

Off Planet Research, LLC Awarded Competitive Grant from the National Science Foundation

Small Business Innovation Research Program Provides Seed Funding for R&D

Lacey, Washington, May 30, 2020 – Off Planet Research has been awarded a National Science Foundation (NSF) Small Business Innovation Research (SBIR) grant for \$225,000 to conduct research and development (R&D) for providing cost-effective artificial mixtures of the ice and soil found on the Moon and other worlds to accelerate the development of space resource extraction.

Humanity’s near-future plans in space depend heavily on the ability to mine the ice that has been discovered at the lunar poles and convert it into rocket fuel, breathable air, drinkable water, and water to grow food for future inhabitants of a lunar base. This project will make producing realistic lunar ice/soil mixtures portable and affordable, converting a barrier into a path to success and providing access to a bright future to a larger number of students, professionals, and companies.

“NSF is proud to support the technology of the future by thinking beyond incremental developments and funding the most creative, impactful ideas across all markets and areas of science and engineering,” said Andrea Belz, Division Director of the Division of Industrial Innovation and Partnerships at NSF. “With the support of our research funds, any deep technology startup or small business can guide basic science into meaningful solutions that address tremendous needs.”

According to the owners and lead researchers Melissa Roth and Vince Roux, this artificial Moon ice is needed to help find ways for people to live and work on the Moon, and to provide fuel for spacecraft and satellites that will ultimately be much less expensive than lifting the fuel from the Earth. Off Planet Research is the only organization in the world that has produced these realistic versions of the mixtures of ice and soil with all of the components found within the deep craters in the polar regions of the Moon.

The NSF grant will enable the company to develop a way to expand their production and make it portable so this unique material can be available for researchers anywhere. According to Vince and Melissa, this is an industry-enabling innovation that will accelerate the establishment of an enduring human presence on the Moon and beyond, and make it possible for more private organizations, small businesses, and student researchers to join the emerging space economy.

Off Planet Research is joined in this effort by the Colorado School of Mines, Thermal Space Ltd. and consulting chemist Steven Miller.

Once a small business is awarded a Phase I SBIR/STTR grant (up to \$256,000), it becomes eligible to apply for a Phase II grant (up to \$1,000,000). Small businesses with Phase II grants are eligible to receive up to \$500,000 in additional matching funds with qualifying third-party investment or sales.

Startups or entrepreneurs who submit a [three-page Project Pitch](#) will know within three weeks if they meet the program's objectives to support innovative technologies that show promise of commercial and/or societal impact and involve a level of technical risk. Small businesses with innovative science and technology solutions, and commercial potential are encouraged to apply. All proposals submitted to the NSF SBIR/STTR program, also known as America's Seed Fund powered by NSF, undergo a rigorous merit-based review process. To learn more about America's Seed Fund powered by NSF, visit: <https://seedfund.nsf.gov/>

About the National Science Foundation's Small Business Programs: America's Seed Fund powered by NSF awards \$200 million annually to startups and small businesses, transforming scientific discovery into products and services with commercial and societal impact. Startups working across almost all areas of science and technology can receive up to \$1.75 million to support research and development (R&D), helping de-risk technology for commercial success. America's Seed Fund is congressionally mandated through the Small Business Innovation Research (SBIR) program. The NSF is an independent federal agency with a budget of about \$8.1 billion that supports fundamental research and education across all fields of science and engineering.