



## INTERSECTIONS – ISSUE 4

Welcome to our Fall 2011 Newsletter! During the past three months, Washington, DC has experienced tumultuous events that will shape the national economy and federal support for science for years to come. The MRS Government Affairs Committee aims to understand the changing policy environment and its impact on materials research. This quarter the Committee continued to monitor changes affecting R&D policies, organized and facilitated a federal government agency leadership summit, and coordinated a letter-writing campaign online. Other recent activities include launching a new round of competition for Congressional Science and Engineering Fellows. MRS is working hard to make sure that the materials research community is being heard and that it has input in developing effective government policy for support of materials science. Here is the latest news.

### What's Happening in Washington

*Ronald L. Kelley, MRS Washington Consultant*



Debt reduction and reduced spending have been the focus in the past months and will continue to dominate the Washington legislative agenda throughout the year.

As everyone knows, the President personally worked with the senior Senate and House leadership in both parties in the months prior to our August recess to complete a debt ceiling authorization and concurrent spending reduction plan. For many weeks it appeared that no agreement would be reached, but in the final days a 10-year \$1.0T reduction was agreed to and passed. The initial impact will be to slow spending in most federal accounts. Future debt ceiling or borrowing increases will be based on the second portion of the agreement which requires lawmakers to find additional revenue and spending reductions that will achieve at a minimum another \$1.5T of savings. A new Special Committee of twelve was established by Congress - from both House and Senate Members with an equal number of Democrat and Republican representatives - to make recommendations for the second phase of this agreement. Entitlement programs, taxes, spending, etc. will all be considered in the next two months for inclusion in the recommendations from this Committee. August experienced financial markets reacting very unfavorably to the relatively small size of the final agreement as well as the delay and public discourse between the two parties accompanying this agreement. Public opinion polls currently indicate that these negative reactions by Americans will have impact beyond this year for many elected officials.

The House of Representatives has completed about half of their 12 appropriation bills, and it became clear that the Republican majority party would continue to propose and pass significantly altered bills from the White House budget for FY2012. While science and research funding for our community has been a high priority for increases in budget, the ability to simply hold FY2011 levels was viewed as a good and realistic outcome in appropriations. We have not seen any final bills because the Senate has chosen to substantially lag behind the House timing with their appropriation bills. Initial results for DOE Office of Science and the NSF bills in Senate appropriation subcommittees show support and encouragement for the research budgets but again at levels that are close to or identical to FY2011. No one is expecting the fiscal year to end on September 30 with final budgets so a continuing resolution ("CR") will be needed to extend the decisions until Congress can complete all bills. CRs will be issued for a few weeks or months to ensure continuity of government, but again at a level that is based on FY2011. Unfortunately, these missed legislative deadlines and associated CRs are becoming the norm.

MRS advocacy activities with Materials Voice letter writing and planned Congressional visits will focus on preserving as much priority as possible for research, but we are aware of the importance of recognizing that the country is facing a long-term debt obligation that must also be addressed. The Special Committee established by Congress will be getting a lot of lobbying attention, but all Members of Congress need to hear from their constituents about the importance of smart investments, including scientific research for economic growth, defense, and health.

The White House recognizes and has now even acknowledged that with the budget realities being what they are, they have to adjust their expectations for final appropriations. However, it is encouraging to know that they will continue to stress the importance of research, education, and even new initiatives that positively impact the materials science community. As an example, during the summer the President initiated a new program focused on advanced manufacturing and specifically containing a component that highlights programs in computational materials, software, and equipment to accelerate materials research to application and usage. The program is entitled the Materials Genome Initiative ([MGI](#)). A joint TMS/MRS luncheon was held on Capitol Hill in August to highlight some of the benefits of pursuing this specific area of federal research. We will have a forum on the MGI at the Fall Meeting, which will be discussed below.

While we are more than a full year away from next year's elections, it is clear that too many decisions or debates are being filtered by the political agendas of the two parties. MRS works very hard to appeal to both sides of the aisles as we make our case for the importance of materials research and support for federal funding of the physical sciences.

If anyone is interested in learning more about the budget details and specifically the materials science component of the FY2012 President's budget request or the recent debt reduction agreement, please contact me at our Washington, DC office at (202) 256-5211.

## MRS Congressional Science and Engineering Fellowship Update

Every September signals the start of a new cohort of science policy fellows in Washington, D.C. The Congressional Fellowship is an important component of the Government Affairs Committee's programs, offering scientists the opportunity to learn about the science policy process first hand by working as science advisers in Congress. The program is a unique educational opportunity for the fellows and enables MRS to provide key technical expertise to policy makers. This year we are excited to have two outstanding new additions to the ranks of the MRS Congressional Science and Engineering Fellows.

The two 2011-2012 fellows, Laura Povlich and Jennifer Nekuda-Malik, have recently completed the science policy orientation program administered by the AAAS and are currently in the placement process to identify the Congressional office they will work in for the coming year. They could end up as legislative aides in personal offices or committee staffs in either the House of Representatives or in the Senate. Each year the demand for science fellows grows, demonstrating the value that our scientists add to Congressional offices.

Laura Povlich is the 2011-2012 MRS/OSA Congressional Science and Engineering Fellow. Laura recently earned her PhD in Macromolecular Science and Engineering from the University of Michigan. Laura's dissertation research was focused on conducting polymers to interface neural prosthetic devices with nervous tissue.

Jennifer Nekuda-Malik is the 2011-2012 MRS/TMS Congressional Science and Engineering Fellow. Jennifer earned her doctorate from the Colorado School of Mines and a postdoctoral fellowship at the Imperial College London. Her expertise includes copper-indium-gallium-diselenide (CIGS) photovoltaics and hybrid (organic-inorganic) and organic materials for electronic applications.

As we transition to the new fellowship year, it's always interesting to see what kind of positions our outgoing fellows move on to. Our 2010-2011 MRS/OSA Fellow, Ashley White, completed her fellowship in the office of Senator Al Franken working on education policy. She was offered and accepted an AAAS fellowship in the executive branch and is placed in the National Science Foundation's Division of Materials Research. Ashley has recently joined the GAC, and we look forward to her future involvement with the MRS! The Fellowship Subcommittee collected data earlier this year from all of our former

fellows on all the positions they held after completing their fellowships. Scientists considering applying for the program often ask what kinds of jobs they could compete for after the fellowship, so this should be a useful tool to recruit new applicants. Look for that table to be posted soon to the Congressional Fellowship [webpage](#).

Although we are just welcoming our new fellows, the GAC has already been hard at work developing the new call for applications for the 2012-2013 fellowships. For those of you, who know possible candidates for 2012, please note that the application process officially opened on September 1<sup>st</sup> for the 2012-2013 fellowships. Information can be found on the MRS Congressional Fellowship [webpage](#) with an application deadline of January 6, 2012, and there will be an information session at the Fall 2011 MRS meeting so I hope to see you there!

## Congressional Fellows Corner

Photo: Dr. Ashley White with Senator Al Franken



In this issue, we interview Ashley White, the 2010-2011 MRS/OSA (The Optical Society) Congressional Fellow, about her time working in the United States Senate. Ashley received her B.S. from Virginia Tech in 2005 and her Ph.D. in Materials Science from the University of Cambridge in 2010. Afterwards, she entered the complex and fascinating world of science policy in Washington, DC. Currently, Ashley also serves as part of the Congressional Fellows subcommittee, which chooses new fellows and maintains an (informal) alumni network of fellows. More information about applying for a Congressional Fellowship is available at the [webpage](#).

**When were you a Congressional Fellow and in which office did you work? What kind of work did you do prior to coming to DC?**

I served as the MRS-OSA Congressional Fellow from September 2010 to August 2011, during which I worked for Sen. Al Franken (D-MN) on education policy. Before coming to D.C., I spent five years at the University of Cambridge doing my Ph.D. and postdoctoral work in biomaterials.

**How did you enjoy your time on Capitol Hill?**

I enjoyed it a lot. Working on Capitol Hill was very different from my experience in academia. Things move on a much shorter timeline in Congress, so you can often see more immediate results from your work. I was very lucky to work in a great office that really appreciates the fellowship program and the learning priorities of fellows, and works hard to mentor fellows and make them a part of the team. Since a large focus of the Health, Education, Labor, and Pensions Committee the last year has been to work towards reauthorization of the No Child Left Behind Act, this was a good time to work on education policy, in particular, and to experience a large range of the legislative process.

**What would you say was your biggest accomplishment from your time as an MRS fellow?**

The project I was involved in most heavily was drafting legislation on science, technology, engineering, and math (STEM) education. Sen. Franken was interested in improving STEM education, and so I had the opportunity to meet with Dept. of Education and White House officials to discuss ideas for legislation and then to develop one idea - the STEM Master Teacher Corps - into a bill. Sen. Franken introduced the STEM Master Teacher Corps Act in early April, and I helped garner cosponsors and endorsements for the bill. The office is currently working to negotiate including the proposal in a Senate version of the No Child Left Behind reauthorization bill.

**Is being a staffer/fellow the job you thought of when you applied? What was your biggest surprise?**

I honestly didn't have a good idea of what being a staffer on the Hill entailed, which was a large part of why I applied for the fellowship in the first place. I'd taken high school government, but what goes on behind the scenes bears little resemblance

to the fairly straightforward legislative process described in a textbook. There's also so much more going on than what comes out in the media. Through the fellowship, I came to have a much better appreciation of the role that the staff play and for the incredibly difficult and demanding job that the members of Congress themselves have.

### **What are you doing now? How has your time as an MRS fellow influenced your current job?**

I've just started a position as an AAAS Science and Technology Policy Fellow at the National Science Foundation in the Division of Materials Research. Through the Congressional Fellowship program, I became familiar with the executive branch fellowships that the AAAS also administers. Over time, I found that I was interested in understanding better how the policy that Congress makes is enacted in the executive branch. I'm also looking forward to having the opportunity to use my technical background more heavily in implementing policy.

### **Do you think that Congress can find common ground on issues of importance to the Materials Community?**

Clearly this is a contentious time on the Hill, and it's proving difficult for Congress to find common ground on most issues. I do think that in these tough budgetary times, Congress is likely to continue to make cuts across the board, including to science research. However, I'm hopeful that issues like developing alternative energy technologies and improving STEM education will be prioritized and may suffer less than other areas.

## Government Agency Leadership Summit

On July 21, 2011, MRS in partnership with TMS hosted the second Government Agency Leadership Summit at the Executive Conference Center in Arlington, VA. Building on the agenda from the first meeting held in January 2010, this Summit was designed to bring together the materials leadership from a wide swath of Federal funding agencies and the leadership from materials societies to identify activities where the missions of the agencies and the societies can be mutually advanced. In all, there were representatives from the National Science Foundation, Department of Energy, Army Research Office, Office of Naval Research, Air Force Office of Scientific Research, National Institutes of Health and the NIST-Technology Innovation Program along with the leadership from the American Ceramic Society, ASM International, MRS and TMS in attendance.

Based on the output from the first Summit, several potential initiatives were identified, which led to the invited articles that are now appearing in Materials 360 on a monthly basis as well as similar publications for TMS and ACerS. The focus of this summer's meeting was to provide an update of where these initiatives had led and to determine additional areas for collaboration. One area of significant interest was the recent announcement of the multi-agency Materials Genome Initiative for Global Competitiveness (here is the [link](#) to the MGI document). This initiative is focused on shortening the time and difficulties associated with bringing newly developed materials into the commercial sector. Based on the outcome of this meeting, a session focused on the MGI will be held at the upcoming 2011 MRS Fall meeting during Symposium X. The talks on the MGI will be provided by some of the same Government Agency leaders that were involved in this workshop and will highlight the mission of the program, the opportunities it will provide and information for those wishing to participate. *This [MGI forum](#) will be held at noon on Monday, November 28.* Plans for a third Summit are currently being explored for January of next year, with subsequent meetings occurring on an annual basis. The Summit group outlined priority topics of interest for future discussions. For more information, please contact the chair of the Government Agency Subcommittee, Joshua Caldwell at [Caldwell.joshuad@gmail.com](mailto:Caldwell.joshuad@gmail.com).

## Government Affairs at the 2011 MRS Fall Meeting



**Materials Voice – Your Voice Resonating on Capitol Hill**

COMMUNICATING WITH POLICYMAKERS

At each Spring and Fall Meeting, the MRS Government Affairs Committee sets up the Materials Voice kiosk so that you can communicate directly with your legislators and the White House about initiatives and policies that are important to the Materials Research Community. This is a **very important** activity in a democratic society, as the Congress typically hears from many different constituencies. As the old adage goes “*The squeaky wheel gets the grease...*”

Typically, these issues range from funding, to the authorization of important bills, such as the America COMPETES Act to other issues, such as visa reform. In between meetings, we use the Materials Voice website to send letters more frequently and between meetings! Now is a **GREAT** time to send a letter to ensure that dollars for sustainable Basic Research Funding are considered and protected going into a possibly prolonged period of austerity.

Please take a moment to [write](#) your Legislators to defend Basic Research Funding going into the new Fiscal Year and with the Super Committee making recommendations about budget cuts around Thanksgiving. It takes **only 5 minutes** to do!!

The address is: <http://www.congressweb.com/cweb2/index.cfm/siteid/MRS>

## **Government Agency Presentations at the MRS Fall Meeting**

### MATERIALS GENOME INITIATIVE FORUM

An exciting [MGI forum](#) will be held as part of the 2011 MRS Fall Meeting Symposium X noon time series to inform members of a new \$100M Presidential Initiative in materials research. The forum will be held from 12:15 pm to 1:30 pm on Monday November 28 in the Sheraton Hotel Grand Ballroom. With advanced computation tools, MGI strives to accelerate development of new materials and related challenges via a multi-agency and multi institution program.

Administration leaders from OSTP, NSF, and DOE BES will participate in a panel session following opening remarks. Questions from the audience will be strongly encouraged as the goal of the forum is both to inform and to receive feedback on plans for the MGI. Although the MGI had previously been broadly announced, this forum represents a very early interaction between the materials community and involved agencies. The relationship between MGI and a larger Administration program announced in July, the Advanced Manufacturing Partnership, will be described.

Panelists include OSTP's Cyrus Wadia, NSF DMR Director Ian Robertson, and DOE Office of Science BES Director Harriet Kung. Immediately following the forum, a Q&A session will be held for invited press.

### MATERIALS RESEARCH PRIORITIES AND FUNDING OPPORTUNITIES

There will be several individual Government Agency presentations throughout the week detailing materials research priorities and funding opportunities. Agency participants include: Department of Energy/Office of Basic Energy Science, ONR Global Research, National Science Foundation/Division of Materials Research and National Institute of Health/NIBIB and, tentatively, the Defense Advanced Research Projects Agency (DARPA) and the Air Force Research Laboratory. These presentations cover topics ranging from the highlights of the upcoming year's key topics to tips and advice on grant proposal writing and submission is always of substantial member interest. In addition, members can take the opportunity to meet program managers for one-on-one conversations. While we advocate for more government support of basic science research, these sessions allow the MRS Government Affairs Committee to complete the circle by helping to insure that government support reaches the members we represent.

#### Currently scheduled talks include

Tuesday 11/29/11

6:00pm-6:45pm DOE/Office of Basic Energy Sciences

6:45pm-7:15pm ONR Global Research

7:30pm-8:15pm Awaiting confirmation from DARPA

Thursday 12/1/11

6:00pm-6:45pm NSF/Division of Materials Research

6:45pm-7:30pm National Institutes of Health/NIBIB

7:30pm-8:15pm Awaiting confirmation from AFRL

All to be held at the Sheraton Hotel.

## 2011 World Materials Summit III: Materials Research Enabling Clean Energy and a Sustainable Global Environment

The 2011 World Materials Summit will be held in Washington, DC, October 8-12, 2011 along with an associated international student workshop. WMS-III is hosted by the Materials Research Society and cosponsored by E-MRS and Chinese-MRS.

The World Materials Summit series convenes 100 scientists, entrepreneurs, and policy makers from all over the world to discuss priorities and commonalities in particular areas. The first Summit was hosted in Lisbon, Portugal in October 2007 on the topic of "Materials Research: Key to Meeting Energy Needs and Climate Change." The second Summit took place in Suzhou, China in October 2009 on "Materials Research: Key to Meeting Energy Needs and Climate Change."

Materials research and innovations are critical for meeting global energy and climate challenges. Clean water is both an energy and materials challenge in the US and worldwide. To fully address these challenges, the 2011 World Materials Summit builds on the two previous Summits to integrate the science, technology, and policy to support global demands.

As in past summits, recommendations will be compiled in a final report and summarized in a resolution. Here is a [link](#) to past reports/recommendations from previous summits. Keynote and plenary talks will address the present policy landscape, recent research achievements, and future materials needs for energy applications and their close relationship to clean water and sustainability.

Additionally, a Student Congress meets for the first time at WMS-III. The Congress of 50 students and postdocs selected competitively from an international call for applicants will also address the WMS topics.

Understanding and advancement of materials science and engineering provides the fundamental knowledge required for innovation and acceleration of new materials, with important, novel structures and related functions and properties to provide solutions to world-wide energy problems.

## FEEDBACK

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