

PHYSICS OUTREACH & ENGAGEMENT

Letter from the Editor

The fall is upon us, and this year seems to have gone by too fast. There are many things we are looking forward to starting in the coming year and we hope you will be excited about them.

In 2023 we plan to start a new mini-grant for supporting physics outreach and public engagement. We hope that these mini-grants will spawn more physics in local communities, and we also hope that more physicists will address some of the issues that have come up with disinformation and misinformation. These mini-grants will offer a maximum of \$2,500 to any given proposal, with a maximum of \$10,000 offered each year. We are also working on creating travel grants for students. These should be available early next year.

There was much excitement about bringing physics into local communities with the Physics Fiesta. This was a highly successful event that brought attention to FOEP and its efforts in outreach and engaging the public. This event resulted in FOEP receiving a four-year donation to continue to do more of the same! The driving force behind FOEP's effort was our chair, Shireen Adenwalla. Adenwalla worked along with the Division of Condensed Matter Physics (DCMP), and with the Quantum Exchange. Shireen spoke of how satisfying it was to work on this project directly with the school, to tailor this event to just what the community needed and wanted it to be. I strongly suggest reading our Spotlight article that goes deeper into this fantastic event. We are planning to set up a local event at the March meeting in Las Vegas, Nevada for 2023.

These are just two of the exciting changes we hope to see and maintain in FOEP's future. Our current Chair-Elect Roxanne Hughes is planning a wonderful line-up of speakers and sessions for the March and April meetings, so keep your eyes open for announcements in our spring newsletter.

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Joining an APS Forum is free! To add FOEP to your APS Membership, please login with your APS credentials at <https://my.aps.org>.

*A publication of The Forum on Outreach and
Engaging the Public - FOEP -
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We are also looking for someone to take over our newsletter. If any of our members are interested, please email one of our committee members. It is a position you can take on alone or share with someone, and it is very rewarding bringing news to our members and conducting interviews with people bringing so much science to the public.

Our elections will soon be underway to fill our future vacant seats. FOEP has benefited so much from our executive board members who have worked hard to keep our programs interesting and relevant to our members. A special thanks goes out to our out-going Members-At-Large: Artemis Spyrou and Christina Love and to our Past Chair: Shannon Swilley Greco, who have helped shape so many of our events and features. And our current chair has been a wonderful leader, guiding us through a number of shifts that occurred as we came out of the full covid virtual mode. Together with DCMP Shireen Adenwalla put together a powerful outreach event called Physics Fiesta that successfully engaged the public. I encourage you to look at the write-up about it on our Engage website and on APS's Instagram.

I feel it is important to again note the importance of outreach and engaging the public. APS put out a white paper (<https://arxiv.org/abs/2112.10623>) that shows the gains of these activities to the field of physics, to the institutions that hire physicists.

I hope the rest of 2022 finds you all with good health.

Heide Doss
Newsletter Editor
Secretary/Treasurer

Heide Doss
San Diego State
University

Letter from
Editor,
continued

continued
Editor's
column

Spotlights on Outreach and Engaging the Public Outreach Experiences

This issue highlights the highly successful Physics Fiesta held at a high school in the Chicago area during the 2022 March Meeting. This article spotlights Shireen Adenwalla, University of Nebraska, Lincoln, and our FOEP Chair.

How did the formation of the Physics Solaria/Fiesta occur?

Since FOEP by definition exists to engage the public, I was looking for a way to do so at the March 2022 meeting. When Brian Schwartz and Smitha Vishveshwara contacted me at the beginning of September to put out feelers, I was very excited and immediately on board. All three of us are strongly committed to outreach. In addition, Smitha and Brian have extensive experience organizing events around the theme of Physics and the Arts in numerous public venues.



Shireen Adenwalla
University of Nebraska, Lincoln

What was the process in constructing the event?

Smitha's extensive contacts in the Chicagoland area proved key. We decided we wanted to target a high school in the community with a population that is traditionally marginalized in physics. Our decisions were arrived at after a series of weekly meetings starting in October 2021. Through Russell Ceballos, we were put in touch with the Science Coordinator and the Principal at Solorio High School. They were wonderful, doing everything they could to facilitate this event. Starting in January 2022, they were part of our weekly meetings. We could not have done it without them.

What do you think made this event so successful?

All three of us had a similar, but not identical, vision and the weekly meetings helped to iron out what we deemed fundamentally important. We wanted a celebration, not another dry panel discussion, and Laura Vacca, the Science Coordinator at Solorio high school, seconded this. The idea of going into the community of course, but more importantly to allow that community (the entire community) to SHARE in the event, rather than physicists coming in and talking at the kids, the desire to couple physics and the arts, to make ourselves approachable, to make it FUN and exciting-all these values went into what we ultimately decided. Hence, their wonderful Latin Jazz band and their

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beautiful dance troupe were incorporated into the occasion. Smitha worked with the dance group to incorporate subtle physics concepts into their final dances. Physicists were on the floor of the gym, identifiable by their ridiculous Cat-in-the-Hat hats, and students approached and questioned us in a "speed dating" format. Demos were set up all around the room, and additional demos were organized on the stage. For the "coolness" factor, Professor LYRICAL the stage name of Peter Plourde of the University of the District of Columbia, performed a STEM-themed rap. We finished the evening with pizza and tamales. I think everyone who was there would tell you how festive it felt. Students arrived with parents, grandparents, and siblings all in tow, all proud to see their childrens' performances. What made the difference is that this was truly a collaborative event. (More details can be found here: <https://www.aps.org/publications/apsnews/202206/fiesta.cfm>)

Will you be working with the same groups towards the creation of a physics party at the March 2023 meeting in Las Vegas? Will you be using the same process?

Brian, Smitha and I just had our first meeting! This time I will be the point person for the event and have already begun exploring local schools and local members of FOEP. So, if you are a FOEP member in the Las Vegas area, come on board!

Does FOEP plan on continuing these events each March meeting and will they expand to include the April meeting?

Yes we hope so. We are looking to make this an established event for most APS meetings.

What would you like to let our readers know about outreach and engaging the public?

It's fun and a lot of work. It helps to have collaborators who are more or less on the same page. Key to a successful event is the sense of partnership between the scientists and the audience - allow them to wow YOU! Food is an important cultural touchstone and adds to the festive spirit, so it is something I would STRONGLY recommend, if funding is available.

Please contact Shireen Adenwalla if you'd like to be involved in the outreach event in Las Vegas.

FOEP's NEW Mini-grant & Future Travel Grants for Students

The Forum on Outreach and Engaging the Public wants to encourage and assist more of you to bring physics to your communities. We've created a mini-grant for outreach to do just that. The mini-grant will appear on FOEP's engage website under the Prizes and Awards link, along with a template. The guidelines are below.

We are also working on a future travel grant for students to encourage and assist students to share their outreach efforts at APS's March or April Meetings. Keep your eye's open on FOEP's engage website, as the application for the travel grants will appear there, under the Prizes and Awards link, early in 2023.

Forum on Outreach & Engaging the Public Mini-Grants

The Forum on Outreach & Engaging the Public of the American Physical Society (APS) supports APS members who broaden and deepen physics awareness and understanding. To this end, we invite applications for 2023 APS Forum on Outreach & Engaging the Public Mini-Grants.

The FOEP mini-grants are designed for individuals or groups who are working on projects and/or resources to bring physics awareness and engagement to their communities. We request that if funded your project, experiences, and outcomes are shared through a live or virtual presentation with the forum (at a March or April Meeting in the forum's contributed session) or by submitting a virtual presentation that can be shared with the forum. The mini-grants have a maximum award amount of \$2,500 and a total funding available of about \$10,000. This year FOEP will give priority to projects directly related to addressing issues of misinformation and disinformation, as well as bringing physics to our local communities.

Selection criteria for the mini-grants include the following:

- **Membership in APS Forum on Outreach and Engaging the Public (FOEP).** Applicants should be members of the FOEP by the application deadline. APS members can join the Forum at no additional cost. For students (undergraduate and graduate), the first year of APS membership is free. For more information on how to become an APS member, please see [APS Membership FAQs](#). To join (online or by mail), see [APS Membership](#). If you are already an APS member, you can join the Forum on Outreach and Engaging the Public for free [here](#).
- **Timeline.** Proposals are solicited starting January 1 through February 15. Proposals are reviewed and awardees notified by March 15. Proposals should be ready to begin in a reasonable timeframe if funded. Specifically, projects with an end goal or deliverable within the same calendar year will be prioritized. The extent to which funds could immediately be used will be a consideration. Proposals should include funding, if needed, to travel to either the March or April meeting the following calendar year to present the outcome of their project if awarded.

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Broader impact. For projects, applicants should demonstrate how this support will impact the community. Preference will be given to projects directly related to addressing issues of misinformation and disinformation and bringing physics to your local communities. Extra consideration will be given to those projects which seek to support students/groups that are traditionally marginalized in physics. Applicants should describe the immediate effects these funds could provide.

- **Additional considerations.** Extra consideration will be given to applicants who may not have access to other types of support. These include, but are not limited to: undergraduate students, graduate students, adjunct faculty, and instructors at community colleges. In addition, we strongly encourage under-represented identities to apply.

FOEP mini-grants will be funded by disbursing funds to the individual creating the application, not to institutions. Please make sure you consider this in your budgetary decisions.

To apply for a FOEP mini-grant, you will be required to submit a completed template located [here](#). The template includes items such as:

- 1) Budget and corresponding justification of the budget.
- 2) What will this mini-grant enable you to do, and on what timescale? (Timeliness criterion).
- 3) What is the larger impact of your work or project? (Broader impact criterion).
- 4) What else would you like the selection committee to know about your project? (Additional consideration criterion)

The name, title, and affiliation of project awardees will be published on the FOEP website.

Applications open Jan 1 – Feb 15.

Deadlines

The due date for all applications is Feb. 15, at 11:59 PM PST. Proposers will be notified of the status of their proposal by March 15. Awardees are asked to share the results of their proposal at a FOEP contributed session at the March or April meeting the following calendar year, or submit a virtual presentation that can be shared with the forum. We will continue to award mini-grants until the allocated funding runs out.

We are committed to supporting as many of our FOEP members as possible. Due to the anticipated response, it is likely that many applications will be partially funded.

We will update applicants as events warrant.

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More Award Information

If your application is awarded, you will receive an email from the Secretary-Treasurer of your award with instructions on how to fill out a payment request form and a citizenship-appropriate tax form.

Awarded grants will be approved by the Secretary/Treasurer of FOEP before proceeding with the payments. The Secretary-Treasurer will send awardees a W-9 or W-8BEN to submit to APS Accounts Payable. The W-9 is for U.S. citizens and provides information to the IRS about this award. The W-8BEN is for non-U.S. citizens and is a certification to APS that a foreign person is not subject to U.S. taxation.

Travel and other grants are taxable to the recipient and they will receive a 1099 if the total receipts within a calendar year are greater than \$600.

The awardee submits these forms to APS Accounts Payable and they receive a check or direct deposit, according to their preference.

Please contact any member of [FOEPs executive committee](#) if you have any questions (include in the subject line: FOEP mini-grant).

Double your exposure by giving an outreach talk in addition to your science talk!

The Forum for Outreach and Engaging the Public will have contributed talk sessions at the March and April meetings. *Importantly, these talks do not count toward the APS limit of one first author presentation per meeting, so you can still submit a scientific presentation.* We look forward to hearing about your work!



News from FOEP's Wiki Sponsors

Considering signing up for a Wiki Course? This is what we hear from the people we sponsored for the course.

The experience was great. The course centered around creating a new Wikipedia article to highlight the achievements of a woman in physics. We learned Wikipedia's policies and best practices for editing and creating articles. The instructors made editing and creating Wikipedia articles much more approachable, which was important because starting to edit Wikipedia can be intimidating. It was definitely a worthwhile course. Now I feel confident in my ability to correct and create new articles. I also now understand the urgent need for more Wikipedia articles about women; less than 20% of all biographies on Wikipedia are about women (more information about gender bias on Wikipedia can be found [here](#)). Thanks to the Wiki Scientist course, I joined the [WikiProject Women in Red](#) and have been contributing to articles on women in physics.

Maria Yampolskaya
PhD Candidate in Physics

I found the Wiki Scientist course to be very rewarding and instructive. Wikipedia is by far the most comprehensive collection of human knowledge in history, while being completely ad-free and almost entirely volunteer-run. However, its selection and emphasis of content can perpetuate systemic biases in society, as exemplified by the disproportionately few articles on women in STEM fields like physics. The Wiki Scientist course aimed to help rectify this by training those of us interested in writing about women in physics to be able to write and edit articles. The training was very comprehensive, and the instructors friendly, clear and helpful. I now know how to contribute to articles on Wikipedia, as well as how to engage with the wider Wikipedia community. None of this would have been possible without the generous assistance from FOEP. I hope to contribute more soon!

Best,
Sam Cree
Stanford University

Report from Council Representative

Since 2021 I have had the honor of representing the Forum on Outreach and Engaging the Public (FOEP), the Forum on Education (FEEd), and the Topical Group on Physics Education Research (GPER) in the [APS Council of Representatives](#); I am also a member of the [APS Board of Directors](#). It is my job to bring issues of concern to the membership of these units to the Council, and to keep the units informed about the Council's business. Here I report to you about the discussions and actions at the April 2022 Council meeting.

At the meeting the Council was updated on recent changes in the administration of the journals published by APS. As of 1 August 2022 Michael Thoennessen, currently Editor-in-Chief of APS (a staff position), will serve as Interim Editor-in-Chief (an officer of APS). APS President Frances Hellman is leading a search for the new Editor-in-Chief, with the expectation that the person chosen will assume that position on 1 January 2023. (If you have a suggestion for a good candidate, please contact Frances.) The *Physical Review* family of journals, which the Editor-in-Chief oversees, continues to grow; *Physical Review Energy* published its first papers on 7 April 2022.

APS is leading the preparation of an official proposal to UNESCO to declare an International Year of Quantum Science and Technology. The proposal will be brought before the Council in Spring 2023, so if you have any suggestions or would like to get involved in the effort, please let me know.

The Council also considered its communication with units (to which 65% of APS members belong). The APS Communications Department would like to help units encourage their members to participate more actively in unit business and tailor messages to specific groups within the unit without overwhelming them. The department would like to hear feedback about the use of APS Engage as a platform for this and other purposes; feel free to contact me if you have something to say about this.

The Council spent a considerable amount of time in its meeting discussing APS's response to the Russian invasion of Ukraine. It endorsed the principles put forward by the [APS Committee on International Scientific Affairs](#), namely that APS and its units should continue to facilitate physicist-to-physicist engagement regardless of an individual's nationality, ethnicity, location or residence, as these interactions are beneficial to the global physics community. Individual benefit should be considered over any incidental institutional benefits. The [official APS response](#), including the [Board Statement](#) issued in June, condemns the invasion, decries attacks on and near Ukrainian nuclear facilities, and expresses concern to Ukrainian science leaders for the loss of life and property resulting from the invasion.

The Council received and approved the report "[Monitoring Methane Emissions from Oil and Gas Operations](#)" that the [APS Panel on Public Affairs](#) jointly authored with Optica (formerly the Optical Society of America). This report identifies several policy recommendations that can substantially enhance the detection of methane released by the oil and gas sector. Methane (CH₄) is the second-most-abundant anthropogenic greenhouse gas and significantly contributes to global warming. These recommendations could strengthen measures already taken by that sector to manage methane and enhance worker safety.

Finally, the Council approved the establishment of the [Neil Ashcroft Early Career Award for Studies of Matter at Extreme High-Pressure Conditions](#), made possible by a generous donation from Judith Ashcroft and her family. The award will recognize outstanding theoretical or experimental contributions by a scientist within 10 years of the PhD to studies of matter at extreme static or dynamic high-pressure conditions within the disciplines of Physics, Chemistry, Materials Science, Earth and Planetary Science, Soft Matter and Biology. It will be administered by the APS Topical Group on Shock Compression of Condensed Matter (GSCCM). Nominations for the first award were due 1 July 2022.

As always, if you have comments or concerns that you would like me to convey to the Council, do not hesitate to get in touch with me (mcneil@physics.unc.edu). I look forward to hearing from you!

Laurie McNeil, Univ. of North Carolina at Chapel Hill

Dwight Nicholson Medal for Outreach

This award recognizes the humanitarian aspect of physics and physicists created through public lectures and public media, teaching, research, or science related activities. Recognition consists of a stipend of \$3,000, the Nicholson Medal, and a certificate which includes the citation for which the recipient has been recognized. Up to \$1,500 will be available for the recipient's travel expenses to the meeting at which the Nicholson Medal is presented. It will be presented annually.

Establishment & Support

The Nicholson Medal was established in 1994 by the [Division of Plasma Physics](#) and the [Forum on Physics and Society](#). It was originally named the Nicholson Medal for Humanitarian Service, and is currently administered by the [Forum on Outreach and Engaging the Public](#). The Nicholson Medal is sponsored by the friends of Dwight Nicholson, and through generous gifts from Professor Herb Berk, the Nicholson Medal will be awarded with a stipend of \$3,000.

Rules & Eligibility

The Nicholson Medal for Outreach shall be awarded to a physicist who either through public lectures and public media, teaching, research, or science related activities,

1. has successfully stimulated the interest and involvement of the general public on the progress in physics, or
2. has created special opportunities that inspire the scientific development of students or junior colleagues, or has developed programs for students at any level that facilitated positive career choices in physics, or
3. has demonstrated a particularly giving and caring relationship as a mentor to students or colleagues, or has succeeded in motivating interest in physics through inspiring educational works.

Nominations are active for up three years.

Nomination & Selection Process

The nomination must include:

- A letter evaluating the nominee's qualifications and how the nominee has gone above and beyond in meeting one or more of the three criteria above should be no more than 5,000 characters.

In addition, the nomination should include:

- A biographical sketch.
- A list of the most important publications.
- At least two, but not more than four, seconding letters.
- Up to five reprints or preprints.

To start a new or update a continuing nomination, please see the [Prize & Award Nomination Guidelines](#).

Deadline: June 1

FOEP Nominations for APS Fellows

What

APS Fellowship constitutes recognition by one's professional peers of exceptional contributions to the physics enterprise. Only a small fraction of the APS members reach the level of fellows and therefore this is an important recognition.

Who

Only APS members who are members of FOEP can be nominated for fellowship through FOEP. The deadline for Fellowship nominations is usually June 1. We strive to have a diverse group of nominees and encourage the nomination of members of all underrepresented groups

How

Nomination is done entirely on-line. Complete instructions for the nomination are available at:

<http://www.aps.org/programs/honors/fellowships/nominations.cfm>

The process consists of: providing the nominee's contact and professional information, uploading nomination letters documenting the accomplishments of the nominee and explain why he or she is deserving of recognition. Note that it is the responsibility of the nominators to provide a compact however complete nomination.

Evaluation

Nominations are evaluated by the FOEP nomination committee, reviewed by the full APS Fellowship Committee, and finally submitted for approval to the APS Council.

Subject

Outreach is a broad enterprise, spanning academia, industry and national laboratories, as well as freelance professionals such as writers, journalists and bloggers. Outreach activities are often overlooked and undervalued. Thus, it is important to think about and propose people who have an exceptional track record in this area.

Why

Nominating someone for APS fellowship takes time; however, it is a great way to emphasize the importance of reaching out to and engaging with the public. At the personal level it is very satisfactory to get recognition of your peers.

Deadline: June 1, 2023

Contributed by: Ivan K. Schuller

PHYSICS OUTREACH & ENGAGEMENT

Executive Committee

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The Forum on Outreach and Engaging the Public can be found on the web at <https://engage.aps.org/foep/home>