



OAK RIDGE NATIONAL LABORATORY

# Innovation Crossroads

Launching new energy-related technology companies has become increasingly difficult, contributing to a significant decline in energy startups over the past decade. To address this challenge, Innovation Crossroads was founded and funded by the U.S. Department of Energy's (DOE) Advanced Materials and Manufacturing Technologies Office (AMMTO), with additional support from the Office of Energy Efficiency and Renewable Energy's Building Technologies Office (BTO), DOE's Office of Electricity, Office of Science's Advanced Scientific Computing Research program and Basic Energy Sciences program, and the Tennessee Valley Authority (TVA). This program harnesses the unique scientific resources and capabilities of Oak Ridge National Laboratory (ORNL) to connect the nation's leading innovators with experts, mentors, and networks in technology-related fields, helping to transform groundbreaking ideas from research and development (R&D) into market-ready solutions.

## Empowering Aspiring Entrepreneurs

Through an annual national call, top entrepreneurial-minded innovators are selected to join this 2-year program. Participants receive a fellowship that covers living costs and benefits, a travel stipend, a substantial grant for collaborative R&D work at ORNL, and comprehensive assistance to build a sustainable business model.

By embedding the next generation of top technical talent within ORNL, Innovation Crossroads positions entrepreneurial researchers to address fundamental energy, manufacturing, and grid challenges identified by industry.

**National lab expertise**—ORNL is DOE's largest science and energy laboratory and is home to some of the nation's most significant user facilities. Because Innovation Crossroads entrepreneurs work within ORNL, they have immediate access to essential tools and resources. This access reduces cost, risk, and R&D time, allowing researchers to focus on creating the next generation of game-changing technologies.

**Multidisciplinary collaboration**—Innovation Crossroads participants work with ORNL's renowned scientists and engineers across many disciplines, including biological and environmental sciences, advanced materials, neutron sciences, nuclear science and engineering, and high-performance computing, providing a platform for accelerating innovation.

**Business mentoring assistance**—Innovation Crossroads has a growing network of partners who offer a unique entrepreneurial and business mentoring experience. The program facilitates connections with industry executives, investors, entrepreneurs, and other experts from academia, government, and finance who can serve as advisors and mentors to help develop priorities, mature skills, provide guidance, and make connections to their broader networks.

Up to a 2-year stipend with health and travel benefits

Comprehensive business mentoring

Substantial R&D funding provided by ORNL, DOE, and TVA

Our innovators have raised more than \$200 million in follow-on funding

Ninth cohort starts in Summer 2025



"Working with Oak Ridge National Laboratory researchers is an amazing opportunity. They have helped us expand our additive manufacturing process' capabilities, increase application use cases, and will ultimately lead to digital manufacturing without any iteration. The top-notch mentorship and training have helped us understand fundraising and clarify our pitch both to potential investors and customers."

—Skuld Founder and CEO **Sarah Jordan**

# Empowering Leaders, Igniting Innovation, Launching Businesses

Innovation Crossroads' impact is far reaching as it enters its eighth year of embedding entrepreneurs at ORNL. The program has supported 45 start-ups that have raised \$94 million in grants and awards, created over 250 jobs, raised \$106.6 million in venture funding, and have more than \$11.3 million in sales revenue.



## Cohort 2024

Nicholas Sokol  
*Algaeo*  
Vinit Chaudhary  
*Aligned Composites Technology*  
Kevin Roccapriore  
*AtomQ*  
Katy Bradford  
*Cassette Construction*  
Jordan Cannon  
*Circular Biosciences*  
Tim Vosburgh  
*Coulomb Technology*  
Brian Iezzi  
*Fibarcode*

## Cohort 2023

Manas Pathak  
*EarthEn*  
Daniel Lee  
*Perseus Materials*  
Marouane Salhi  
*Qubit Engineering*  
Md "Arif"  
Arifuzzaman  
*Re-Du*  
Sarah Jordan  
*Skuld*  
Ryan Spencer  
*ThermaMatrix*  
Shantonio Birch  
*ThermoVerse*

## Cohorts 2017–2022 Alumni

Joe Fortenbaugh  
*Actinic*  
Shuchi "SK" Khurana  
*Addiguru*  
Bianca Bailey  
*Agriwater*  
William Fitzhugh  
*American Nanotechnologies*  
Thomas Foulkes  
*AquaQuant Laboratories*  
Justin Nussbaum  
*Ascend Manufacturing*  
Rajan Kumar  
*Ateios Systems*  
Danielle Castley  
*Becq*  
Kim Tutin  
*Captis Aire*  
Caleb Alexander  
*DayLyte Batteries*

Alex Lewis  
*Electro-Active Technologies*  
Hicham Ghossein  
*Endeavor Composites*  
Donald DeRosa  
*Eonix*  
Philip Stuckey  
*FC Renew*  
Jesse Thornburg  
*Grid Fruit*  
Tommy Gibbons  
*Hempitecture*  
Anca Timofte  
*Holocene Climate*  
Shane McMahon  
*Lux Semiconductors*  
Jesse Claypoole  
*MantaPoole Technologies*

Trevor McQueen  
*Neptune Fluid Flow Systems*  
Megan O'Connor  
*Nth Cycle*  
Renee Carder  
*PixelEXX Systems*  
Leila Safavi  
*Purist*  
Erica Grant  
*Quantal Security*  
Forrest Shriver  
*Sentinel Devices*  
Mitchell Ishmael  
*Shift Thermal*

Anna Douglas  
*SkyNano Technologies*  
Matthew Smith  
*TCPoly*  
Sam Evans  
*Unbound Water Technologies*  
Alex Stiles  
*Vitriform3D*  
Matthew Ellis and Samuel Shaner  
*Yellowstone Energy*



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ornl.gov

## CONTACT:

Dan Miller  
Program Lead

innvcrossrds@ornl.gov  
865-574-3640

One Bethel Valley Road  
Oak Ridge, TN 37831