

# Science in Action: Rebuilding a Resilient Puerto Rico <sup>[1]</sup>

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Audience members at the Science in Action Symposium. Photo by Adrian Rivera-Reyes

On Saturday, September 1st, 2018 the [American Association for the Advancement of Science \(AAAS\) Caribbean Division](#) <sup>[3]</sup>, the [Union of Concerned Scientists \(UCS\)](#) <sup>[4]</sup>, and Ciencia Puerto Rico (CienciaPR) co-hosted the conference **Science in Action: Puerto Rican Public Policy Supported by Evidence**. I had the pleasure of traveling to Puerto Rico and participating in this conference as a member of the organizing committee.

As part of the growing Puerto Rican diaspora, I do my best to stay engaged with Puerto Rico and the issues affecting my community of origin. After hurricanes Irma and María struck the Caribbean last year, Puerto Ricans living outside of the island organized in many ways to help with relief efforts. Thus, it was gratifying to connect with members of the scientific community in Puerto Rico and see how the country has remained resilient, resourceful and politically engaged in the face of recent challenges.

The Science in Action conference provided participants with tools, strategies, and role models to empower them to participate in formulating and advocating for scientifically sound public policies at the local and federal levels. The conference also served to launch the **Puerto Rico Science Policy Action Network (PR-SPAN)**, a network of science, technology, engineering, math and health (STEM-H) experts in Puerto Rico and abroad, committed to act as experts and serve as links in their respective fields and sectors to ensure the participation of the scientific community in the deliberation of public policies with an impact on Puerto Rico. Through talks, panel discussions, and poster presentations around 100 in-person attendees and more than 500 viewers through FacebookLive learned about these topics and were inspired by the examples of scientists who have contributed to public discussion, advocacy, and policy-making around issues of direct impact to Puerto Rico.

The conference started with a talk on **advocacy and science policy** by Dr. Juan Declet Barreto [5] and Shreya Durvasula [6] from UCS who shared strategies and tools that can help scientists be effective advocates for our communities. Next, Dr. Zulmarie Pérez Horta [7] talked about **careers in Science Policy** and shared her trajectory from Puerto Rico to her current role as a Program Officer for the National Institute of Allergy and Infectious Diseases (NIAID). Dr. Perez Horta is a AAAS Science and Technology Policy Fellow [8], a program that places STEM-H experts in different offices of the United States government in Washington, D.C. Most interestingly, all three speakers emphasized how important it is to communicate effectively in order to engage efficiently with the public. You can see some of the science advocacy resources shared with the audience here. [9]



A slide from Dr. Guerrero-Medina's presentation on the importance of policy and advocacy efforts for science and Puerto Rico.

Next, Dr. Giovanna Guerrero Medina <sup>[10]</sup>, Executive Director of CienciaPR, talked about the **origins of the idea for PR-SPAN**, based on CienciaPR's and the Puerto Rican scientific community's history organizing advocacy and education efforts in Puerto Rico. She highlighted efforts informing the public about political candidates' positions on science <sup>[11]</sup>, organizing the Puerto Rico March for Science <sup>[12]</sup>, helping scientists contribute to Hurricane Maria <sup>[13]</sup> relief efforts, and most recently launching the PR-SPAN. She also described the urgency of scientists involvement in advocacy, given recent challenges to the independence and transparency of science in the U.S. and in Puerto Rico (as was the case with the Puerto Rico Institute of Statistics <sup>[14]</sup> and the Puerto Rico Science Technology and Research Trust <sup>[15]</sup>) and issues that have come to light as a result of the recent hurricanes. She ended with a call to action for scientists interested in serving as links between the public, government and legislators, and their professional and scientific communities. In the upcoming months, the PR-SPAN will provide regular science policy alerts so that experts can use their expertise to inform the policy making process.



From left to right: Dr. Mario Marazzi, Dr. Frances Colón, Ms. Lucy Crespo and Dr. Ubaldo Córdova on the Sustainability and Independence of Scientific Institutions panel. Photo by Adrian Rivera-Reyes

In the second part of the conference, 3 panels were held in which various experts participated and offered their input. The panels focused on 1) **Sustainability and Independence for Scientific Institutions**, 2) **Informing Resiliency and Mitigation through Science**, and 3) **Science and Innovation Energy Policies**. It was refreshing and fantastic to learn about all the efforts and work that different scientists in and outside of Puerto Rico are doing to address the needs of the island and Puerto Ricans. Although I felt optimistic because of their work, this optimism was met with the hard reality that their recommendations are often ignored and sidelined.

The **Sustainability and Independence for Scientific Institutions** panel was composed by Ms. Lucy Crespo <sup>[16]</sup>, CEO of the Puerto Rico Science, Technology, and Research Trust <sup>[17]</sup>, Drs. Mario Marazzi <sup>[18]</sup>, CEO of the Puerto Rico Institute of Statistics <sup>[19]</sup> and Ubaldo Córdova <sup>[20]</sup>, Interim Vice-President of the University of Puerto Rico; and moderated by Dr. Frances Colón <sup>[21]</sup>, CEO of Jasperi Consulting and former Deputy Scientific Advisor to the US Secretary of State. Panelists emphasized that no matter how robust and strong our institutions are we have to protect them, because they can crumble if attacked constantly, especially if done by elected officials

themselves. In Puerto Rico, the policies of different administrations have threatened the three institutions represented by the panelists. In the case of the Statistics Institute, Dr. Marazzi shared how the scientific community worked on different strategies to prevent the dismantling of the Institute, including involving the diaspora to raise the issue at the federal level, which ultimately led to the re-establishment of its independence. This panel made it clear that, although we might not realize it, scientists have access to institutions and networks that can be of great help for scientific advocacy.



From left to right: Dr. Pablo Méndez Lázaro, Dr. Elvira Cuevas, Ms. Soledad Gaztambide, and Dr. Aurelio Mercado on the Resiliency and Mitigation panel. Photo by Adrian Rivera-Reyes

The second panel on **Informing Resiliency and Mitigation through Science** was moderated by Soledad Gaztambide Arandes, [22] Environmental Policy and Government Relations Coordinator for the non-profit Para La Naturaleza [23]. Soledad hosted Drs. Elvira Cuevas [24] from the University of Puerto Rico, Rio Piedras; Pablo Méndez Lázaro [25] of the University of Puerto Rico, Medical Sciences Center and city co-lead of the Urban Resilience to Extremes Sustainability Research Network [26]; and Aurelio Mercado Irizarry [27], from the University of Puerto Rico, Mayagüez. The moderator and panelists have all been involved in science policy campaigns in Puerto Rico and are members of the Puerto Rico Climate Change Council [28]. The panelists emphasized the importance of engaging the public and members of the community in advocacy efforts related to conservation as well as in resiliency practices. In many cases, members of the public and community organizations already collaborate with scientists for research. They also expressed the reluctance of the local and federal governments in addressing climate change. The government has long dismissed and ignored warnings issued by the scientific community on the effects of climate change and the need for mitigation strategies. To emphasize the need to act quickly, Dr. Mercado Irizarry warned that the San Juan International airport could be underwater in the next decade or so. A frequent advice that came up throughout the entirety of the panel was that we need to think about long-term goals and how we can address these issues effectively by also pressuring elected officials.





The impact of hurricane María on Puerto Rico's energy system led to the second largest blackout in the world. Picture from Alvin Baez at Reuters.

The last panel focused on **Science, Innovation, and Energy Policies** and was moderated by Agustín F. Carbó Lugo <sup>[29]</sup>, President of the ClimaTHINK Institute for Climate Law and Policy <sup>[30]</sup>. The panelists were Paula García <sup>[31]</sup>, an energy analyst in the Climate and Energy Program of UCS <sup>[32]</sup>, and Dr. Lionel Orama-Exclusa <sup>[33]</sup>, professor of electrical engineering at the University of Puerto Rico, Mayagüez and member of the National Institute of Island Energy and Sustainability <sup>[34]</sup> (INESI, for its acronym in Spanish). During the discussion some of the issues raised included the Puerto Rico Electric Power Authority (PREPA) which, even before Hurricane Maria, was in extreme debt and is the sole energy provider in the island. Historically, PREPA has relied on the use of fossil fuels and because it is a public institution and operates as a monopoly, maintaining transparency has been a major issue. The panelists agreed that in order to address these issues and build a more resilient and resistant Puerto Rico, the scientific community needs to be active and inform authorities so that their input is considered when finding solutions and transitioning away from fossil fuels into clean energy sources.

After the conference and visit to Puerto Rico, I felt empowered to continue advocating for my communities in Puerto Rico and Philadelphia. I am confident that Puerto Rico will once again succeed and thrive, but there is a long road of reconstruction ahead. In order to ensure we move in the right direction we need to give scientists a seat at the table and insert evidence-based policy solutions to address the issues that Puerto Rico faces. As a Puerto Rican scientist in the diaspora, I am committed to using my voice and contributing my expertise and connections in order to aid the recovery and rebuilding efforts for a more resilient Puerto Rico.

You can watch all the proceedings from the conference below.

## Tags:

- política pública científica <sup>[35]</sup>
- Huracán María <sup>[36]</sup>
- Union of Concerned Scientists <sup>[37]</sup>
- AAAS Caribbean Division <sup>[38]</sup>

- PRSPAN [39]

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