

Standing up for Science: My Journey as a Congressional Fellow

Michele Bustamante



Michele Bustamante (left) meets science communicator Bill Nye “The Science Guy” during her fellowship.

Bustamante (background) and Senator Edward J. Markey attend the confirmation hearing for Andrew Wheeler, administrator of the Environmental Protection Agency.



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For the past year, I’ve had the privilege of working as the 2018–2019 TMS/ Materials Research Society (MRS) Congressional Science and Engineering Fellow in the office of U.S. Senator Edward J. Markey (D-MA). In this role, I leveraged my training as a scientist to serve the people of Massachusetts in federal policymaking related to science, energy, and the environment. I have seen, learned, and experienced more than I could have ever imagined in this role,

and I am so glad that I took the chance to explore life outside the lab. It is my sincerest hope that if you’re reading this, you might consider doing the same. Now, more than ever, it is important for scientists to be paying attention.

How I Launched my New Career in Policy

Ironically, I was never all that into politics. Historically, you would be much more likely to find me sitting in front of a

Apply for the TMS/MRS Congressional Fellowship

TMS and the Materials Research Society (MRS) are now accepting applications for the 2020–2021 TMS/MRS Congressional Science and Engineering Fellowship, under the auspices of the American Association for the Advancement of Science (AAAS).

To be considered for the fellowship, applicants must have a record of success in research or scholarship in a field relevant to materials science, while also demonstrating a strong interest in applying scientific and technical knowledge to U.S. public policy issues. An applicant is expected to be a member of or applicant for membership of TMS or MRS, and must have a Ph.D. by September 1, 2020. U.S. citizenship is not required, but applicants must be authorized to work in the United States.

For additional information on the fellowship, contact Mary Samsa, TMS Foundation & Public Affairs Manager, at msamsa@tms.org.

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Michele Bustamante in the office of Rafael Reif (right), Massachusetts Institute of Technology (MIT) President, after a meeting between Reif and Senator Edward J. Markey. Markey and Bustamante visited MIT to attend The Environmental Solutions Initiative People & the Planet Lecture Series, in which the senator gave a speech entitled, "Combating the Climate Crisis: from Regulation to Legislation."

computer straining over minute details of a spreadsheet model than out marching in protests or calling my representatives. In fact, for most of my life, I didn't pay much attention to what was going on in politics at all. So how exactly did someone like me end up here, in our nation's capital, working on the front lines of some of the most hotly debated issues of our time? Let me explain.

At the time of the 2016 presidential election, I was four months into my postdoc in an interdisciplinary materials research lab at the Massachusetts Institute of Technology. I had been trained as a Ph.D. not in materials science, but in sustainability, as part of the fourth-ever

cohort of sustainability Ph.D. students at the Rochester Institute of Technology. When I graduated, I had the honor of speaking at our convocation ceremony. In my speech, I beamed about the new global climate agreement that had been reached just six months earlier in Paris; my fellow graduates and I could head into the world with global groundwork for cooperation paving the road ahead. At the time, I still felt my role would be in a technical capacity, so I stayed in academics.

After the 2016 election, however, I found myself increasingly preoccupied. As a scientist, I began to see my profession become increasingly politicized, as people with and without scientific backgrounds argued over facts. And as a sustainability scientist, I worried about actions taken to reverse U.S. involvement in climate-related programs, like the U.N.'s Paris Agreement. Fortunately, I also began to see scientists becoming more vocal; some even taking to the streets in the 2017 March for Science. Inspired as I was, I felt motivated to go a different route than taking to the streets. In typical fashion, I headed to my computer, but this time it was to apply for a new job that would allow me to jump right into the heart of the action in D.C.—this fellowship.

My Year-Long March for Science

By September 2018, I was off. Starting out, the learning curve was steep but resources and support were abundant. I was delighted to find so many offices



Bustamante (second from right) participates in a volunteer workshop for Arizona State University's Science Outside the Lab program during her time on the Hill.

Meet the 2019–2020 Congressional Fellow



Alexander Martin

Alexander Martin begins his one-year term in September as the 2019–2020 TMS/MRS Congressional Science and Engineering Fellow. Through the fellowship, he will serve as a special legislative assistant on the staff of a member of Congress or congressional committee, bringing his technical and scientific background and external perspectives to the decision-making process in Congress.

“During my time on the Hill, I am excited to use my technical background in physical chemistry and materials science to advise policymakers on energy and climate policy topics,” said Martin. “The congressional fellowship provides a unique opportunity for scientists to develop an understanding of the political and procedural elements that accompany policy analysis throughout the legislative process. I am looking forward to learning how science and scientists can best help policymakers to enact evidence-based legislation that benefits society.”

Previously a postdoctoral fellow in the Molecular Design Institute at New York University’s (NYU) Department of Chemistry, Martin earned his Ph.D. in physical chemistry from NYU in 2018 and his B.S. in chemistry from Boston College in 2013. Through the TMS/MRS Congressional Science and Engineering Fellowship, Martin hopes to address legislative issues related to vehicle fuel economy standards, electrical grid modernization, renewable energy, and industrial decarbonization.

Martin will begin his fellowship in early September in Washington, D.C., with an intensive science policy orientation, followed by an interview and selection process with offices of senators, representatives, or committees on Capitol Hill. Offices will extend offers, and he will choose the office in which to spend his fellowship year.

looking for fellows to work on energy and environmental issues, and I was lucky enough to find placement in an office that provided me with the opportunity to cover both science and climate portfolios.

My first major task came three weeks into my fellowship. The U.N.’s Intergovernmental Panel on Climate Change released its special report, *Global Warming of 1.5°C*, and I was responsible for distilling the thousands of pages of detail into briefings for the senator. One month later, the same situation occurred when the U.S. Global Change Research Program released the *Fourth National Climate Assessment*. The findings of these two reports echoed the same warning and became a guiding light for our action: millions of human lives, natural wonders like our coral reefs, and billions of dollars in economic damages are at stake. Yet those of us who advocated for action continued to come up against resistance to these conclusions.

Despite challenges, there have been many moments that gave me hope.

Members of Congress attended weekly meetings that I helped organize with experts from climate-intersecting fields, including environmental justice, national security, human displacement, and every economic sector. And, through application of key climate report findings, I got to contribute to a movement that is changing the conversation on climate change.

Overall, this experience has left me feeling more empowered and hopeful than I ever could have felt by watching from afar. This has been just a peek behind the curtain that allowed me to see beyond the individuals standing in front of the camera, to the teams of incredible hardworking public servants behind them. Anytime a move is made against science or climate change, my colleagues spring into action. I have witnessed first-hand that there are people standing up for scientific reason, and I’m proud to have been one of them this past year.

**Michele Bustamante is
the 2018–2019 TMS/MRS
Congressional Science and
Engineering Fellow.**

