



DELAWARE ENERGY
INSTITUTE

Funding Opportunities

September 26, 2022

National Science Foundation/Activate.org

Entrepreneurial Fellowships for Engineers and Scientists | Deadline: Oct. 31, 2022

SUMMARY: The U.S. National Science Foundation announced a new \$20 million investment in Entrepreneurial Fellowships through a multi-year cooperative agreement with Activate.org. The Activate Fellows supported by NSF will be scientists and engineers from a variety of backgrounds and regions across the U.S. who will translate research breakthroughs to new products and services with broad societal benefits.

The Entrepreneurial Fellowships will help make entrepreneurship more accessible for people in less-developed innovation ecosystems, expanding geographic diversity and increasing participation of women and others who have been traditionally underrepresented in science, technology, engineering and mathematics.

Over two years, Entrepreneurial Fellows will receive training and at least \$350,000 in direct support, plus access to specialized research facilities and equipment through Activate. The fellows will advance their prototypes, refine their business models, build their teams, and secure follow-on funding. The initiative will be run by Activate.org, a nonprofit organization that launched the entrepreneurial fellowship model with the Cyclotron Road program at Lawrence Berkeley National Laboratory and has partnered with U.S.-based funders and research institutions to grow the approach.

The initiative includes three possible pathways for scientists and engineers to participate:

- **Activate Anywhere** — A connected, yet not co-located, community of fellows that allows for any qualified scientist anywhere in the country to benefit from Activate fellowship support and leverage the concentrated resources of traditional innovation centers where Activate has in-residence offerings.
- **A New Activate In-residence Community** — A new in-person location that expands physical communities beyond Activate's existing locations ensuring that a regional

hub exists for any fellow across the country who wants to be in-residence, and to strengthen the national base of resources that any fellow across the network can leverage.

- **Pre-doctoral Translational Research Experience** — A new mechanism aimed at expanding opportunities for diverse talent and overcoming racial imbalance in the science innovation ecosystem by supporting pre-doctoral scientists and engineers and exposing them to nascent science-based startups under the mentorship of Activate's network.

Additional Information: [ACTIVATE FELLOWS](#)

Department of Energy, Office of Clean Energy Demonstrations

Regional Clean Hydrogen Hubs (H2Hubs) | Concept: Nov. 7, 2022 / Full: April 7, 2023

SUMMARY: The H2Hubs will form the foundation of a national clean hydrogen network that will contribute substantially to decarbonizing multiple sectors of the economy. Matching the scale-up of clean hydrogen production to a growing regional demand is a key pathway to achieving large-scale, commercially viable hydrogen ecosystems. H2Hubs will enable this pathway by demonstrating low-carbon intensity and economically viable hydrogen-based energy ecosystems that can replace existing carbon-intensive processes. This will accelerate the deployment of these technologies and enabling infrastructure, attract greater investments from the private sector, and promote substantial U.S. manufacturing of numerous hydrogen related technologies.

Each H2Hub will include multiple partners that will bring together diverse hydrogen technologies to produce and utilize large amounts of hydrogen in different ways. These clean hydrogen demonstrations will balance hydrogen supply and demand, connective infrastructure, and a plan for long-term financial viability. The H2Hubs will also include substantial engagement of local and regional stakeholders, as well as Tribes, to ensure that they generate local, regional, and national benefits. H2Hubs will be expected to carry out meaningful community and labor engagement; invest in America's workforce by creating good-paying jobs with the free and fair choice to join a union; advance diversity, equity, inclusion, and accessibility; and contribute to the President's Justice40 Initiative goal that 40% of the overall benefits of certain federal investments flow to disadvantaged communities.

DOE has defined a four-phase structure for the H2Hubs. Phase 1 will encompass initial planning and analysis activities to ensure that the overall H2Hub concept is technologically and financially viable, with input from relevant local stakeholders. Phase 2 will finalize engineering designs and business development, site access, labor agreements, permitting,

offtake agreements, and community engagement activities necessary to begin installation, integration, and construction activities in Phase 3. Phase 4 will ramp-up the H2Hub to full operations including data collection to analyze the H2Hub's operations, performance, and financial viability. This FOA will solicit plans for all four phases of proposed H2Hub activities; however, DOE will only initially authorize funding for Phase I. DOE's review and evaluation of deliverables reflecting activities in each phase will inform Go/No-Go decisions that occur between or within Phases.

Award: For this initial FOA launch, DOE envisions selecting six (6) to ten (10) H2Hubs for a combined total of up to \$6-7 billion in federal funding. DOE may issue a second launch of this FOA to solicit additional H2Hubs beyond those selected in the initial launch.

Additional Information: [DE-FOA-0002779](#)

U.S. Army xTech

xTechManufacture Competition | Concept Paper: Oct. 14, 2022

SUMMARY: The U.S. Army would like to invite interested entities to participate in the xTechManufacture competition, a forum for eligible U.S. based small businesses, sole proprietors and institutions of higher education including accredited post-secondary institutions, to engage with the Department of Defense, earn prize money and participate in the 2022 Defense Manufacturing Conference in Tampa, FL from December 5-8, 2022.

The xTechManufacture competition is an opportunity for eligible entities to pitch novel advanced manufacturing solutions directly to the DOD. In addition to non-dilutive cash prizes, entities will have the opportunity to engage with DOD and other partners through information sharing and networking opportunities. The xTechManufacture competition will provide operational and technical feedback from DOD subject matter experts on proposed ideas submitted to this competition and offer the finalists cash prizes and opportunities to participate in the 2022 DMC where there will be additional networking opportunities throughout the conference.

The xTechManufacture competition seeks to advance the defense industrial base (DIB) through manufacturing innovation. With focused investments aimed at the advancement and maturation of key manufacturing technology processes that move technology from research and development into affordable and timely full-scale production – this competition aims to strengthen alliances and build new partnerships in the following key technology areas with the highest potential impact across the Defense Department.

- **Topic 1: Hypersonics** - Develop leap-ahead and cost-effective technologies to support hypersonic systems that fly within the atmosphere for significant portions of

their flight at or above 5 times the speed of sound, or approximately 3700 miles per hour. Hypersonics dramatically shorten the timeline to strike a target and increase unpredictability.

- **Topic 2: Directed Energy** - Development of directed energy systems to include, but not limited to high energy lasers and high-power microwave systems. Some examples of needed technologies: high power beam control components, beam director components and assemblies, high energy laser components, and improvements in directed energy manufacturing techniques and automation technologies for independent manufacturing.
- **Topic 3: Power and Energy** - Development of power and energy devices to include, but not limited to rechargeable and non-rechargeable batteries, munitions batteries, fuel cells, supercapacitors, and hybrid systems. Some examples of needed technologies: Large-format lithium-ion batteries for lightweight high-energy, high-power weapons systems; printed and flexible hybrid electronics for wearable conformal batteries.
- **Topic 4: Digital Thread** - Development of software systems to drive a continuous flow of integrated design, analysis, and manufacturing information throughout the product/system life cycle.
- **Topic 5: Additive Manufacturing** - Mature 3-dimensional printing to mitigate diminished manufacturing sources of supply and long lead time supply chain shortfalls by:
 - Modernizing national defense systems to improve performance using AM-designed equipment;
 - Increasing materiel readiness to rapidly prototype and produce direct parts, thereby reducing the risk of obsolete hardware; and
 - Enabling Warfighters to employ innovative solutions on the battlefield through AM capabilities.

Awards:

PART 1: CONCEPT WHITE PAPER



September 14 – October 14, 2022



Up to ten (10) finalists



\$15K/each

All eligible entities are invited to submit a Part 1: Concept White Paper addressing one (1) or more of the five (5) manufacturing problem statements detailed above. Eligible entities may submit one (1) or more submissions per problem statement outlining their technology, the technical concept and scientific viability of their approach, the potential impact on the defense industrial base (identify specific applications and/or specific acquisition platforms where possible), and commercial potential for both public and private dual-use applicability.

PART 2: FINAL TECHNOLOGY PITCHES



December 5–8, 2022



Up to three (3) winners



1st place: \$125K

2nd place: \$75K

3rd place: \$25K

All others receive \$10K/each

Part 1 Finalists will be invited to participate in the finals at the 2022 DMC in Tampa, FL from December 5-8, 2022.

Each Part 2 participant will conduct a live 15-minute presentation followed by a 10-minute question-and-answer session with a panel of DOD SMEs and will be given the opportunity to demonstrate their potential for impact and their technology and concept viability. Detailed instructions and evaluation criteria will be provided to the selected finalists.

Detailed instructions and evaluation criteria will be provided to the Part 2 participants. In addition to the prize money, the 10 Part 2 participants will have an opportunity to network with key stakeholders during the 2022 DMC. The winners will be announced at the conclusion of the 2022 DMC on Thursday, December 8, 2022.

Additional Information: [xTechManufacture](#)

Amazon Science Research Awards

Fall 2022 Sustainability CFP | Due: October 19, 2022

SUMMARY: Amazon Sustainability works to make Amazon the most environmentally and socially responsible place to buy or sell goods and services. We conduct research to map, model and measure the end-to-end environmental and social impact of the company and vet sustainability topics that will have the greatest future impact to Amazon to inform business planning and resilience. We develop and test strategies that support revenue growth while reducing negative environmental and social impact. We work with the external science community to drive our mission goals. We accelerate adoption of trustworthy sustainable practices at Amazon by guiding critical decision makers with crisp recommendations backed

by scientific rigor. We remove ambiguity around sustainable choices and provide them scientifically credible concepts, reports, data, and tools that they can use to make informed decisions.

We welcome proposals related to the topics below:

- Climate risk / resilience
- Life cycle assessment
- Social responsibility / labor rights / human rights
- Circular strategies
- Plastics
- Waste
- Water
- Machine learning for sustainability.

Award: Selected Principal Investigators (PIs) may receive the following:

- Unrestricted funds, no more than \$80,000 USD on average
- Training resources, including AWS tutorials and hands-on sessions with Amazon scientists and engineers

Awards are structured as one-year unrestricted gifts. The budget should include a list of expected costs specified in USD, and should not include administrative overhead costs. The final award amount will be determined by the awards panel..

Additional Information: [SUSTAINABILITY CFP](#)