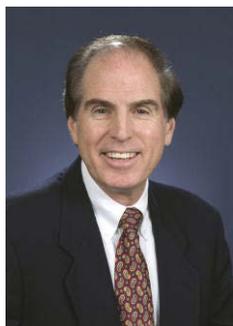




## FALL 2012 NEWSLETTER



**Leonard Brillson**  
 Editor, *INTERSECTIONS*  
 Member, Government Affairs Committee

Welcome to our Fall 2012 Newsletter!

As 2012 comes to a close with Congress and the President starting to address the looming threat of sequestration and funding of federal discretionary spending for the balance of FY2013, there is considerable uncertainty over support for science and technology and its impact on the scientific community. 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, coordinated online letter-writing campaigns supporting appropriations for key federal agencies that support scientific research and expressed concern regarding travel restrictions for government lab researchers, and welcomed our new Congressional Science and Engineering Fellows who will begin their work on Capitol Hill. This issue also contains a report on our latest Congressional Visits Day, an overview of the government agency invited talks at the 2012 MRS Fall Meeting, another value-added materials research story as well as an update on President Obama's Materials Genome Initiative, which offers major funding opportunities for materials researchers. MRS is working hard to make sure that the materials research community is heard and that it has input in developing effective government policy for support of materials science. Here is the latest news.

### GOVERNMENT AFFAIRS—A HECTIC 2012



**Nabil Bassim**  
 Chair, Government Affairs Committee

Greetings from your Government Affairs Committee Chair! 2012 is coming to an end, but the excitement is not stopping in regards to the goings on in Washington and by the MRS Advocacy effort. At the end of the year, it is always a wonderful opportunity to reflect on what has transpired and to prepare for the New Year. As of this writing, we are post-election, in the midst of a stare down between the two parties in DC over the so-called "fiscal cliff", which can control the trajectory of scientific research funding in profound ways. MRS is also planning for the New Year, with another round of Congressional Fellow interviews, a new Government Agency summit, a Spring CVD and the new political calendar just around the corner.

From the perspective of the Chair, I would like to commend the efforts of all of the volunteers on the Government Affairs Committee and the membership of MRS more broadly who have taken the time to become involved this year, whether they wrote a letter, participated in Congressional Visits Day, interacted on important projects, such as the Materials

Genome Initiative, or the Blue Ribbon Panel on Executive Branch appointments. The success of our efforts is not possible without the hard work of our society members! Thank you!

If you are interested in participating in the Government Affairs committee, you are most welcome. Please contact us through the [MRS feedback email](#). I wish you a happy holiday and wonderful New Year.

### WHAT'S HAPPENING IN WASHINGTON



**Ronald L. Kelley**  
 MRS Washington Consultant

Combining two appropriations challenges into one, Congress must decide in the next few weeks whether to stop automatic expenditure cuts (sequestration) which will take effect in January and determine how to proceed with funding for the second half of FY2013 for all federal discretionary spending. These challenges are both being evaluated at the same time that tax cuts and selective increase proposals are being considered. The negotiations between the White House and the Congress will continue through the end of the calendar year. The public expects

action from our elected leaders, but the outcome of these debates is not certain at the time of this publication.

After a very protracted election season, leadership in both the House and Senate stays the same for the majority control and President Obama retains the White House. The House will be controlled by Republicans and the Senate controlled by Democrats. There are 90 new Members of Congress starting in January. Over the past two years we now have approximately one fourth of the Congress who are considered as new Members. Only a minor number of leadership changes occurred in either party. The House Science Committee will have a substantial turnover with one third new Members assigned next year. The new chair for this House Science Committee is Rep. Lamar Smith (R-TX), formerly chair of Judiciary Committee.

Federal employee travel restrictions to major conferences have become an important new issue for the Materials Research Society. New OMB regulations and similar legislative proposals can negatively impact this important community for MRS programs and overall quality of meetings. We expect this topic to be an important priority in the coming year, and are working in coalition with some of the largest scientific societies in Washington to enhance our advocacy.

Although progress is being made on energy critical elements, additional legislative action will still be required in 2013 to complete the work started on both helium and critical minerals and materials. Major programs are now being supported in DOE for energy critical elements. MRS has been very active in this topic area. Our Government Affairs Committee has also been supporting the continued evolution of the Administration's new program to accelerate materials by design, i.e. MGI - Materials Genome Initiative.

Plans for FY2014 budgets in the White House are also underway and will be formally proposed by the Administration in early 2013. We anticipate threats and real reductions in federal funding will continue to be a challenge for our advocacy work as the U.S. addresses restoration of the economy. Scientific research, education, and energy will continue to be high priority in the initial proposals to Congress.

The following reports and articles are relevant to federal investment that impacts the materials research community:

President's Council of Advisors on Science and Technology (PCAST) report, [Transformation and Opportunity: The Future of the U.S. Research Enterprise](#). The report recommends an increased and more stable federal investment in R&D, as well as policy recommendations to encourage industry investment in R&D, improve STEM education, and encourage foreign talent to contribute to the nation's innovation system.

The Innovation Technology & Innovation Foundation, [Eroding Our Foundation: Sequestration, R&D, Innovation and U.S.](#)

[Economic Growth](#). Because of the Budget Control Act, budget enforcement procedures known as sequestration will commence January, 2013 unless Congress and the Obama Administration act otherwise. The sequester requires cuts in discretionary spending to achieve \$1.2 trillion in savings from 2013- 2021.

AAAS Briefing - House R&D Caucus - November 14, 2012 - Impact of Sequestration, [Sequestration Budget Cuts Would Cripple U.S. Scientific Progress, Experts Warn](#). Orlando Auciello, Vice President of MRS, was one of the speakers at this Congressional briefing.

Science Progress article. [What the fiscal showdown means for science](#). This article describes the impact of sequestration by specific federal agencies.

Science Works for Us, [Web site of Science Coalition](#). This article describes the impact of sequestration by specific state.

## WINTER CAROLING OUR MATERIALS VOICES



**Tabbetha Dobbins**  
Chair, Grassroots Subcommittee

Hello and Season's Greetings, MRS Membership! As the Grassroots subcommittee wraps up a very active year, I am excited to tell you about the latest activity in Materials Voice aimed at bringing our concerns to Washington, DC. The subcommittee prepared two Public Affairs Alerts (issued in November 2012), which were aimed at "Sequestration" (now termed the "Fiscal Cliff") and "OMB Travel Restrictions for federal employees."

In the "Sequestration" letter, we ask for support of the budgets for FY2013 for scientific research appropriations at: National Science Foundation (NSF), Department of Energy (DOE) Office of Science, Department of Defense (DOD) Basic Research, and National Institute of Standards and Technology (NIST). Supporting these FY2013 budgets will prevent across the board spending cuts of the Budget Control Act of 2011 from devastating our federal R&D budget.

In the "OMB Travel Restrictions" letter, we ask the White House and our Representatives to consider and monitor the implementation and impact OMB travel restrictions will have on the national research enterprise and our innovation-based economy before passing these proposed initiatives. Onerous travel restrictions may have unintended consequences in preventing travel to conferences, such as the MRS Fall and Spring Meetings, for scientists from national laboratories, and may also limit their travel to other laboratories for performing research.

To date, 763 "Sequestration" letters have been sent by 189 concerned individuals and 694 "OMB Travel" letters have

been sent by 172 concerned individuals. Many of these letters were sent from the MRS Fall Meeting (~463 "Sequestration" letters by ~118 Meeting attendees; ~433 "OMB Travel" letters by ~110 Meeting attendees). We have to thank the *seven* kiosk student volunteers (Siddharth Gopal, Vineeth Patil, Gaurav Tulsyan, Anastasia Iefanova, Venkata Manthina, Benjamin Sloan, and Rui Li) for their hard work and efforts. These are the beginnings of the type of effort that we need in order to make a unified and impactful statement to Washington.

I ask you to please take time to log in to Materials Voice at [www.mrs.org/materials-voice](http://www.mrs.org/materials-voice) and send these letters to the Whitehouse and to your House and Senate offices. It takes fewer than 5 minutes to engage in this important civic duty. Please also spread the word to your friends, family, and co-workers to log in to the [advocacy website](#) and send letters. Also, if you know students who will attend the 2013 MRS Spring Meeting, please encourage them to serve in this very important role as a Materials Voice Kiosk assistant. I hope that you continue to follow (and help publicize) our Grassroots Subcommittee initiatives on social media.

As we bring 2012 to a close, I look back on a very active year and I wish to thank each of the Grassroots Subcommittee members for all of the time and effort that they contributed into attaining this year's productive ends. Let's all look forward to a vibrant and exciting 2013!

## MRS CONGRESSIONAL SCIENCE & ENGINEERING FELLOWSHIP CORNER



**Kevin Whittlesey**  
*Chair, Fellowship Subcommittee*

The 2012 MRS Fall Meeting provided an opportunity to highlight the MRS Congressional Science & Engineering Fellowship Program and the unique opportunity that it provides to the MRS community. We welcomed our newly placed 2012-2013 Fellows, who were officially announced to the Society by incoming MRS President

Orlando Auciello at the plenary session.



**Mirvat Abdelhaq** (pictured bottom left), the 2012-2013 MRS/OSA Congressional Fellow, is conducting her fellowship term in the office of Senator Jeff Merkley (D-OR).



**Andrew Steigerwald** (pictured above), the 2012-2013 MRS/TMS Congressional Fellow, is working in the office of Senator Sherrod Brown (D-OH). The Fellows received plaques recognizing their contributions from Auciello at the Government Affairs Committee (GAC) meeting.

In addition to being provided with opportunities to attend a range of sessions and activities at the 2012 MRS Fall Meeting, Mirvat and Andrew both attended the GAC meeting to gain some insight into the GAC activities and share their experiences from the first few months of the program. Both Fellows clearly expressed their enthusiasm for the program and the unique opportunity that it provides to scientists. The Fellows agreed the two week orientation program administered by AAAS was invaluable to their transition to Washington, DC. They also shared their experiences from the placement interview process which led to the selection of their respective Fellowship offices in the U.S. Senate. For more information on our current Fellows, their bios are available on the [MRS website](#).

The Fellowship program conducted a number of outreach efforts at the Fall Meeting. Similar to a session that was piloted at the 2011 MRS Fall Meeting, the Fellowship Subcommittee coordinated an information session to provide potential applicants with an opportunity to learn about the Congressional Fellowship program first hand from current and former Fellows. In addition to our two current Fellows, panelists included Ashley White and Kevin Whittlesey. The presentation and panel discussion was attended by a number of very engaged potential applicants leading to a lively question and answer period. Feedback has been sufficiently positive that I expect this outreach effort will continue at future MRS Meetings. Additionally, former Fellows Kevin Whittlesey and Ashley White attended the University Chapter Representatives Luncheon and the Women in Materials Science & Engineering Breakfast to share information about the Congressional Fellowship program.

Applications for the 2013-2014 Fellowship term are currently being accepted, with a deadline of **January 4, 2013**. In the coming months look for updates from our current Fellows!

## CONGRESSIONAL VISIT DAY, FALL 2012



**Linda Olafsen**  
*Chair, Congressional Visits Subcommittee*

The MRS Congressional Visits Day (CVD) Subcommittee organized a very productive and successful visit to Washington, DC on September 19. Six members of the Board of Directors—Bruce Clemens (President), Orlando Auciello (Vice President), Sean Hearne (Secretary), Shenda Baker (Director), Oliver Kraft (Director), and Todd Osman (Executive Director)—and MRS Director of Communications, Eileen Novak, joined four members from GAC leadership (Nabil Bassim, Josh Caldwell, Ron Kelley, and Linda Olafsen). The four first-time participants jumped right in and broadly contributed to the visits. Our group constituted four teams that visited seven states (California, Illinois, Maryland, New Mexico, Pennsylvania, Texas, Virginia). Oliver Kraft from Karlsruhe Institute of Technology in Germany joined the California team and was able to lend a global perspective to the discussions, particularly regarding the effects of reduced research funding and the long recovery following the fall of the Berlin Wall. While he was not a constituent for any of the meetings, his team did visit the office of Representative Elijah Cummings, as Oliver has collaborators at Johns Hopkins University which is located in Representative Cummings' district. In addition to the typical visits to the offices of Senators and Representatives, there were meetings with several former MRS Congressional fellows as well as with members of the House Science Committee. While most meetings were with legislative staff, Orlando Auciello and Linda Olafsen had the opportunity to meet with Representatives Judy Biggert (IL), Bill Flores (TX), and Randy Hultgren (IL), while there were brief meetings and photo opportunities with Senators Barbara Boxer (CA) and Tom Udall (NM).



*Senator Tom Udall (left) and Sean Hearne*

This event provided members of the MRS Board of Directors, including the Presidential Line, with new perspective on the activities of the GAC and the CVD subcommittee. Eileen Novak also commented on the perspective that the day of visits provided for her daily job, and she will encourage the participation of other members of her staff at MRS Headquarters. Discussions with Congressional members and their staff focused on the topics of sequestration and the second half of the FY2013 budget. Participants encouraged members to keep funding of basic research through NSF, NIST, DOE Office of Basic Sciences and DOD Basic Research as a priority, and they discussed the consequences of budget cuts if sequestration is enacted as currently legislated. The consensus of the visits was that Congressional members do not want to see the sequestration go through in its present form, but there will not be any action on it until after the election. The ultimate outcome is expected to depend strongly on the results of the election. While some offices encouraged us to prepare for possible cuts, others offered some hope of flat funding levels. That said, the outcome is to be determined, and participants made their voices heard regarding the value of basic research funding for innovation, education, and the nation's economic wellbeing.

Participants enjoyed and were able to effectively use the leave-behind documents, including a newly developed one-pager on Return on Investment and a recently published brochure by the Task Force on American Innovation (of which MRS is a member). The CVD Subcommittee has devoted considerable effort to selecting and developing documentation to be shared with members of Congress and their staff. The committee works to balance a broad selection of information with enough specifics that reinforce the request, while doing so in an attractive format that does not overwhelm the recipient. Meeting participants familiarize themselves with these documents before their meetings to they can point to specific examples that match the interests of the member or that arise spontaneously in the discussion during the visit.



*September CVD Visitors from left to right: Josh Caldwell, Bruce Clemens, Shenda Baker, Oliver Kraft, Linda Olafsen, Orlando Auciello, Eileen Novak, and Todd Osman*

The next Congressional Visits Day is scheduled for March 12-13, 2013, and the CVD Subcommittee is actively preparing for that event.

## 2012 MRS FALL MEETING GOVERNMENT AGENCY TALKS—SOMETHING FOR EVERYONE



**Joshua D. Caldwell**  
*Chair, Government Agency Subcommittee*

In the spirit of Thanksgiving, the Government Agency Subcommittee has continued its rich tradition in hosting invited talks from the leaders of the various Federal funding agencies at the 2012 MRS Fall Meeting. Hopefully, all of those members enjoyed and appreciated the talks as much as I did, but for those of you unable to attend, here is an overview of what you missed.

Over that past two years, our subcommittee has been making a concerted effort to expand the invitations to include not only the traditional U.S.-based funding agencies focused on fundamental science, but to include those focused on engineering and applied research and non-U.S.-based funders. In light of this, our first talk of the 2012 MRS Fall Meeting was given by Renzo Tomellini of the European Commission on Tuesday night. Specifically, Tomellini focused on the upcoming release of the [Horizon 2020](#) program, which was designed to fund scientific research in an effort to meet three primary goals for the EU; 1) invest in future jobs and economic growth, 2) improve the livelihood, safety and environment of the populace and 3) strengthen the EU position in research and innovation world-wide. For those interested in proposing research to the program, the primary criteria to propose excellent science with no limitations on research topics and researchers world-wide are eligible to participate.

This talk was followed by Ian Robertson of the Division of Materials Research within the National Science Foundation. Robertson highlighted the great number of programs, funding mechanisms and overall structure of [NSF/DMR](#). In addition to the large number of funding mechanisms that NSF provides through its single investigator, CAREER and instrument acquisition grants, Robertson highlighted three recently released calls for proposals. The first is the “[Designing Materials to Revolutionize and Engineer our Future](#),” designed to support the Obama Administration’s [Materials Genome Initiative](#), the [SusChEM](#) program (sustainability through chemistry), [Computational and Data-Driven Materials Research](#) (CDMR) is designed to meet the increasing needs of handling the large data sets. Finally, we would like to take this opportunity to thank Robertson for his service as the head of the NSF/DMR and wish him the best in his return to research at the University of Illinois and welcome Mary Galvin as the incoming head of DMR!

The Tuesday evening session was completed with a third and final talk from Viktoria Greanya of the [Defense Threat Reduction Agency](#) (DTRA). For those unfamiliar with the

mission of DTRA, it is designed to develop science and technology associated with safeguarding the U.S. against weapons of mass destruction, from chemical and biological warfare agents, to explosive compounds to nuclear weaponry. Their efforts are focused both on basic research efforts all the way up to completing the final missing pieces of work required to move a technology out into the field. As an example, she highlighted the [NATV](#) program, which is exploring methods for providing a protective ‘second skin’ for troops in the field to detect and therapeutically respond to a time critical threat. Greanya stated that the three avenues for applying to funding are either through providing a white paper under their core program solicitation, obtaining smaller, short-term funding through their SEED program or through initiating a focused innovative technology (FIT) program.

The stimulating discussion was continued on Thursday, starting with the head of [Basic Energy Sciences](#) at the Department of Energy, Harriet Kung. Kung highlighted the many exciting programs available through DOE/BES, starting with the various single and multiple investigator grant mechanisms and then describing some of the newer methods, including the energy frontier research centers ([EFRCs](#)) and the [Energy Hubs](#). The EFRCs are designed, focused efforts from multiple investigators toward a new energy research avenue, while the Hubs are designed to be large, concerted efforts to solving some of the most difficult problems all the way from the fundamental science questions out to the industrial development and prototype demonstrations. Kung also touched on the significant efforts that DOE/BES is putting forth in support of the Materials Genome Initiative, in a direct partnership with the [Energy Efficiency Renewable Energy](#) (EERE) Division at DOE as well.

David Moehring of [Intelligence – Advanced Research Projects Agency](#) (IARPA) continued the trend of highly stimulating and insightful talks at this year’s Meeting. Moehring highlighted the many needs of the intelligence communities, such as quantum computation, developing techniques for verifying the integrity of integrated circuits for sensitive systems. While these don’t immediately demand materials research, he clearly illustrated the role that materials science and engineering plays, for instance, in the improvement of interfaces or surfaces that leads to a reduction in noise issues that plague qubits. Unlike many other agencies, IARPA is heavily driven by its program managers; and thus, it was advised that multidisciplinary teams contact the program managers or the office director to discuss their ideas.

Our final talk was given by Howard Branz of [Advanced Research Projects Agency – Energy](#) (ARPA-E). Branz stated that their approach is to support transformative and disruptive technologies in such a way as to provide the potential for entirely new approaches to solving energy related problems. It is imperative that such efforts can be developed and transitioned to industry or venture capitalist funding within a 2-3 year time-frame and have a high

potential impact, for instance 0.1-1% of the energy market. Their model calls for an extremely aggressive and flexible funding mechanism in which a kernel of an idea is formulated into a funded program in a 6-9 month window. This is designed to enable a high impact to be achieved in a very short time.

The Government Agency Subcommittee is looking to continue to expand its efforts through the continuation of the invited articles in *Materials 360* from the Federal Funding Agencies and hopefully some exciting changes in the format of the government agency invited talks. **Should you be interested in helping the subcommittee** in these efforts by volunteering, please contact me ([joshua.caldwell@nrl.navy.mil](mailto:joshua.caldwell@nrl.navy.mil))! Thanks and see you all at the 2013 MRS Spring Meeting in April!

## UPDATE ON THE MATERIALS GENOME INITIATIVE



**Ashley White**  
AAAS 2011-2013 Science &  
Technology Policy Fellow

Eighteen months have passed since President Obama announced the Materials Genome Initiative (MGI), which aims to accelerate materials research and deployment and reduce the cost of bringing new materials from the laboratory to the marketplace. Specifically, the initiative seeks to invest in research that more closely and iteratively combines computational tools, experimental tools, and digital data through a so-called Materials Innovation Infrastructure.

The federal government, including the Department of Defense, the Department of Energy (DOE), the National Science Foundation (NSF), and the National Institute of Standards and Technology (NIST), invested more than \$60 million in the initiative in FY2012. Most recently, [the DOE announced \\$13.5 million in research grants to support MGI and an additional \\$8 million in FY2012 specifically to support research for lightweight vehicles](#). This past October, [NSF announced \\$12 million in research grants for FY2012 for the Designing Materials to Revolutionize and Engineer our Future \(DMREF\) program](#).

Additionally, in November NIST published a report from their May 2012 workshop, [Building the Materials Innovation Infrastructure: Data and Standards](#). The report identifies several key challenges related to data and standards that must be overcome to successfully achieve MGI's goals.

The federal government has requested approximately \$100 million in funds for FY2013 across participating agencies to support MGI. Earlier this month, [NSF issued a Dear Colleague Letter with information about the FY2013 grant proposal window for DMREF](#). In particular, the number of NSF divisions participating in DMREF has increased significantly this year, and the foundation has requested \$35 million for FY2013 to

support the DMREF activity. Further details on the DMREF awards for FY2012 and the upcoming FY2013 grant proposal window can be found in the current issue of [Materials 360](#) published on December 11.

For more information on MGI activities across the government and beyond, including news and announcements, federal programs, and external stakeholder activities, please visit [www.whitehouse.gov/mgi](http://www.whitehouse.gov/mgi).

## A VALUE-ADDED MATERIALS RESEARCH STORY: NOVEL COMPOSITES IMPROVED FUSING COMPONENT LIFE IN XEROX PRINTERS

**Santokh Badesha**  
Xerox Corporation Fellow



Investments in materials research can yield valuable intellectual properties, but they can also seed new businesses. To illustrate this is a story that shows how an investment in the research of new materials with multi-functional properties led to the design of xerographic devices that provide predictable, consistent and stable performance. This effort, which solved a significant challenge for Xerox, its customers and the printing industry in general, yielded materials that enabled the development of new components that, in turn, improved machine system performance as measured by reliability, cost, downtime, and recycling. In xerographic printing, the last key step is the fixing of colored particles to paper (or other substrate) surface. This is accomplished by using rolls to fuse the particles together and also to the paper surface in a heated pressure nip. Materials science is critical to toner formulation and fuser component surface design. The design must provide the right color and enable not only fusing but electrostatic transfer of the particles from surface to surface as the image is first developed and transferred to paper. Fuser rolls have a low surface energy coating (usually hydrofluoropolymers and/or silicones), and are additionally coated by a release fluid (functional and nonfunctional polydimethylsiloxanes). The evolution of printing from black to color and the increase in printing speeds made a significant impact on fuser rolls: using temperatures increased; energy consumption increased; fuser roll cost increased and fuser roll life decreased. The surfaces of fusing rolls typically exhibited functional lives in the range of a few hundred thousand cycles. To extend this functionality, Xerox set out to develop an improved fuser roll surface coating.

Hydrofluoropolymers have the advantage of longer life due to their toughness, but their ability to release the paper moving across the roll was inadequate. On the other hand, silicones have great release characteristics due to their compatibility with polydimethylsiloxanes release fluids, but component life is short due to swelling, dimension changes, and surface degradation. With this in mind, Xerox researchers set out to

identify a way to combine these two dissimilar materials. The thought was that through a new polymer–polymer composite, researchers could obtain the most desirable properties of each. Early attempts in academic and industrial labs using known blending, compatibilization, and hybridization techniques did not yield stable material due to the vastly dissimilar nature of these polymers, generally resulting in phase separation. To overcome these challenges, Santokh Badesha and his colleagues developed a sol–gel process to enable a series of new, high temperature network materials via first dehydrofluorination to create unsaturation in hydrofluoropolymers followed by addition and condensation reactions. Using these chemical methodologies, they discovered that sol–gel methodology could be used not only to graft a thin layer of siloxanes on the surface of a fluoropolymer, but also to make stable and practical composite networks of these dissimilar polymers. The work further led to the discovery that addition of silica and titanium networks within the backbone of the base polymer would produce more durable, high temperature performance polymer networks. (S.S. Badesha, J.A. Swift / Surf. Sci. 500, 1024 (2002)) The next challenge was to commercialize the process, and incorporate the new fuser rolls into the complex

and interactive xerographic printing process. Santokh met these challenges by forming a multi-organizational team including an external material manufacturing partner. To date, the use of this innovative Si-fluoroelastomer network polymer in these applications has increased components' lives to well over 10 million cycles (> 20X improvement), and has enabled simpler fuser roll designs. This resulted in significant savings for Xerox and its customers, and also reduced the environmental impact. While Xerox will not disclose the ultimate savings, it is estimated to exceed tens of millions of dollars. Santokh's team was recognized by the Xerox's senior management for excellence and presented the President's Award for innovative materials design. Santokh himself has over 180 U.S. Patents and accompanied the Xerox CEO to receive the National Medal of Technology at the White House in 2007. Xerox continues to explore potential applications of this strategic materials platform, not only for new printing concepts, but also for anticorrosive coatings for ships, for seals and gaskets for automotive engines and gas drilling equipment, and for sealants for aircraft fuel tanks.

## FEEDBACK

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