

Q18.

MSU-PDA Travel Award - Application Portal

FALL 2020 TRAVEL AWARD

Awards are granted to offset the costs associated with travel to meetings/conferences/workshops where the applicant will present work stemming from their current postdoctoral position at MSU. This award cannot be used for invited talks at universities or non-conference events (trainings, ...).

The Fall 2020 Travel Award is for attendance at conferences taking place between June 1, 2020 and November 30, 2020.

APPLICANT ELIGIBILITY

All current postdoctoral researchers at Michigan State University are eligible to apply except for:

- Current members of the MSU-PDA Steering Committee
- Individuals that have already received an MSU-PDA travel award during their time at MSU
- Individuals attending meetings/scientific conferences held at Michigan State University
- Individuals who are presenting work from their graduate program or previous position

Recipients of a Travel Award must agree to serve as reviewers for the next round of Travel Award applications.

Deadline to apply: Friday, March 27, 2020 at 5pm EST.

APPLICATION REVIEW

Applications will be scored by members of the MSU Postdoctoral Association Steering Committee and the three recipients of a Spring 2020 Travel Award, according to the evaluation rubric posted on the [MSU-PDA website](#).

Note: The review committee is composed of postdocs from various fields of study. Make sure the information provided in your application can be understood by a lay audience. We recommend limiting the use of terminology specific to your field and avoid using the abstract you submitted for the meeting/conference/workshop you plan on attending.

QUESTIONS?

Email: awards.pda@grd.msu.edu.

Please click the button below to proceed to the application.

Q21. **Personal Information**

Q1. Full Name

Dena Izadi

Q2. Email Address

izadiden@msu.edu

Q3. Official MSU Title (e.g., (Senior) Research Associate, Postdoctoral Fellow, Research Scholar, ...)

Research Associate- fixed term

Q6. PI's Full Name

Kathleen Hinko

Q20. PI's Email Address

hinko@msu.edu

Q7. College

Natural Sciences

Q8. Department

Physics and Astronomy

Q22. **Conference Details**

Q23. Conference Title (full name, no abbreviations)

2020 Summer Meeting- American Association of Physics Teachers & Physics Education Research Conference 2020

Q24. Conference Location

Grand Rapids, MI

Q25. Start Date (mm/dd/yyyy)

07/18/2020

Q26. End Date (mm/dd/yyyy)

07/23/2020

Q19. Estimated total expenses (USD)

800

Q22. Are other funds available to support your travel to this conference (e.g., funds from a fellowship, PI, department, organizing conference)? Please describe.

This question was not displayed to the respondent.

Q10. Presentation type (please select all the apply)

Poster

Talk

Other (please describe)

Q27. Presentation Title

Invited Speaker: Session Title: New Curriculum by K-12 Outreach Programs, Talk Title: Physics content and practices across the landscape of informal physics Poster: Mapping the informal physics efforts in the state of Michigan

Q12. **Abstract**

The abstract should clearly and concisely identify the aim(s)/goal(s), and main results/conclusions of the work presented. In addition, the abstract should emphasize on the importance of the research to the field and society.

Not to exceed 3000 characters (including spaces).

Do not use special characters > or < (formatting issues).

Talk: There are multiple ways for K-12 students to learn about physics and communicate science. One example is informal physics programs, which provide significant science resources in their communities. These programs house unique collections of physics artifacts and experiences for K-12 and are facilitated by educators who are experts at motivating interest and involvement in students. As part of our nationwide effort to develop a systemic understanding of the landscape of informal physics, we have developed a framework to investigate how these programs are structured and facilitated. Our study is focused on a number of important aspects, including the curriculum used by practitioners, how informal physics programs are facilitated, how they are socially constructed, how they attract their audience, and what type of assessment they use to evaluate their own effectiveness. In addition, we will share our experiences combining physics for K-12 students with other disciplines, including art, in program curricula. Poster: We are conducting study to map the landscape of informal physics efforts using a framework we have developed based on Organizational Theory. To achieve our goals we have designed a methodology based on this framework that collects surveys and interviews with informal physics program facilitators across different states. To test our methodology, we implemented our data collection protocol across the entire state of Michigan, as a microcosm of other states in the US. Here we present data analysis for all the respondents from Michigan to create a comprehensive taxonomy of informal physics activities in our data set. In building a taxonomy, we considered different approaches for comprehensive and representative data collection. Results of our work provide practitioners and administrators with guidelines towards improving informal physics education, which will benefit the target audiences of the programs who are typically from these underrepresented groups. This project also directly reaches informal physics practitioners, who may be marginalized at their home institutions, and it will privilege their experiences and expertise as the primary data source for this study. Research results could be a starting point towards building connections between informal physics facilitators that can then link to the nationwide network of informal STEM professionals. Other than communicating our findings locally and nationally through publications and conferences, for our future work, project outcomes will be communicated through relevant media for audiences of informal practitioners, institutional administrators, educational researchers and the broader informal STEM community.

Q13.

Greater Context of the Current Work

Please describe the overall research with which you are involved, how it is integrated into a main focus area of your lab, what has been previously achieved, and how your current work is moving the project forward.

If applicable, also describe the applications of your work outside of your field, as well as any new or unusual technology/innovation behind the work you are presenting.

Not to exceed 2000 characters (including spaces).

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My postdoctoral research project is on characterizing the landscape of informal physics learning across the United States. In other words, we aim to map the physics outreach efforts that are led by physics institutions and/or individual faculty members across the nation. Physics departments, national physics laboratories and national physics organizations have a long history of engaging a variety of public audiences in what is commonly referred to in the physics community as “outreach”. While there are many physics outreach programs in the country, available information about these programs varies widely and are difficult to obtain. There is no national database of informal physics programs, nor a systemic understanding of the scope that these programs cover or the impact collectively that these programs have on participants. Without this information, it is difficult to identify the physics learning efforts outside of the classroom, which would be crucial for making science accessible to the general public. In this work, we conduct a research project to address numerous questions related to the “who, what, why, where and how” of informal physics offerings, focusing on their facilitation, impact on participants, and the academic and discipline-specific cultures from which these programs originate. In 2019, I have published a paper on the study design and the challenges we have faced in identifying the existing informal physics programs. In another work published, I discuss how characterizing the landscape of informal physics learning is a necessary and important endeavor that requires an in-depth study of the different types of existing programs. Before we can evaluate the effectiveness of the existing programs, it is extremely important to show the evidence supporting what the impact of informal physics programs are on the participants, practitioners, program leaders and physics institutions.

Q28. Importance of Attending the Conference

How will your participation in this meeting/conference/workshop support your career development and/or professional network and enable you to be more competitive in your research field?

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American Association of Physics Teachers (AAPT) Summer Meeting and Physics Education Research Conference are two annual conferences that are conveniently held in the same venue at the same time during Summer. They are the main conferences in the Physics Education Research area and will provide a great opportunity for me to present my research for an audience that ranges from physics education researchers to high school physics teachers, and as such will have a great impact on both scientific and educational fronts. I come from a diverse background in physics; my PhD work was focused on experimental condensed matter physics while my postdoctoral research is on physics education. The conferences I attended during my PhD background are not well aligned with my current and future research interests. Therefore, the above mentioned conferences are ideal environments to network with professionals in my new field, share my expertise and learn from their experience. This will help me lead a more competitive career in my new area of research. Additionally, part of my research is to collect data for our study by interviewing leaders of informal physics programs, and the two conferences mentioned above are an ideal setting to involve facilitators, practitioners, and other groups in our study. Finally, presenting my research findings at these conferences will help informal practitioners and administrators in physics to examine current programs and guide them through development of new programs. We expect this work to be the start of building a community of informal physics facilitators that can link to the nationwide network of informal STEM professionals. The broader impacts of this work include situating our study on informal programs within the field of physics, a STEM discipline that is struggling with serious issues regarding diversity, including stagnant numbers of women and declining numbers of some minorities entering the field.

Q19.

Please click the button below to submit your application.

Location Data

Location: ([42.706893920898](#), [-84.413803100586](#))

Source: GeolIP Estimation

