

Opportunity Reference Code: DOE-STP-OE-2025

Organization U.S. Department of Energy (DOE)

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

Application Deadline 2/10/2025 3:00:00 PM Eastern Time Zone

Description The U.S. Department of Energy (DOE) Science, Technology, and Policy Program is designed to provide opportunities for students, postgraduates, and faculty to participate in programs, projects, and activities at the Department. Fellows will receive hands-on experience that provides an understanding of the mission, operations, and culture of DOE. As a result, fellows will gain deep insight into the federal government's role in the creation and implementation of energy technology policies; apply their scientific, policy, and technical knowledge to the development of solutions to issues of importance to the DOE and continue their education and involvement in areas that support the DOE mission either in a technical or policy-related appointment.

## About the Office of Electricity

The mission of the Office of Electricity (OE) is to lead the Department of Energy's research, development, and demonstration programs to strengthen and modernize our nation's power grid so that our nation maintains a reliable, resilient, and secure electricity delivery infrastructure. OE's vision includes working closely with industry and other stakeholders to drive technological and operational advancements that ensure that every American home and business has reliable access to affordable energy, and that the U.S. sustains its global leadership in energy transformation.

For more information about the Office of Electricity, please visit Join Our Team | Department of Energy

# About the OE Energy Storage Division

The Energy Storage Division prepares the "next generation" of energy storage technologies to provide system reliability, resilience, and efficiency. This division advances research to identify safe, low-cost, and earthabundant elements for cost-effective long-duration energy storage. OE's development of innovative tools improves storage reliability and safety, analysis, and performance validation.

# What Will I be Doing?

OE's Energy Storage Division is seeking DOE Science, Technology, and Policy (STP) fellows, through ORISE, to participate in its research efforts to rapidly deploy technologies commercially and expedite grid-scale energy storage in meeting future grid demands. Fellows joining the Energy Storage Division can expect to:

• Participate in gathering and analyzing relevant technical information (e.g., technology status, cost, R&D opportunities).





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 Attend relevant meetings/conferences/workshops and summarize learnings/findings, as appropriate.

The OE Energy Storage Division has several developmental opportunities available for fellows to gain hands-on experience under the guidance of an OE mentor.

## **Storage Materials and Systems Team**

The Storage Materials and Systems Team addresses key cost and performance challenges for storage technologies that rely on earthabundant, domestically available storage materials, including longerduration (10+ hour) technologies. The team executes a diverse portfolio of energy storage materials and technologies (such as flow batteries; sodium, zinc-, and lead-based batteries; and thermal energy storage). Additional crosscutting R&D areas include interconnections, power electronics, and power conversion systems.

The Storage Materials and Systems Team's ideal candidate will have expertise in electronics/electrical engineering and interest in power electronics applications in energy storage systems. Selected fellows will be provided an opportunity to expand their professional experience in their existing field as well as grow their expertise across relevant Materials and Systems topic areas. Additionally, this developmental opportunity will also provide the fellow the opportunity to learn project/program management (PPM) skills, and share past PPM experiences (as appropriate), in support of the broader Materials & Systems Team portfolio by collaborating with OE employees in the PPM role within the Materials and Systems Team.

Opportunities may include:

- Learning to draft internal products (e.g., report content, presentation materials).
- · Learning to review R&D work plans and technical products.
- Participating in the delivery of technical summary briefings.
- Providing technical knowledge to inform the growth of the R&D portfolio and design of funding opportunities.

## **Storage Validation Team**

As the energy storage landscape evolves, the Validation group must adapt to address emerging challenges and opportunities beyond core competitive work in long-duration energy storage (ES). This team executes a diverse portfolio of activities to validate and integrate the next-generation storage technologies to be grid and end-user ready. This includes designing, executing, and evaluating an RD&D portfolio that accelerates commercial adoption of next-generation grid storage technologies.

Selected fellows will be provided an opportunity to expand their professional experience their existing field as well as grow their expertise across relevant validation, safety and reliability topic areas. Additionally, this developmental opportunity will also provide the Fellow the opportunity



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to learn project/program management (PPM) skills, and share past PPM experiences (as appropriate), in support of the broader Validation Team portfolio.

## Opportunities may include:

- Participating in behind-the-meter (BTM) ES integration, modular power electronics (MPE) and conversion systems.
- Conducting research and analysis related to ES integration challenges in BTM applications for rural, low-income, and multi-family settings that address an untapped market niche in the Residential and Commercial and Industrial space.
- Learning to package findings to support future Notice of Funding Opportunity offerings.
- Collaborating in OE crosscut research and informing the Validation
  Team of the development of a flexible hardware, software, and power
  electronics platform that can accommodate lithium and non-lithium-ion
  technologies.

## **Analysis Team**

As the needs for energy storage tools, modeling, and analysis change, the Analysis group remains at the forefront of addressing emerging challenges and opportunities for long-duration energy storage. This team focuses on adopting storage technologies across the TRL levels by applying advanced modeling and analysis to improve reliability and resilience valuation, equip and expand the energy community with the ability to analyze and adopt storage and provide analytical guidance throughout DOE on storage portfolio priorities.

Selected fellows will be provided an opportunity to expand their professional experience in their existing field as well as grow their expertise across relevant storage analysis topic areas. Additionally, this developmental opportunity will also provide the Fellow the opportunity to learn project/program management (PPM) skills, and share past PPM experiences (as appropriate), in support of the broader Analysis Team portfolio.

## Opportunities may include:

- Learning to write recommendations and/or white papers for high-priority needs and high-impact projects for:
  - o Energy storage tool development
  - o Energy storage Research & Development investment analysis
  - Energy storage policy development
  - Al for energy storage and relevant topics
- Participating in the development of Storage Analysis funding solicitations.
- Learning to coordinate with staff to support the execution of solicitations including:
  - Laboratory communication



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- Notice of Funding Opportunities
- Prize opportunities

## **Fellow Provisions**

Selected candidates will receive a stipend. Amounts are determined by DOE Officials, based on the candidate's academic and professional background, starting at approximately:

 Bachelor's degree: \$70,000 • Master's degree: \$80,000

• PhD: \$100,000

Fellows are eligible for health insurance benefits through the ORISE network provider. OE will provide a health insurance benefits allowance towards the Fellow's benefits cost, up to the cost of the ORISE network provider premium cost.

Fellows will also receive travel and training allowances to support professional development activities.

# <u>Appointment Location</u>

Washington, DC. The option to participate remotely may be available in some cases.

# **Duration of Appointment**

Fellowships are initially for one year in length and may be renewed yearly. Extensions are determined by OE and are based on the project needs, availability of funds, and fellow interest and availability.

# **Nature of Appointment**

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

Qualifications Applicants must have completed their Bachelor's, Master's, or Doctoral degree within the last 5 years. If it has been more than 5 years since the receipt of the degree, to be considered the applicant must have an academic background and experience and must be seeking to gain new knowledge/experience to expand career opportunities or to advance professionally.

## Ideal Fellows will have:

- Strong written and oral communication skills to present technical results and briefings to audiences of all levels and engage with diverse stakeholders.
- · Skills in developing, organizing, and/or evaluating projects and programs.



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- Confidence and curiosity to learn, ask questions, and engage with top technology experts at the national labs, industry, and academia.
- An interest in being part of a multi-disciplinary, fast-paced environment.

# **Preferred Academic Disciplines:**

- Engineering (e.g., Computer, Systems, Electrical/Electronic, Energy, Industrial, Materials Sciences, or Mechanical Engineering)
- Physics (e.g. Applied Physics, Physics General)
- Chemistry and Materials Sciences (e.g., Analytical, Environmental, Inorganic, Organic, Physical, Polymer, or Theoretical Chemistry and Materials Sciences)

# How to Apply

A complete application consists of:

- · Zintellect Profile and responses to opportunity specific questions
- Transcripts/Academic Records 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, including academic history, employment history, and relevant experiences (\*see below for instructions).
- One Recommendation Applicants are required to provide contact information for one recommender in order to submit the application. You are encouraged to request a recommendation from professionals who can speak to your abilities and potential for success, as well as your scientific capabilities and personal characteristics. Recommendation requests must be sent through the Zintellect application system.
   Recommenders will be asked to complete a recommendation in Zintellect. Letters of recommendation submitted via email will not be accepted.

All documents **must** be submitted via Zintellect in order to be considered and must be in English or include an official English translation. Submitted documents must have all social security numbers, student identification numbers, and/or dates of birth removed (blanked out, blackened out, made illegible, etc.) prior to uploading into the application system.

\*The resume/CV must include the following:

- 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.



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- 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, degree awarded or expected date of awarded or expected degree, 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 <u>DOE-RPP@orise.orau.gov</u>. Please list the reference code for this opportunity in the subject line of your email: DOE-STP-OE-2024-0004

**Connect with ORISE...on the GO!** Download the new ORISE GO mobile app in the <u>Apple App Store</u> or <u>Google Play Store</u> to help you stay engaged, connected, and informed during your ORISE experience and beyond!

## Point of Contact Alyson

# Eligibility

• Citizenship: U.S. Citizen Only

# Requirements

- Degree: Bachelor's Degree, Master's Degree, or Doctoral Degree.
- Discipline(s):
  - Business (<u>11</u> ●)
  - Chemistry and Materials Sciences (12. •)
  - Communications and Graphics Design (<u>2</u>.
  - Computer, Information, and Data Sciences (<u>17</u> <a>®</a>)
  - Earth and Geosciences (21 )
  - o Engineering (27.●)
  - Environmental and Marine Sciences (14.
  - Life Health and Medical Sciences (51 )
  - Mathematics and Statistics (11 )
  - Physics (<u>16</u> **②**)
  - Social and Behavioral Sciences (29
- · Age: Must be 18 years of age