



Panel on Public Affairs (POPA)
Meeting Minutes February 3, 2023
Time: 9:30 am EST - 3:00 pm EST

Committee Members in-person attendance: Marty Baylor, Member, Ian Coddington, Member, Sarah Demers, Member, Brian DeMarco, Vice-Chair, Laura Grego, Representative, Forum on Physics and Society, Lisbeth Gronlund, Member, Don Lamb, Chair-Elect, Brad Marston, Member, Eric Mazur, Chair-Elect and Chair, Bill McCurdy, Chair and Past-Chair, Patricia Rankin, Member, Bob Rosner, Advisor and APS President, David Somers, Member, Washington Taylor, Member

Committee Members in attendance via Zoom: Dana Dattelbaum, Member, John Doyle, APS Vice President, Frances Hellman, Chair, Physics Policy Committee, Raymond Jeanloz, Member, Clifford Johnson, Member, Young Kee-Kim, Advisor and APS President-elect, Kristen Pudenz, Member, Marion White, Member

APS Staff Present in person attendance: Jonathan Bagger, CEO, APS, Nico Hernández Charpak, Federal Relations Senior Associate, Mark Elsesser, Director of Government Affairs, Jessica McCullough, Office Operations and Programs Manager, Francis Slakey, Chief External Affairs Officer

APS Staff in attendance via Zoom: Jeanette Russo, Corporate Board Secretary

APS Guests in attendance via Zoom: Fred Lamb

Chair Bill McCurdy welcomed those committee members in attendance in person and via Zoom.

He began committee business by asking for a motion to approve the minutes of the October 2022 meeting.

ACTION: The Motion to approve was called by Lamb and seconded by Mazur. The roll call vote was taken by McCullough. The motion passed with 12 in favor, 0 opposed and 8 abstentions.

McCurdy began the meeting by discussing the committee workload for 2023. The below outline of statements divided by subcommittee was shared with the committee:



Physics and the Public: Chair, Sarah Demers

- NEW- Statement on the Status of Gender Minorities in Physics
- NEW- Statement on Public Engagement (from the Committee on Informing the Public)
- NEW- Statement on Teaching Evaluations (from Committee on Education)
- From 2022 - Statement against the Boycott of Scientists by Nationality
- [APS Diversity Statement](#)
- [K-12 Access to Physics and Teacher Preparation Statement](#)
- [Promoting an Inclusive Workplace](#)
- [Statement to the United Nations](#)

Additionally, there are statements out for membership comment:

- Statement on Careers for Physicists
- Statement on the Status of Women in Physics

National Security: Chair, Brian DeMarco

- From 2022: Balancing Robust Fundamental Science Research and National Security Needs
- From 2022: POPA report on Ballistic Missile Defense Systems Chair, Laura Grego
- From 2022: National Missile Defense System Technical Feasibility and Deployment
- [Visa Rules and Government Procedures Hampering U.S. Science and Technology](#)
- [Freedom of Scientific Communication in Basic Research](#)
- [Nuclear Testing](#)

Energy and the Environment: Chair, Washington Taylor

- From 2022: Accelerating the Transition to Carbon Neutral Energy Sources
- NEW - Statement on the Protection of the Electromagnetic Spectrum
- [Perpetual Motion Machines](#)
- [Nuclear Energy](#)

McCurdy outlined that the committee is invited to join more than one committee, and that the chair would like the committee to focus on more preparation and subcommittee engagement before meetings and collective work in the meetings.

McCurdy also introduced that the Committee Administrator (McCullough) will administer voting during meetings for committee members via roll call.



National Security Subcommittee Update (Laura Grego)

Grego began the update by reminding the committee that the subcommittee has worked on two statements that are ready to be considered for a vote. The first statement was called "Security and Science at the Weapons Labs" from 2001. In 1999, the Council of the American Physical Society issued a statement on National Security and the Open Conduct of Science. The Council reaffirms three propositions central to that statement:

- There is a "critical connection between U.S. national security and scientific research activities";
- "Effective national security requires the highest standards of vigilance and circumspection";
- And "the science on which [national security] is based must meet the highest standards of excellence."

To maintain the scientific vitality of the weapons laboratories, the Council therefore recommended that restrictions on scientific interchange of unclassified information be eliminated to the maximum extent possible, including limitations on foreign visitors and on travel by laboratory personnel.

The Council noted that the strength and effectiveness of the weapons laboratories require a scientific workforce of the highest caliber. As the Council previously noted, it would also be damaged by "any negative characterization of scientists on the basis of ethnic or national origins." Only by attracting and retaining outstanding scientists can the weapons laboratories continue to perform their critical national security role. Grego explained that given POPA's mandate to develop statements of general principle that will be durable over time, this revision should now aim to address more generally the issues of balancing scientific vitality with national security concerns, not just in weapons labs, hence the new title "Balancing Robust Fundamental Science Research and National Security Needs"

- Update for current environment, look at updated research and recommendations by NSF/JASON, NAS.
- Consider incorporating elements of the 2020 APS Board Statement on "Open Science and a Recommitment to Research Principles," which supported important advocacy.

The subcommittee considered and drew from a number of APS statements:

- [99.3 National Security and the Open Conduct of Science](#)
- [02.5 Against the Call to Boycott Israeli Scientists](#)



- [Archived 2020 Board Statement on Open Science and a Recommitment to Research Principles](#)
- [03.4 Freedom of Scientific Communication in Basic Research](#)
- [00.4 Protection Against Discrimination](#)
- [02.5 Against the Call to Boycott Israeli Scientists](#)
- [21.1 APS Statement on the International Nature of Science and International Scientific Cooperation](#)

Hernandez Charpak reminded the committee that given this statement had extensive revisions, it will be routed to the Council, then to the Board and then back to POPA for a vote to present the statement to the APS community for comments. Grego invited questions and discussion which led the committee to present a motion to **approve the statement and to forward to the APS Council for comment, with minor revisions, as per the APS statements process.**

ACTION: The motion was called by Mazur and seconded by White. The roll call vote was taken by McCullough. The motion passed with 19 in favor, 0 opposed and 0 abstentions.

Grego moved on to the second statement to address which is the Assessment of Strategic Missile Defense Capability. This statement was given to the subcommittee for review in 2021. The subcommittee determined that it was dated and it has been archived. Moving forward, the subcommittee decided on a dual approach - the board adapted a board statement drawn on work from the subcommittee.

“The Board of the American Physical Society recommends that the assessment of missile defense systems be based on a rigorous testing program under conditions expected in the real world, and on regular independent technical review.”

Board statements archive after a year, and the subcommittee was tasked with providing a statement for the long term. The first paragraph of the statement mimics the board statement with the addition of one word. The second and third paragraph are condensed, but outline for an APS why APS has a statement on this issue and aligns with the statement on the use of nuclear weapons. The fourth paragraph outlines the focus on testing and explains why this is important. Grego concluded her presentation and opened the floor for questions and discussion. Hernandez Charpak reminded the committee that APS has had a statement on this topic for 20 years, and in 2020, again, given the outdated nature of the statement, it was archived. The subcommittee was tasked with updating it. Grego opened the floor for discussion



and questions. The committee collectively discussed further edits and returned from lunch with edits to review. This discussion led the committee to present **a motion to direct the National Security Subcommittee to implement changes based on the POPA meeting committee comments and to hold a virtual vote on the updated statement.**

ACTION: The motion was called by McCurdy and seconded by White. The roll call vote was taken by McCullough. The motion passed with 18 in favor, 0 opposed and 0 abstentions.

Ballistic Missile Defense Report

Fred Lamb, the study chair of the Ballistic Missile Defense Report, provided an overview of steps that were taken to correct the technical errors in the boost-phase intercept section in the published 2022 report, including an overview of the recalculations and verification of the new computations.

ACTION: A motion to forward the BMD report to external review process was called by Doyle and seconded by Grego. The roll call vote was taken by McCullough. The motion passed with 14 in favor, 3 opposed and 2 abstentions.

Update on new Guidelines for POPA Studies and Reports:

As Elsesser discussed in our October 2022 meeting, following the lessons learned from the BMD study, it was decided that the POPA study publication guidelines should be reviewed and updated. There were conversations with the POPA chair line, APS leadership and the National Science Foundation. We reviewed the guidelines from 2013 and saw where improvements could be made. The key issues we identified were imprecise guidelines in reference to original research, the review process lacking independence, a non-transparent agreement with external reviewers, inadequate guidelines for Study Group members and no process in place to address post-publication errors. The proposed changes are the following

Regarding imprecise guidelines regarding the original research:

All POPA Studies are currently based solely on existing, publicly available published work.

POPA Studies shall not contain original research. For purposes of POPA studies,

- original research includes, but is not limited to:
- performing new experiments, including numerical simulations
- developing new computer code, software, etc.
- developing new theories, algorithms, etc.

In conclusion, APS Studies will allow for new research.



Regarding the Review process lacking independence:

Addition of editor:

- oversees entire review process
- ensures Study Group considers all feedback and appropriately
- addresses issues and concerns raised
- works to resolve disagreements between reviewers and Study Group
- determines if publication is ready for POPA's consideration

Regarding non-transparent agreement with external reviewers:

Specify expectations & responsibilities concerning:

- read draft publication in its entirety and provide feedback
- refrain from disclosing comments or content of draft publication
- have name and affiliation included in final publication

Regarding Inadequate guidelines for Study Group members:

Specify expectations & responsibilities concerning:

- confidentiality & communication with external audiences
- review and approval of report; support recommendations
- Appropriate disclosure and COI

Regarding no processes for addressing post-publication errors:

Modeled off of National Academies approach:

- not one size fits all; depends on significance & nature of error
- decisions determined by those overseeing project and high-level management
- committed to technically correct reports and transparency

With that, Elsesser concluded his remarks and a discussion amongst committee members who agreed that these changes are positive. The chair thanked Elsesser for his work on this initiative. The committee discussion resulted in a **motion to conduct a virtual vote on the improved POPA study guidelines, which will include additional edits informed by the comments made during this meeting, and then transmit the improved guidelines to the APS Council for its endorsement.**

ACTION: The motion was called by Mazur and Marston seconded the motion. The roll call vote was taken by McCullough. The motion passed with 19 in favor, 0 opposed and 2 abstentions.



Chair Transition:

As is customary each year at the February meeting, Chair Bill McCurdy transitioned the POPA Chairship to Chair Eric Mazur who will serve as Chair of the committee for 2023. The committee thanked McCurdy, who now will serve as Past Chair for 2023, with a spirited ovation and gift. Mazur noted that he was grateful for McCurdy's guidance during the transition and looks forward to continuing their work together in leading the committee.

GA Advocacy Update - Nico Hernández Charpak

Chapak began his update by addressing the Congressional Visit Day during the ALM meeting in January. During CVD, 90 physicists from 27 states had almost 100 meetings on the hill to advance five key APS priorities. 90% of the meetings were held in-person and there were 10 meetings with members of congress. This was an extraordinary feat considering many congressional offices were still organizing and hiring staff. Additionally, this was the first year in 2 years that congress was fully open to the public. This success spoke to the reputation of APS on the hill and the hard work and dedication the APS staff has shown for months to continue to make these meetings possible. Charpak acknowledged the work of Charlotte Selton who led these efforts and the Government Affairs team for their support. He also expressed his gratitude to several other APS departments (web team, communications and the graphics team and membership) who worked to make this effort a success. CVD represents the "kick off" of the 2023 advocacy year for APS with the 118th Congress. These meetings result in key information on how these hill offices reacted to our APS priorities and it allows us to tailor our advocacy strategies when reaching back out to the members of congress. POPA is charged with shaping the public statements that represent our membership and all of Government Affairs advocacy efforts have to be covered by a statement.

APS advocacy efforts will cover the following topics:

- Funding Fundamental Research including the CHIPS and Science Act funding that was passed last year.
- More Inclusive Data Collection - this supports the LGBTQ+ Data Inclusion Act
- High-Quality STEM Teachers - addressing a Chronic shortage in the US
- International STEM Students - the key to innovation is making the US a welcoming place to come and study
- Monitoring Methane Emissions - addressing climate change



In all of these cases, POPA reports anchor this work, with special attention paid to the 2017 report on [recruiting high quality STEM teachers](#) and the 2022 on [Monitoring Methane Emissions](#).

We are currently following up with congressional offices we were not already connected with from our CVD efforts and Charpak noted that he and Elsesser will keep the committee updated as the 118th congress advocacy continues.

Physics and the Public Subcommittee Report (Sarah Demers):

Regarding the Statements Against the Boycott of Scientists based on Nationality, Demers reported that the P & P subcommittee proposed expanding their statement against calls to boycott *Israeli* scientists to calls to boycott scientists of *any* nationality. This was endorsed by POPA. This statement is modified from the current statement, [Against the Call to Boycott Israeli Scientists](#), which was first adopted in 2002. The new statement was edited to cover all such boycotts due to the nationality of a scientist, while still acknowledging the original purpose of the statement. This re-written statement could be useful for APS when navigating the current invasion of Ukraine by Russia, and in potential future conflicts, while maintaining its original purpose.

- Two concerns were identified with the revised statement proposed for vote on Oct 7, 2022
 - P&P were asked to add a sentence that referenced the previous statement, reaffirming the statement against boycotts of Israeli scientists due to their nationality.
 - P&P were asked to revisit the phrase “any scientific community” which was seen as too broad.

The Council of the American Physical Society’s Statement 21.1 on the International Nature of Science and International Scientific Cooperation state that:

“ Science transcends national boundaries and international scientific partnerships are essential for breakthrough discoveries that advance science and benefit all people. Likewise, international scientific cooperation contributes to economic growth and fosters mutual understanding across political and ideological divisions—promoting peaceful relations among partnering nations.”

Calls to boycott scientists based on nationality, place of birth, citizenship, or residence violate these long standing principles. The American Physical Society reaffirms its commitment to maintaining open dialogue and promoting cooperation among scientists throughout the world.



The APS strongly opposes attempts to isolate **any scientific community**.

The revision included the following:

The American Physical Society reaffirms its commitment to maintaining open dialogue and promoting cooperation among scientists throughout the world.

This statement reaffirms the previous APS statement against boycotts of Israeli scientists.

With the above edit, Demers proposed the **motion to approve the statement and to forward to the APS Council for comment, as per the APS Statement process**.

ACTION: Lamb called the motion for a vote and White seconded the motion. The roll call vote was taken by McCullough. The motion passed with 18 in favor, 0 opposed and 0 abstentions.

Demers outlined that there are four statements up for possible renewal in 2023 and two that she would expand upon the meeting:

- Diversity Statement
- Promoting an Inclusive Workplace
- K-12 Access to Physics & Teacher Preparation Statement
- Statement to the United Nations

Demers turned to the Diversity Statement. She explained that this statement is the subcommittee's highest priority for early 2023 and highlighted the importance of the statement due to the ongoing Supreme Court cases on admissions policies that could directly impact the diversity of student populations on college campuses. The subcommittee met and voted to renew this statement with fairly significant edits: they determined that the framing of the current statement has a framing that was likely viewed as pragmatic when written, but it falls short of acknowledging the sources of under-representation or the harm done to individuals from underrepresented communities in physics.

Demers outlined the planning process:

- Adams and Johnson are working on reframing the statement. They are close to an updated draft.
- This draft will be circulated to several APS committees (Committee On Minorities) for comment



- P&P will iterate on a draft to propose to Full POPA for a vote in the June 2023 meeting

Demers then moved on to the statement on Promoting an Inclusive Workplace. She explained that this statement has not yet been discussed within the subcommittee, but an initial look shows that it is extremely relevant and also has a significant overlap with several other statements (Status of Women in Physics, Diversity, and likely the Status of Gender Minorities statement P & P are constructing) so some discussion will be needed regarding how to handle the overlap in content.

The statement:

- notes concern with “the serious underrepresentation of women and minorities in the profession of physics”
- asks for the elimination of “hostile, intimidating, or offensive” actions
- calls upon all members “to help ensure that persons of every race, gender and ethnic origin may feel a welcome part of the physics community.”

The current APS diversity statement includes a call “to create a work environment that encourages inclusion.” Our statement on the Status of Women in Physics, and our in-progress proposed statement on the Status of Gender Minorities in Physics also reference the importance of inclusion and some of the work defining it. Demers opened the floor to discuss with the committee how P & P should think about the ecosystem of our statements, and if they should be looking for opportunities to merge statements, or trying to tighten the purpose of existing statements. Finally, Demers discussed with the committee the question of what criteria the subcommittee should have in mind when determining whether to craft a new statement. She closed by explaining that P & P have many statements spanning Diversity, Women in Physics, Gender Minorities in Physics, the United Nations, Public Engagement, Teaching Evaluations, Inclusive Workplace, K-12 Access to Physics and Teacher Preparation, and Careers for Physicists. She thanked the committee for their attention and invited them to join the subcommittee and contribute their much needed expertise.

Energy and the Environment Subcommittee Report (Wati Taylor):

Taylor began the update by outlining that there are four statements that the Energy and the Environment subcommittee will work on in 2023:

- from 2022: Accelerating the Transition to Carbon Neutral Energy Sources
- NEW - Statement on the Protection of the Electromagnetic Spectrum
- Perpetual Motion Machines
- Nuclear Energy



Taylor discussed the statement from the October 2022 meeting on “Accelerating the Transition to Carbon-Neutral Energy” Sources. Updates to this statement included considerations for energy equity and affordability. It had accelerated to the Board Executive Committee and they requested a change to the word “economy” to cost-effectiveness along with adding energy equity and affordability to the list of other items listed rather than specifying that was a driving concept in the statement. Taylor noted that this statement was ready for POPA to vote on to forward to the APS Council for final approval. **Taylor opened the floor for discussion and the motion to approve the statement, and to forward to the APS Council for final approval.**

ACTION: The motion was called by McCurdy and seconded by Taylor. Roll call was taken by McCullough. The motion passed with 19 in favor, 0 opposed and 0 abstentions.

POPA Report on Direct Air Capture

Taylor then moved on to his update on the DAC (Direct Air Capture) study update by informing the committee that the name of the study has been changed to CDR (Carbon Dioxide Reduction Technology) given the broader scope of this study. Taylor noted that involved in this study are POPA member Brad Marston, APS President Bob Rosner and former POPA member, Jonathan Wurtele.

To summarize where the the study stands at this point, Taylor explained that the IPCC and others build in ~ 5 – 20 Gt CO₂/y carbon dioxide reduction (CDR) from the atmosphere in models keeping temperature rise below 2°C. There is a substantial private and government interest in technologies including billions of dollars in investment from government grants and private funding going into CDR. Accordingly, there is vast investigation and several studies completed in the last decade by many groups, including the 2011 POPA DAC study. With a study like this, large-scale implementation presents many challenges.

In June of 2022, POPA approved this study with the goal of producing a relatively short report on CDR/DAC to build on, and complement the 2011 chemical DAC POPA study; to focus on basic physical requirements (energy, mass) and to extend consideration to other approaches (accelerated weathering, ocean CDR, bio). The study group is not aimed to break new ground with this report as there is a tremendous amount of literature on this subject. The Idea is to integrate a basic science understanding with the current state of knowledge to produce a clear and succinct report on physical constraints and scientific guidance for policy regarding large-scale DAC.

To this point, the study group has researched various approaches, talked with experts and drafted an almost complete first pass of a report. We estimate 85% of the content is there in



some form. We have distributed a table of contents for this meeting and an executive summary. We have also outlined the main points in summary boxes with schematic figures. What remains to be done is to establish various technical details, strengthen and improve the writing and connections between sections. We will need to finalize detailed conclusions and discuss details of some sections with previously consulted experts.

Moving forward, the subcommittee hopes to have a second order draft with completed conclusions by late February for feedback from select constituents and the Physics Policy Committee. Taylor hopes to optimistically complete the study by March, and distribute to POPA off-cycle for comments. The subcommittee would then distribute more broadly for comments and aim for a vote in the June POPA meeting. Taylor concluded his presentation by opening the floor for questions from the committee and a discussion commenced regarding how best to proceed with the study.

Reminder on Nominations for new POPA Members:

Hernández Charpak reminded the committee that it is time to submit names to nominate to POPA for 2023. In doing this, he asked that the committee think about the expertise we need when we lose committee members, and the diversity we have discussed. Once we compile names, they are sent to the Nominating Committee. The Nominating Committee considers our list, they make their own list, which is then submitted to the Council for a vote.

Closing comments by POPA chair:

Mazur thanked everyone for coming and looks forward to seeing everyone on June 2, 2023 at the next POPA meeting. The meeting ended at 2:52pm.