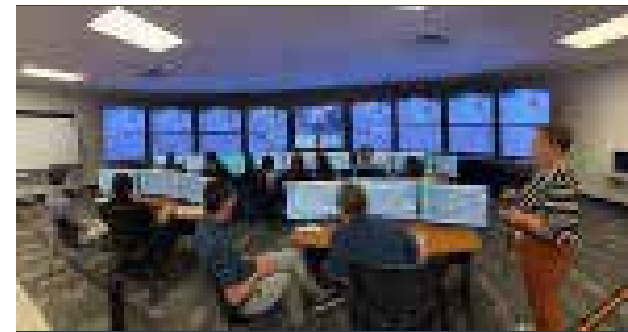


Universities
Space Research
Association

CENTER FOR SPACE NUCLEAR RESEARCH

Developing Tomorrow's Skilled Workforce Today

USRA has been offering a totally immersive 10-Week internship program for over 20 years. The Center for Space Nuclear Research (CSNR) offers a student program for crosscutting development of space nuclear technologies. The program aims to establish new skills in advanced neutronics and coupled multiphysics modeling and simulation; new practical experiences to develop real-world understanding of advanced manufacturing; handling of work with nuclear materials; and reactor operations in partnership with Idaho State University.



U.S. Space Nuclear Programmatic Landscape: Fission

The U.S. space nuclear landscape is centered on advancing fission technologies to support sustained lunar operations and future deep-space missions. Led by NASA and the Department of Energy, these efforts focus on compact, resilient reactor systems capable of delivering continuous surface power and enabling advanced propulsion architectures. The Universities Space Research Association (USRA) plays a strategic role in this ecosystem by connecting academia, government, and industry. Through coordinated research, technology maturation, and workforce development, USRA helps accelerate innovation and the integration of nuclear systems into the next generation of human and robotic space exploration missions.

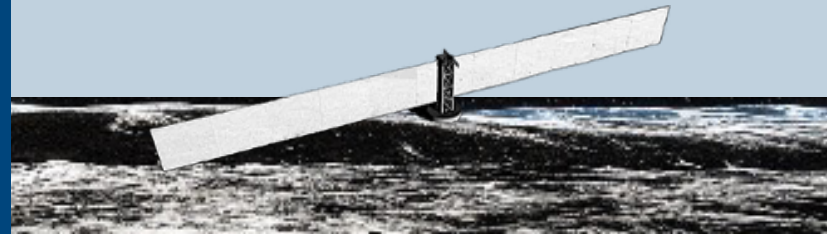
Nuclear Thermal Propulsion



Nuclear Electric Propulsion



Fission Surface Power



Transitioning Science and Exploration to Commercial Impact

Nuclear energy can bridge demonstrations to extra-terrestrial commercially viable processing and in-space manufacturing. The Universities Space Research Association, through its Center for Space Nuclear Research is advancing nuclear power systems to enable sustainable space exploration and industrialization. By developing compact, high-density reactors, these efforts bridge early demonstrations with scalable applications such as in-situ resource utilization and in-space manufacturing. In collaboration with NASA and the U.S. Department of Energy, USRA is helping establish reliable, continuous power sources essential for transforming experimental technologies into commercially viable operations beyond Earth.



Image Courtesy: NASA