Opportunity Title: Hydrogen Shot Fellow
Opportunity Reference Code: DOE-EERE-STP-HFTO-2021-1801

Organization U.S. Department of Energy (DOE)

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How to Apply Click on *Apply* below to start your application.

ORISE is continuing normal program operations during the COVID-19 pandemic. This opportunity will be offered as long as Department of Energy Headquarters is able to complete the onboarding process and ensure a meaningful experience to participants. We encourage you to apply and submit your application as soon as possible. Updates to this opportunity will be provided on this page as needed.

Description The U.S. Department of Energy (DOE) Energy recently announced the Energy Earthshots Initiative aimed at accelerating breakthroughs of more abundant, affordable, and reliable clean energy solutions within the decade. The first Energy Earthshot, launched June 7, 2021—Hydrogen Shot—seeks to reduce the cost of clean hydrogen by 80% to $1 per 1 kilogram in 1 decade ("1 1 1"). Achieving the Hydrogen Shot's $1/kg cost goal will enable new markets for hydrogen, including energy storage, steel manufacturing, clean ammonia, and heavy-duty trucks. This will create more clean energy jobs, reduce greenhouse gas emissions, and position America to compete in the clean energy market on a global scale. As the lead coordinating across the DOE Hydrogen Program, EERE's Hydrogen and Fuel Cell Technologies Office (HFTO) will play a key role in this effort and is launching a Hydrogen Shot Opportunity to recruit diverse talent that can contribute to achieve Hydrogen Shot.

HFTO funds research, development, demonstration and deployment (RDD&D) of hydrogen and fuel cell technologies across multiple sectors enabling innovation, a strong domestic economy, and a clean, equitable energy future (https://www.energy.gov/eere/fuelcells/fuel-cell-technologies-office). Research programs within HFTO include Hydrogen Technologies, Fuel Cell Technologies, Technology Acceleration, and Systems Analysis. The Hydrogen Shot Fellows will engage with one or more programs, or functional areas (i.e. operations, communications, stakeholder engagement, etc.) within HFTO and focus on activities to tackle key challenges and to make Hydrogen Shot a reality. HFTO plans to bring in 1-2 Hydrogen Shot Fellows per fiscal year, depending on needs and funding available from individual HFTO programs or functional areas. Details of programmatic areas in search of a fellow include:

Hydrogen Technologies Program

HFTO's Hydrogen Technologies Program is looking for a Hydrogen Shot Fellow to focus on clean hydrogen production and infrastructure research and development, including electrolysis and water splitting technologies. Key areas of RDD&D within the Hydrogen Production sub-Program include: electrolysis, solar thermochemical, photoelectrochemical, and biological processes. Key areas of RDD&D within the Infrastructure sub-Program include: materials compatibility, liquefaction, pipelines, tube trailers,

materials based storage, and technologies used at hydrogen fueling stations, such as compressors, storage vessels, dispensers, and cryopumps. Specifically, candidates with experience in electrolysis for hydrogen production are of interest as low-cost hydrogen from electrolysis will be key to meeting the Hydrogen Shot Goal of $1/kg in one decade.

Fuel Cell Technologies Program

HFTO's Fuel Cell Technologies Program is looking for a Hydrogen Shot Fellow to focus on reversible fuel cells (RFCs) for power generation and energy storage applications, as well as polymer electrolyte membrane fuel cells (PEMFCs) for medium and heavy-duty transportation applications. Specifically, candidates with experience in fuel cell materials, components, stacks, and systems are of interest.

Technology Acceleration Program

HFTO's Technology Acceleration (TA) Program is looking for a Hydrogen Shot Fellow that will be engaged in the roll-out and learn about the management of hydrogen and fuel cell technology demonstration efforts as well as collaborating in technologies such as safety, codes, and standards and manufacturing of key components. Technology demonstrations span a wide range of hydrogen end uses including (1) grid energy storage and power generation (2) transportation and hydrogen fueling demonstrations such as heavy-duty trucks and marine vessels, and (3) decarbonizing chemical and industrial processes such as steel and ammonia production by integrating green hydrogen.

Systems Analysis Program

HFTO's Systems Analysis (SA) Program is looking for a Hydrogen Shot Fellow to engage in critical review of analyses, stakeholder engagement to inform analysis priorities, briefing materials, and coordination of analysis efforts across HFTO and with other DOE Offices. SA funds cross-cutting analysis that informs RDD&D priorities by characterizing the value proposition of hydrogen and fuel cell technologies in emerging applications (e.g., steelmaking, chemicals, energy storage, and heavy-duty transportation), life cycle emissions as well as technical and cost barriers to market adoption.

General Activities include:

- You will learn and engage in critical aspects of HFTO's mission, mainly supporting Hydrogen Shot related activities, conducting technical reviews of Hydrogen Shot projects funded by the HFTO, drafting key documents summarizing program strategy and accomplishments, technoeconomic analysis to inform program target-setting, organization of workshops and conferences to solicit feedback from expert stakeholders on program direction and strategy, identification of priority areas of research for future program activities, and giving presentations at technical conferences and events to solicit stakeholder feedback on program activities.

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- Collaborate with DOE to learn how to manage projects including monitoring Hydrogen Shot project progress and milestones as well as reviewing and analyzing project progress reports and other technical reports. Engage with DOE to communicate with researchers to address questions and issues that arise.

Fellow Benefits

Selected Fellows will receive a stipend as support for their living and other expenses during this appointment. Stipend rates are determined by EERE officials and are based on the candidate's academic and professional background. Relocation expenses, not to exceed $5,000, incurred in relocating from the participant's current address to Washington, D.C.(if more than 50 miles from the address shown on the application), may be reimbursed. Participants will receive a travel allowance of up to $10,000 per appointment year to cover travel-related expenses to scientific and professional development activities. This opportunity is available to U.S. citizens and Lawful Permanent Residents (LPR).

For more information about the EERE Science, Technology and Policy Program, please visit https://www.energy.gov/eere/education/energy-efficiency-and-renewable-energy-science-technology-and-policy-program

Appointment Locations

Washington, D.C.

Nature of the Appointment

Fellows will not enter into an employee/employer relationship with ORISE, ORAU, the DOE, or any other office or agency. Instead, the participant will be affiliated with ORISE for the administration of the appointment through the ORISE appointment letter and Terms of Appointment.

Qualifications

Program eligibility requirements can be found at: https://www.energy.gov/eere/education/energy-efficiency-and-renewable-energy-science-technology-and-policy-program

Three levels of participation provide opportunities to a range of experience levels from recent graduates to experienced scientists and engineers to participate in the program.

A complete application consists of:

- An application
- Transcript(s) - For this opportunity, an unofficial transcript or copy of the student academic records printed by the applicant or by academic advisors from internal institution systems may be submitted. Selected candidate may be required to provide proof of completion of the degree before the appointment can start.
- A current resume/CV
- One Letter of Recommendation

All documents must be in English or include an official English translation.

The resume/CV must include the following:

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- Basic applicant Information: Name, address, phone, email, and other contact information.
- Work & Research Experience: List all work and research experiences beginning with current or most recent. Include the name of the employer, location, position held, and time period involved.
- Leadership Experience: List experiences (e.g., work, civic, volunteer, research) that demonstrate your leadership skills. Detail your role, type of experience, organization, location, and duration.
- Educational History: List all institutions from which you received or expect to receive a degree, beginning with current or most recent institution. Include the name of the academic institution, the degree, the date of award, and academic discipline.
- Honors & Awards: List in chronological order (most recent first) any awards or public recognitions. Include the name of awarding institution, title of the award or honor, and date of award or honor.

If you have questions, please send an email to DOE-RPP@orise.orau.gov. Please list the reference code for this opportunity in the subject line of your email.

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Eligibility Requirements

- **Citizenship:** LPR or U.S. Citizen
- **Degree:** Bachelor's Degree, Master's Degree, or Doctoral Degree.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (12 👁)
  - **Engineering** (27 👁)
- **Age:** Must be 18 years of age