

## College of Earth and Mineral Sciences DoE PIER Plan guide

### Things to keep in mind while developing your PIER Plan:

It should be specific, relevant, and unique to your project, and draw upon the experience, connections, and strengths of your research team.

It should be purposeful, doable, measurable, and impactful.

It should be of appropriate scope for the scope of the research project.

It should be developed as the research plan is developed, not as a last-step add-on.

It should have appropriate timelines or milestones for proposed activities and strategies that allow for reasonable tracking of and reporting on progress.

Consider costs and build those into the overall budget.

Thoroughly review the PIER Guidelines, including the FAQ and refer to them frequently as you develop your plan: <https://science.osti.gov/grants/Applicant-and-Awardee-Resources/PIER-Plans>

The PIER Plan evaluation includes:

- Is the proposed Promoting Inclusive and Equitable Research (PIER) Plan suitable for the size and complexity of the proposed project and an integral component of the proposed project?
- To what extent is the PIER Plan likely to lead to participation of individuals from diverse backgrounds, including individuals historically underrepresented in the research community?
- What aspects of the PIER Plan are likely to contribute to the goal of creating and maintaining an equitable, inclusive, encouraging, and professional training and research environment and supporting a sense of belonging among project personnel?
- How does the proposed Plan include intentional mentorship and are the associated mentoring resources reasonable and appropriate?

### Sample PIER Plan template:

PIs may want to consider the following template for PIER plans (max 3 pages)

1. Background (~0.5-1 page)
  - Institutional DIEA context and commitment (find related text below)
  - Demonstrate understanding of issues are in the discipline
  - Demonstrated experience and competencies in carrying out the proposed scope of the PIER Plan
2. Activities and timeline (~1 page)
  - Rationale for the proposed activities and strategies, and their potential contributions to promoting inclusion and equity within the research project
  - Are the proposed activities and strategies reasonable and appropriate for the project scope and project period?

- Are timelines or milestones for proposed activities and strategies appropriate to allow for reasonable tracking of and reporting on progress?
3. Resources summary (~0.5-1 page) (find related text below)
    - Roles and responsibilities for implementing the PIER Plan
    - How are the proposed activities and strategies leveraging institutional resources or resources available through scientific professional societies to support project personnel?
    - Strategy for ensuring the safety of all participants, including those working in traditional workspaces (e.g., labs, offices), remote or isolated research environments, and/or atypical hours
    - Brief description of Budget associated with proposed PIER activities
  4. Anticipated Impact (~0.5 page)
    - How do the activities proposed in the PIER Plan enhance the scientific and/or technical merit of the proposed research project?

In addition, the following is a non-exhaustive list of actions that can serve as examples of ways the proposed project could incorporate diversity, equity, and inclusion elements.

- Include persons from groups underrepresented in STEM as PI, co-PI, and/or other senior personnel;
- Include persons from groups underrepresented in STEM as student researchers or post-doctoral researchers;
- Include faculty or students from Minority Serving Institutions as PI/co-PI, senior personnel, and/or student researchers, as applicable;
- Enhance or collaborate with existing diversity programs at your home organization and/or nearby organizations;
- Collaborate with students, researchers, and staff in Minority Serving Institutions;
- Disseminate results of research and development in Minority Serving Institutions or other appropriate institutions serving underserved communities;
- Implement evidence-based, diversity-focused education programs (such as implicit bias training for staff) in your organization;
- Identify Minority Business Enterprises, Minority Owned Businesses, Woman Owned Businesses and Veteran Owned Businesses to solicit as vendors and sub-contractors for bids on supplies, services and equipment.
- Partnerships with workforce intermediaries (community colleges, etc), labor, non-profits, or community-based organizations;
- An effort to engage with anchor institutions to develop a sector-based approach to job training and support

### **Institutional DIEA context and commitment**

Our project's PIER Plan builds upon and leverages robust DEIB infrastructure and activities:

*[Insert relevant Department-level DEIB infrastructure/activities that are most relevant to your PIER Plan activities:]*

- The department's or institute's strategic plan, specifically goals and action items related to DEIB activities, particularly those which provide context for your PIER Plan activities. Department and Institute strategic plans can be found at <https://www.ems.psu.edu/about/who-we-are/mission-vision-values-and-strategic-plan>.
- Department Associate Head for DEI and/or department Diversity Committee.
- Any signature events, programs or initiatives which the department or institute offers that are relevant context or a potential delivery mechanism for your PIER Plan activities. Talk with your department's Associate Head for DEI early in the process to learn more about potential tie-ins.

#### College of Earth and Mineral Sciences

- EMS strategic plan (2020-2025) <https://www.ems.psu.edu/about/who-we-are/mission-vision-values-and-strategic-plan> Of four goals, Goal 2 focuses on fostering diverse, equitable, and inclusive communities. 5 comprehensive objectives, each with a number of specific action items.
- Assessment of the Living, Learning, and Working Environment (ALLWE) in EMS (2018-current) <https://www.ems.psu.edu/allwe> implementation plan encompassing five priority areas; reflected in EMS Strategic plan. Updated regularly. Includes recruiting, retaining and advancing URM faculty; innovative graduate student engagement and mentoring program.
- Office of the EMS Associate Dean for Educational Equity, <https://www.ems.psu.edu/diversity> Pre-college outreach, undergraduate and graduate recruiting and retention, scholarship administration, inclusive faculty, staff, and leadership hiring practices, building capacity for DEI. Signature programs such as EMS Reads and Bystander Intervention with active ally resources, and EMS Rainbow Network develop capacity for DEIB throughout the College.

#### Penn State:

- Graduate School Office of Graduate Educational Equity <https://gradschool.psu.edu/diversity/> . coordinates programs for URM graduate students; EMS is an active participating unit: Big Ten Academic Alliance Summer Research Opportunities Program; Fall Open House fall recruiting event; Graduate Assistantship and Fellowship funding programs; Sloan Scholars program; recruiting at ABRCMS, SACNAS, ORISE/ORNL, HBCU, and other diversity recruiting events.
- Long and deep history of advancing DEI: among the first universities in the U.S. with executive level DEI leader and strategic planning for DEI. DEI is now a Foundational Principle in overall strategic plan <https://strategicplan.psu.edu/> . Extensive infrastructure for DEI throughout the University.

#### Resources:

The EMS Associate Dean for Educational Equity, Dr. Victoria Sanchez, will be happy to help you brainstorm specific PIER activities. Please talk with the Associate Dean and begin exploring potential PIER resources, availability, and costs very early in your thinking process.

A few starting points:

- EMS Museum and Gallery can be an outreach possibility. Contact the director early in the process to explore partnership opportunity, including the Museum and Gallery's capacity and associated costs.
- EMS Dutton Institute for Teaching and Learning Excellence can collaborate with a distance education piece that could extend the reach of mentoring or educational programs, particularly when seeking to connect with underrepresented minority communities. Contact the Assistant Dean for Distance Education and Dutton Institute Director, Dr. Annie Taylor, early in the process to explore partnership opportunity, including associated costs.
- Center for Science and the Schools in College of Education (CSATS) is helpful for reaching school districts and teachers in PA. Also, there is a new K-12 initiative through Penn State outreach that can help you connect with other initiatives and resources throughout the state.  
<https://www.outreach.psu.edu/programs/k12-engagement-network/> .
- Eberly College of Science's Broader Impacts Resource Center website has a wealth of information and potential outreach partners. <https://broaderimpacts.psu.edu/>
- Consider potential community partners based in the communities you would like to serve.
- Also think of any connections you or your research team may have with HBCU, HSI, Tribal College or other MSI institutions which might offer partnership opportunities that would be attractive in the PIER Plan.
- If you plan to recruit an SROP student for summer research, please build in \$10,000 per student per summer into the project budget to cover the program costs for hosting an SROP student. For more information about SROP see <https://gradschool.psu.edu/diversity/srop/> . Also, contact Associate Dean Sanchez and Mr. James Guyton, multicultural coordinator, by late fall in the academic year in which you hope to recruit an SROP student, to discuss your interest and to coordinate recruiting efforts. (In some cases, a cost-share can be worked out, but it is best to build in the full amount of participation.)
- If you plan to recruit an undergraduate student researcher from a Penn State campus other than University Park through the MCREU program, please build in \$10,000 per student per summer into the project budget to cover the program costs for hosting an MCREU student. More more information about MCREU see <https://inclusion.engr.psu.edu/research/multi-campus-research-experience.aspx> . Also, contact Dr. Karen Marosi, EMS Director of Undergraduate Student Engagement, by late fall in the academic year in which you hope to recruit an MCREU student, to discuss your interest. (In some cases, a cost-share can be worked out, but it is best to build in the full amount of participation.)
- Penn State is a member institution of Math Alliance, and EMS is a participating college. For more information about Math Alliance see <https://mathalliance.org/> Contact Associate Dean for Educational Equity Dr. Victoria Sanchez for more information on potentially recruiting student researchers through this program.
- Rainbow EMS Network <https://www.ems.psu.edu/diversity/ems-rainbow-network> focuses around inclusion of the LGBTQ+ community, but at its foundation reinforces a broadly inclusive research environment that also supports the URM graduate students and researchers.