



Congressional Fellows bring science to US government

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Decisions made by the US Congress, regulatory agencies, and local governments have profound effects on the way in which science is conducted. In order to help keep decision makers well-informed on current affairs of the scientific community, the Materials Research Society (MRS) co-sponsors two Congressional Science and Engineering Fellowships each year.

MRS partnered with the Optical Society of America (OSA) in 1995 to sponsor the first congressional fellow. Then in 2008, MRS and The Minerals, Metals & Materials Society (TMS) co-sponsored a fellowship. This year,

Jimmy O’Dea has been selected as the 2014–2015 MRS/OSA Congressional Science and Engineering Fellow and **Adria Wilson** as the 2014–2015 MRS/TMS Congressional Science and Engineering Fellow. Their tenures begin in September of this year.

Both Fellows have been heavily influenced by the global need to develop sustainable energy. Wilson described the production and storage of energy as one of the greatest technological challenges facing the country. “The energy issue in particular is a political one,” she said, “because legislation will dictate how well new technologies compete with

current monolithic, yet unsustainable, energy markets.”

O’Dea, having grown up in Las Vegas, witnessed firsthand the intersection of economic development and natural resources. He said, “Being a native of the Mojave Desert has certainly influenced my decision to pursue science and science policy.”

Likewise, Wilson and O’Dea are both concerned with the lack of scientific information when legislation is enacted, across the country, regarding hydraulic fracturing. Wilson’s experience working on this issue in North Carolina made her aware of “how important it is that scientists represent their findings with a clear voice to policymakers.” Taking this a step further, O’Dea said, “I realized how important access to the scientific literature was in my ability to critique the proposed regulations [on New York’s fracking].” He therefore advocates for open-access publishing policies and has led an effort for Cornell research publications to be freely available no matter where they are published.

O’Dea comes to the Capitol following a postdoctoral research position in the Energy Materials Center at Cornell University. He received his PhD degree from the University of California–Santa Barbara (UCSB), in 2010. His honors include an Excellence in Teaching Award from the UCSB Graduate Student Association and the Peter K. Wallerich Scholarship in Natural Sciences from the University of Puget Sound.

A recent graduate from Duke University, with a PhD degree in chemistry (2014), Wilson focused her research on the structural basis of synergistic catalytic behavior observed for gold palladium bimetallic nanoparticle catalysts. Prior to her graduate studies, she also held positions in industry, at companies including RL Associates and GlaxoSmithKline. Her committee appointments included co-president of



Megan Brewster
2013–2014 MRS/TMS
Congressional Fellow



Sydney Kaufman
2013–2014 MRS/OSA
Congressional Fellow



Jimmy O’Dea
2014–2015 MRS/OSA
Congressional Fellow



Adria Wilson
2014–2015 MRS/TMS
Congressional Fellow



Phi Lambda Upsilon (PLU), chair of the PLU Travel Grants Committee, and student co-chair of the PLU Hill Lecturer Committee.

O'Dea and Wilson join a long line of MRS Congressional Fellows. And, like the Fellows before them, they will start with an intensive science policy orientation facilitated by the American Association for the Advancement of Science designed to introduce Executive Branch Fellows and Congressional Fellows from more than three dozen scientific societies to the fellowship program. Following orientation, the new Fellows will go through an interview and selection process with offices of senators, representatives, or committees in the US federal government.

Current MRS/TMS Fellow (2013–2014) **Megan Brewster** is serving her Fellowship on the Majority staff of the US Senate Committee on Energy and Natural Resources. Here, she focuses on issues such as critical minerals, the energy–water nexus, methane emissions from natural gas infrastructure, energy efficiency, high-performance computing, energy storage, renewables, and funding for energy-related research.

When Brewster was selected for the Congressional Fellowship last year, she said, “The government’s ability to unite disparate interests to realize technological innovations has inspired me to pursue a career in federal government, and the MRS/TMS Congressional Science and Engineering Fellowship offers

an exceptional opportunity for me to catapult myself into this nontraditional career path.”

While pursuing her PhD studies at the Massachusetts Institute of Technology, Brewster’s research led to a deeper understanding of fundamental energy carriers in individual semiconductor nanostructures. She has additional research experience with ceramics, optical fibers, phosphors, biomaterials, neurobiology, and graphene. After receiving her PhD degree in 2011, Brewster moved to GE Global Research in Schenectady, N.Y., where her scientific expertise supported the Durathon battery start-up by developing next-generation technologies for a sodium-metal-halide chemistry.

Now, with her tenure on the Senate Committee, Brewster is able to convene stakeholders, develop legislation, brief the Committee Chair, draft communications and speeches, and staff committee hearings and business meetings.

Sydney Kaufman, who is the current (2013–2014) MRS/OSA Congressional Fellow, is serving in the office of US Senator Mark Begich of Alaska, where she also focuses primarily on energy and natural resources. In particular, Kaufman’s issue areas include renewable energy and energy efficiency, energy infrastructure development, transportation fuels, and the Arctic.

Before pursuing a PhD degree, Kaufman accepted a position as the Energy Project Coordinator, which is an AmeriCorps VISTA volunteer position,

with the Southwest Alaska Municipal Conference because she appreciated their philosophy of sustainable economic development. Kaufman said, “I saw firsthand the economic stagnation that can result from a lack of reliable and affordable energy. I quickly learned the importance of grassroots involvement and local capacity building as the keys to sustainable development. I became aware that sound energy policy is not just about energy technologies; it is also about the ability to take agency over one’s finances, education, and community growth.”

During her PhD program at the University of Colorado, Boulder, Kaufman used photodissociation spectroscopy to study the basic properties of a wide range of materials, and to elucidate many chemical systems and problems including nanoparticles for solar energy, environmental forcers, and organic catalysts. She also furthered her interest in the intersection of science and policy as director of the Forum on Science Ethics and Policy at the university.

Kevin Whittlesey, who chairs the MRS Congressional Fellows Subcommittee, said, “By keeping [government policy] decision makers well informed on the current affairs of the scientific community, Congressional Science and Engineering Fellows ensure the right choices are being made.”

Information on how to apply for the Congressional Fellowship can be accessed at website www.mrs.org/congressional-fellows.

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