Opportunity Title: 2027 DOE Fusion Energy Sciences Postdoctoral Research Program
Opportunity Reference Code: DOE-FES-2027

Organization U.S. Department of Energy (DOE)

Reference Code DOE-FES-2027

How to Apply Completed applications are due to be to submitted in Zintellect on January 28, 2027. Applications are reviewed (selections for award will be made) one time per year with an application deadline listed below. All recommendations must be received on the same date as the application for your application to be considered. The application review process takes approximately 5-6 months. Once reviewed and awarded, appointments are projected to start in late summer or fall 2027.

Selection Application Deadline is: **January 28, 2027 by 5:00 PM EST**
Recommendation(s) Deadline is: **January 28, 2027 by 5:00 PM EST**

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

Application Deadline 1/28/2027 11:59:59 PM Eastern Time Zone

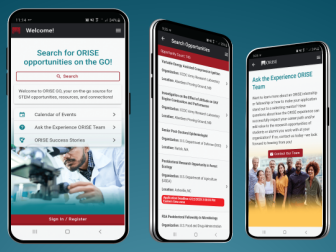
Description Do you have a passion for fusion and plasma science and technology research? Are you interested in interacting with outstanding scientists and engineers in fusion energy science all while gaining insight into your research and career opportunities? We are looking for a recent or future doctoral degree recipient interested in conducting research supporting the mission of the U.S. Department of Energy's (DOE), Office of Science, Fusion Energy Sciences research and development programs.

The Fusion Energy Sciences (FES) Program supports research on the specific topics below: (1) Structural Materials Science & Technology, (2) Plasma-Facing Components and Plasma-Materials Interactions, (3) Advancing Confinement Approaches, (4) Fuel Cycle and Tritium Processing, (5) Blanket Science & Technology, (6) Fusion Plant Engineering & System Integration, (7) Inertial Fusion Energy (IFE), (8) General Plasma Science (GPS), (9) Microelectronics, (10) Quantum Information Science, (11) Artificial Intelligence and Machine Learning for Fusion Energy Sciences.

What will I be doing? As a postdoctoral fellow in the FES Postdoctoral Research Program, you will conduct your proposed research related to the FES mission utilizing the expertise, resources, and capabilities available at your hosting facility. You will acquire experience and training in areas related to fusion energy and plasma science and technology, have access to advanced equipment and facilities, increase your marketability in fusion energy disciplines, gain access to top scientists and gain early career professional training and experience. You will have the opportunity to collaborate with and learn from experts researching and experimenting with fusion energy.

Research must support the program mission and its major focus, listed here: orise.orau.gov/doe-fes-postdoc

Where will I be located? You are responsible for finding a hosting facility

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and securing a mentor, so you will be embedded in a facility whose research aligns with your research goals and who can provide the resources you need for your research. Your mentor may also be a resource for your next career step. For more information on hosting facilities, visit orise.orau.gov/doe-fes-postdoc

Early Career Professional Development: Career and professional development are important components of your postdoctoral training. FES's goal is to help postdoctoral fellows perform and publish high-quality research and build professional skills and relationships critical for launching a successful career as an independent researcher. During the two-year period you are encouraged to participate in opportunities that would further your professional development.

International Collaboration Supplement (Optional): Research proposals that potentially involve short term international collaboration may request special supplemental travel funds to support costs associated with foreign travel. These funds are in addition to the stipend and stipend supplements awarded as part of the base FES postdoctoral research award (or base award). The International Collaboration Supplement (ICS) only supports foreign travel costs and qualified costs associated with limited visits to foreign institution(s).

In addition to the standard conditions for the base award, the following must be met to qualify for an ICS:

1. You must identify two project mentors - one from an institution in the United States and one from an institution abroad.
2. Your proposed research is specifically focused on developing a unique scientific competency or expertise.
3. For experimental research proposals:
    - You plan to spend a percentage of your appointment at a foreign facility in order to participate in various stages of an experimental campaign including but not limited to planning, preparation, execution, and data analysis. Extended stays in foreign countries are not permitted, so in-person trips will need to be focused on specific research tasks to be accomplished.
    - Your proposal involves a collaborative research effort utilizing experimental data from both the foreign facility and either (i) experimental data from at least one facility located in the United States, and/or (ii) ongoing theory/simulation efforts by researchers in the United States
4. For theoretical or computational research proposals:
    - You plan to spend a percentage of the appointment at a foreign institution in order to collaborate closely with the proposed foreign mentor. Extended stays in foreign countries are not permitted, so in-person trips will need to be focused on specific research tasks to be accomplished.
    - Your proposal contains a collaborative research effort involving fundamental theory and/or theoretical models developed abroad and

either (i) ongoing theory/simulation efforts by researchers in the United States, and/or (ii) ongoing analysis of experimental data from fusion facilities in the United States.

Applicants who wish to be considered for International Collaboration Supplement should complete the special sections of the application, including a proposed two-year travel plan, schedule, and budget. **The incremental research enabled by the ICS should be described in a separate dedicated section of the research plan so that the base research plan may still be selected even if the funds for the supplement are not provided.**

Who do we want? Applicants that have recently received or are currently pursuing a doctoral degree (received prior to the desired start date) and interested in conducting research in an area of interest to FES. Applicants who are highly motivated and willing to independently seek and secure a hosting facility and mentor to host them for the duration of the program appointment

What will I receive? You will receive an annual stipend of $90,000 plus a supplement to offset the cost of health insurance. The program will also provide a one-time $3,000 relocation allowance (if eligible). You will also receive a $4,000 travel allowance per year. Travel allowance can be used to support travel to FES-related conferences (domestic or foreign). Appointment periods are for up to two years. The initial appointment period is for one year. Extension of the appointment for the second year will be subject to satisfactory progress toward completion of the project assignments and availability of funds. An International Collaboration Supplement (ICS) is also available (optional). See ICS section for more information.

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

Qualifications **You must:**

- Be a U.S. Citizen or Lawful Permanent Resident.
- Have received a doctoral degree in an appropriate science or engineering discipline within four years of the desired start date or expect to complete degree requirements prior to the desired start date.
- Be available to conduct research at the hosting facility for up to two years.

Preferred academic fields include:

- Chemical Engineering
- Computational Plasma Physics

- Computer Science
- Experimental Plasma Physics
- Material Science
- Mathematics
- Mechanical Engineering
- Nuclear Engineering
- Physics
- Plasma-Material Interfacial Science
- Theoretical Plasma Physics

A complete application consists of:

- Zintellect Profile
- Responses to Questions specific to the FES program
- A Proposed Research Plan
- Letter(s) of Support from the potential research mentor(s).
- Mentors must be currently conducting or directing research in an area related to FES
- Approval from the selected host facility to host the participant and the research proposed
- A current resume/CV, including academic history, employment history, relevant experiences & publications
- Transcripts - unofficial transcripts issued to the student may be submitted
- Recommendation Forms (2) **- 2 Recommendation forms must be submitted via Zintellect by January 28th by 5:00:00 PM Eastern Time (Same time as the Application) -** You may check the status of your 2 recommendations at any time from your Zintellect Dashboard.
  - (1) Recommendation Form from your thesis or dissertation advisor - Recommendation form should include comments about the applicant.
  - (1) Recommendation Form from another individual familiar with your research and relevant experiences - Recommendation form should include comments about the applicant.

Recommendation Forms: *Use the* ***"Send Now"*** *button to send your recommendation requests* ***when you start the application*** *to allow time for your recommenders to submit their recommendation forms via Zintellect before the recommendation* ***deadline of January 28th by 5:00pm Eastern Time (Same date and time as the Application).*** *Recommendation forms are sent and responses are collected through the Zintellect system. Recommenders will receive an email request sent by Zintellect.*

If you are applying for the International Collaboration Supplement (Optional), you must provide:

- Additional Section in the proposed research plan that includes a proposed two-year travel plan, schedule, and budget. See International Collaboration Supplement section for more details on what is required for this section.

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- Letter of Support (including contact information) from the potential research mentor at the foreign hosting facility.

For additional information about potential hosting facilities, application components, or other program-related information, visit https://www.orau.gov/doe-fes-postdoc/default.html.

All documents must be in English or include an official English translation. Documents sent by email, postal mail, or fax will not be considered. All supporting materials must be uploaded as PDF files so the document can be searched by Zintellect's search engine. Scanned items are not optimal for search engines. PDF must not require special certificates or passwords to open. Max file size is 10MB.

The Fusion Energy Sciences Postdoctoral Research Program is looking for applicants that have recently received or are currently pursuing a doctoral degree (received prior to the desired start date) and interested in conducting research in an area of interest to FES, specifically in the following areas:

- **Theory, Simulation, and Artificial Intelligence**
- **Fusion Materials and Internal Components**
- **Sustain a Burning Plasma**
- **Closing the Fusion Cycle**
- **Plasma Science and Technology**

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If you have questions, please send an email to Fusion@orau.org.

Point of Contact Alyson

Eligibility Requirements

- **Citizenship:** LPR or U.S. Citizen
- **Degree:** Doctoral Degree received within the last 48 months or currently pursuing.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (12 👁)
  - **Computer, Information, and Data Sciences** (2 👁)
  - **Earth and Geosciences** (3 👁)
  - **Engineering** (6 👁)
  - **Mathematics and Statistics** (1 👁)
  - **Physics** (16 👁)
  - **Science & Engineering-related** (1 👁)

Affirmation I certify that I am currently pursuing or have received my doctoral degree within 48 months of the desired program start date.