

## What's happening in the CSN?

January 31, 2019

Volume 4, Issue 3



"It's cold enough to freeze your Winnebago!"

### Celebrations

#### Welcome to New CSN Members

The CSN welcomes incoming graduate students **Mahima Unnikirshnan** (Murphy group), **Tana O'Keefe** (Haynes group), **Shreyasi Sengupta** (Rosenzweig group), **Katie Kruszynski** (Hamers group), and **Yinhan Wang** (Hernandez group).

We also welcome **Dr. Feifei Zhu**, a new research scientist in **Erin Carlson's** group and **Chaoxiu Ren**, a visiting grad student from Nankai University in **Joel Pedersen's** group. Finally, welcome back **Nikki Hoang**, who officially "rejoined" the CSN as a graduate student (Murphy group) after working in **Vivian Feng's** group as an undergrad.



**Top:** Mahima, Tana, Shreyasi. **Middle:** Katie, Yinhan, Feifei. **Bottom:** Chaoxiu, Nikki



#### CSN Affiliates

We are happy to announce that **Silvia Balbo** (University of Minnesota), **Wade Elmer** (Connecticut Agricultural Experiment Station), and **Nadine Kabengi** (Georgia State University) have all accepted our invitation to become formal CSN Affiliates. They join **Mike Curry**, who will continue working with the center as a CSN Affiliate.



## Good News!

Congratulations to **Dr. Joseph Buchman (Haynes group)**, who successfully defended his thesis, entitled "An Investigation of Nanoparticle Toxicity Mechanisms against Environmentally Relevant Bacteria and the Potential for Sustainable Agriculture Applications," on Dec 18th!



Joe and Christy



Christy and Sunipa

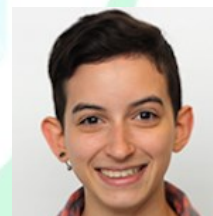
**Dr. Sunipa Pramanik (Haynes group)** successfully defended her thesis on December 20th. Her thesis was entitled "Interactions of Semiconductor Nanoparticles with Environmentally Relevant Bacteria Model." Congratulations, Sunipa! Sunipa will be at the University of Minnesota until the end of March, and then she will start her new position as science advisor for Environmental Health & Safety at Columbia University.

Congratulations to **Pratik Goswami (Carlson group)** for his new position as a Field Application Scientist at Precision NanoSystems.



## Milestones and Awards

**Liz Laudadio (Hamers group)** received the UW-Madison Department of Chemistry Graduate Student Faculty Liaison Committee Travel Grant to help fund her trip to ACS Orlando, where she will give an oral research presentation in the LGBTQ+ Graduate Student and Postdoctoral Scholar Research Symposium. The chemistry department has also shown support for the symposium through additional travel assistance for Liz.



**Becky Curtis (Klaper group)** won 1st place for her poster on LCO and NMC impacts on chironomids at the 2018 SNO conference.

Congratulations to **Xiaoxiao Yao (Haynes group)** for successfully completing her doctoral candidacy exam!





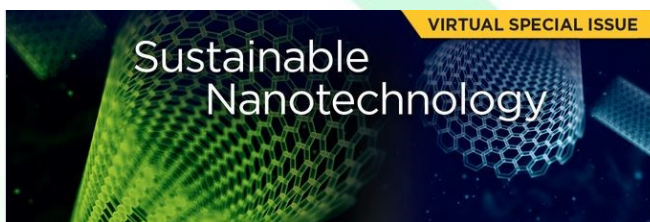




Diego Alzate-Sanchez, Yuhang Ling, Chenjun Li, Benjamin Frank, Reiner Bleher, D. Howard Fairbrother, Damian Helbling and William Dichtel (2018).  $\beta$ -Cyclodextrin Polymers on Microcrystalline Cellulose as a Granular Media for Organic Micropollutant Removal from Water. *ChemRxiv*, Preprint. Read the preprint online [here](#).

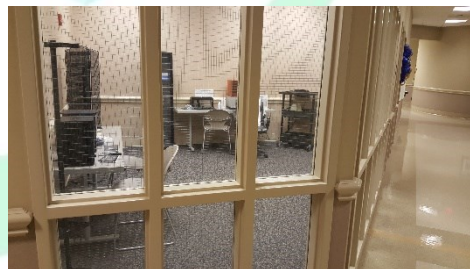
## CSN Research & Innovation Highlights

A recent CSN publication by Jaya Borgatta et al (*ACS Sustainable Chem. Eng.*, 2018, 6, 14847) was featured in a virtual issue of *ACS Sustainable Chemistry & Engineering*, entitled "Sustainable Nanotechnology". Read the whole virtual issue [here](#).



**Mike Curry** and **Donald White** were recently featured in The Plug Daily for their work developing cellulose-based biodegradable plastics. Read the full article, which discusses the CSN-funded project that led to the commercialization of the technology, how the first product was developed, and how legendary Tuskegee scientist George Washington Carver helped to inspire the work: "[The World Needed a New Biodegradable Plastic—We Discovered One at Tuskegee University.](#)"

**Mike Curry's** startup company, Eco-friendly Plastic Materials (EPM), now has office space and lab innovation space on the Stillman College



campus. Part of the company's mission is to push sustainability through increasing minority participation in innovation and entrepreneurship at HBCUs. EPM has joined forces with Stillman College to develop an Innovation Center that will be centralized on their campus. Stillman President Cynthia Warrick said, "Stillman College invited Dr. Michael Curry to locate Eco-friendly Plastic Materials, LLC. on our campus in 2018. Dr. Curry's innovative ideas and research foci are a welcome addition to our interest in Biochemical product research and development. We are looking forward to supporting Dr. Curry's efforts through our research alignments with the NSF-Funded CASL program and other grant programs with the DoD and industry."



## Did You Know?



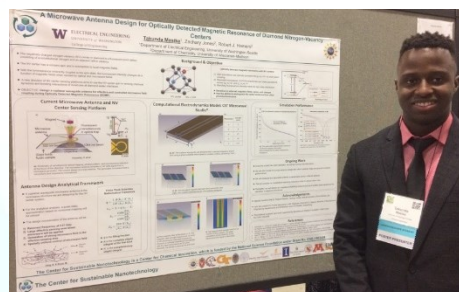
Many of you may already be aware that we have an Instagram account: [@sustainablenano](https://www.instagram.com/sustainablenano). **Zack Jones** (Hamers group) is looking for images of SPRINGers, faculty, and staff doing work related to the Center and public-friendly research (the higher the quality of images the better). If you have any pictures you'd like posted please send them with a brief description to Zack ([zjones2@wisc.edu](mailto:zjones2@wisc.edu)). Thanks!

2019 is the International Year of the Periodic Table! There's tons of great stuff to read out there, but here are just a few links to get you started for #IYPT2019:

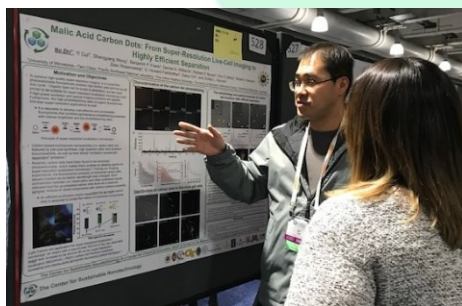
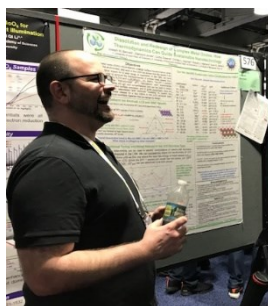
- [The periodic table is 150 – but it could have looked very different](#) by Mark Lorch at The Conversation
- [The periodic table is an icon. But chemists still can't agree on how to arrange it](#) by Sam Lemonick in C&E News
- C&E News is also hosting an [“I Spy a Periodic Table” photo contest](#)

## CSN Talks and Presentations

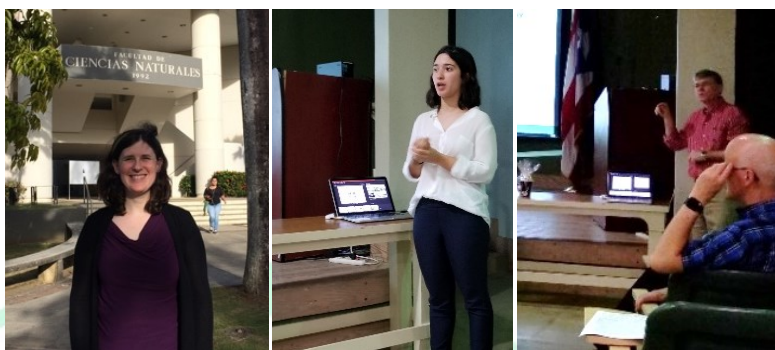
2018 REV student **Takunda Masike** (Hamers lab) presented a poster at the SACNAS conference in San Antonio in October: “A Microwave Antenna Design for Optically Detected Magnetic Resistance of Diamond Nitrogen-Vacancy Centers.” Takunda received a SACNAS travel scholarship to attend the conference and present his CSN research.



**Joe Bennett** (Mason group, far left) and **Bo Zhi** (Haynes group, second from left) both presented posters at the Materials Research Society (MRS) conference. Joe's poster was “Dissolution and redesign of complex metal oxides: How thermodynamics can guide sustainable nanotechnology,” and Bo's was “Malic Acid Carbon Dots: From Super-Resolution Live-Cell Imaging to Highly Efficient Separation.” **Bob Hamers** (second from right) and **Cathy Murphy** (far right) were also spotted pontificating at the MRS!







Miriam (above left) in front of the UPR-Rio Piedras Natural Sciences building; CSN REU alum Zulmari Silva (middle) introducing Bob at UPR-Cayey; Bob (right) recruiting summer undergraduates at UPR-Cayey.

Sara Mason's Tweet during her recent visit to UPR-Cayey.

**Sara Mason** visited the University of Puerto Rico (UPR) at Cayey, where she met with collaborators, talked CSN research, and gave an invited presentation at the 3<sup>rd</sup> Annual RISE symposium (see her Tweet above).

**Bob Hamers, Mike Schwartz, and Miriam Krause** also visited UPR (on a separate trip) to meet with collaborators and recruit undergraduate students for summer research (see pictures above). Bob presented CSN research to students at UPR-Cayey and UPR-Rio Piedras and Miriam conducted a science communication workshop for students at UPR-Rio Piedras.

**Jason White** attended the 2018 Sustainable Nanotechnology Organization (SNO) annual meeting in Arlington VA and gave a talk entitled "Engineered nanomaterials for the suppression of fungal and viral crop disease".

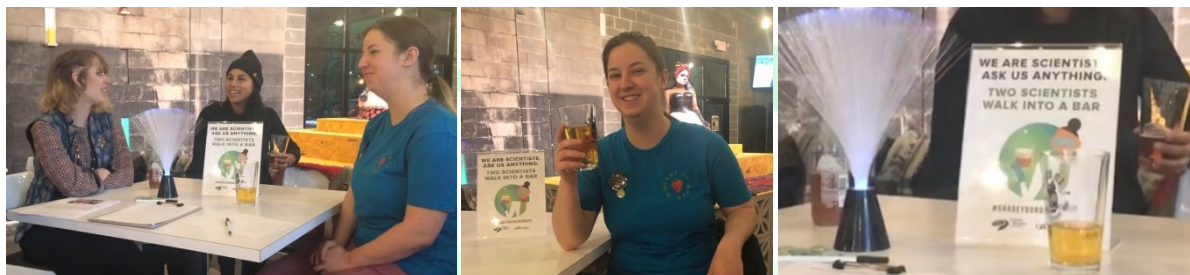
**Jason** also visited Washington, D.C., where he met with a variety of officials to discuss CSN research, including Dr. Scott Angle (the new Director of the USDA National Institute of Food and Agriculture (NIFA)), Dr. Hongda Chen (a USDA National Program Leader for nanotechnology programs), Dr. Lloyd Whitman (Principal Assistant Director of Physical Sciences and Engineering of the White House Office of Science and Technology (OSTP)), Dr. Charles R. Santerre (Senior Policy Advisor at OSTP), Dr. Lisa Friedersdorf (Director of the National Nanotechnology Coordination Office (NNCO)), and staff of Connecticut Senator Chris Murphy.



Photo by Jason White: View of the West Wing as you come down the Navy Steps of the Eisenhower Executive Office Building



**Natalie Hudson-Smith (Haynes group)** recently participated in an outreach event called “Two Scientists Walk Into a Bar...” hosted by the Science Museum of Minnesota at La Doña Cervecería, a new local brewery. During this event, Natalie and another scientist had to be ready to answer any science question posed by members of the general public. (photos by Becky Rodriguez)



## Latest from Sustainable Nano

See [sustainable-nano.com](http://sustainable-nano.com) for all the CSN blog posts and podcast episodes.

### CSN blog posts & podcast episodes since the last newsletter

- Nov 27: [Electrocutando un pepinillo: Demostración de conceptos importantes en la ciencia](#) (translation of “Electrocuting a Pickle: Demonstrating Major Concepts in Science” by Cathy Murphy)
- Nov 28: [Nano Textiles: the Fabric of the Future](#) by Izzy Foreman-Ortiz
- Nov 30: Podcast episode 28. [Who's Not In the Room and Why Not? Inclusivity and Bias Across Class Backgrounds in College Education](#) (interview with Alvin Chang)
- Dec 7: [What is aqua regia, and what makes it royal?](#) by Liz Laudadio
- [¿Un Ingeniero como Presidente?](#) (translation of “An Engineer as President??” by Joe Bennett)
- Dec 14: [Quantum Dots and Lipid Rafts: Analytical Chemistry Solves a Nanoscale Mystery](#) by Arielle Mensch (public-friendly article summary)
- Dec 20: [A Holiday Sustainable Nano Riddle: How does a polymer wrap around a nanoparticle? Like a ball of yarn, or like a bow on a gift box?](#) by Gene Chong (public-friendly article summary)
- Jan 9: Podcast episode 29. [Green is the Color of Chemistry](#) (interview with Mary Kirchhoff)
- Jan 10: [¿Cómo determinan los científicos la textura de las células?](#) (translation of “How do scientists determine the texture of cells?” by Arielle Mensch and Yi Cui)
- Jan 18: [Running towards a degree](#) by Christian Lochbaum
- Jan 25: [¡Nano en tus oídos! Nanotecnología y audición](#) (translation of “Nano in your ear! Nanotechnology and hearing” by Bob Hamers)
- Jan 25: [2018: Sustainable Nano Year in Review](#) by Miriam Krause





**Fun!**

**Current and former CSN researchers after Joe's thesis defense. (back L-R)** Bo Zhi, Peter Clement, Joe Buchman, Mike Schwartz, Nathan Klein.  
**(front L-R)** Merve Doğangün, Vivian Feng, Sunipa Pramanik, Miriam Krause, Christy Haynes, Natalie Hudson-Smith, Katie Landy, Bob Hamers



**Current and former CSN researchers after Sunipa's thesis defense. (L-R)** Miriam Krause, Christy Haynes, Sunipa Pramanik, Natalie Hudson-Smith, Xiaoxiao Yao, Joe Buchman.



**Hamers holiday party:**

**Back row (L-R):** Ben Bachman, Zack Jones (CSN), Zhifei Li, Rebeca Fernandez, Shuo Li, Curtis Green (CSN), Austin Henke, Jaya Borgatta (CSN), Sarah Guillot, Kelly Zhang (CSN), Bob Hamers (CSN), Mike Schwartz (CSN), Louis Morris, Cesar Saucedo

**Front row (L-R):** Katie Kruszynski (CSN), Liz Laudadio (CSN), Katharine DeLamater, Paige Kinsley (CSN), Alicia Tripp, Michelle Harasimowicz (CSN).







**Hernandez group holiday party. (L-R):** Yutaka Nagahata, Yi Zhuang, Alex Popov, Gene Chong (CSN), Rakesh Singh, Ali Rahnamoun (CSN), Yinhan Wang (CSN), Jasmine Harris, Ben Mahala, Clyde Daly Jr. (CSN), Rigoberto Hernandez (CSN).



**Hernandez group** enjoying their new meeting space for a CSN Center-wide meeting!

Did you see the “Wolf Blood Moon”? Like many scientists, Bob Hamers’ interests extend from nano- to galactic length scales. Here’s a photograph of the moon under full eclipse taken from Bob’s backyard, using a Celestron 2.3 meter focal length telescope coupled to a Canon T5i CCD. When in earth’s shadow, the moon appears red because its only source of illumination is sunlight that has been Rayleigh- scattered by the earth’s atmosphere, bathing the moon in the deep red glow of an earthen sunset.



**The World’s Finest (and Only ... As Far as We Know) Science-Themed Peeps Diorama Contest!** It’s time for science communication to meet sugary confection, for innovators in medicine to be immortalized in gelatin, for the thrill of discovery to be depicted all marshmallowy - it’s time to make a science diorama out of Peeps. For more on [The Open Notebook](#)’s 2019 Science-Themed Peeps Diorama Contest, click [here](#). (Photo by [Shellys](#))

## ***Opportunities***

### **2019 L'Oréal USA For Women in Science fellowship program** - Applications due Friday, February 1, 2019

"The L'Oréal USA For Women in Science fellowship program honors female scientists at a critical stage in their careers with grants of \$60,000 each. Since 2003, we've awarded 75 postdoctoral women scientists nearly \$4 million in grants. We're seeking five exceptional female scientists looking to advance their research and serve as role models for the next generation of girls in STEM." Application information is available [here](#).

### **Alaska Sea Grant State Fellowship Program** - Applications due Friday, February 8, 2019

The ASG State Fellowship Program is a unique professional opportunity for soon-to-graduate or recently finished graduate students interested in the science and policy needed to keep our marine resources healthy. Modeled after the highly successful Knauss Marine Policy Fellowship, the state fellowship program provides an opportunity to acquire on-the-job experience in the planning and implementation of marine resource policies and programs in Alaska. The program matches highly motivated graduate students and recent graduates with hosts in Alaska-based state or federal agencies for a 12-month paid fellowship. Find more information [here](#).

### **Science Talk Conference Travel Grants for Students & Postdocs** - Applications due February 15, 2018

Science Talk is a science communication conference in Portland, OR, April 4-5, 2019. More information is available [here](#).

## ***Looking Ahead***

### **Upcoming CSN Professional Development Webinars**

#### **Wednesday, February 27 at 10am Central - Time Management**

Professor Bob Hamers will present on time management strategies that are useful throughout grad school and beyond.

#### **Thursday, March 7 at 2pm Central - NAS Sexual Harassment Report**

Dr. Frazier Benya is Senior Program Officer with the Committee on Women in Science, Engineering, and Medicine (CWSEM) at the National Academies of Sciences, Engineering, and Medicine (NASEM). She will present and lead a discussion about the recent NASEM Report on *Sexual Harassment of Women: Climate, Culture, and Consequences in Academic Sciences, Engineering, and Medicine*.



## ACS Webinar - Startups 101: From Lab Scientist to Entrepreneur

Thursday, February 7 at 2pm Eastern - [sign up link](#)

ACS description: “Join Naresh Sunkara, CEO of startup Nosocom Solutions Inc. and Special Advisor to the Vice Chancellor for Research for postdoc affairs at the University of California, Berkeley to discover if launching a startup may be a better alternative to your current career plans as graduate students and postdocs. During this free interactive broadcast learn when you should start thinking about entrepreneurship and what should be your initial steps, as well as how to evaluate a technology for market-fit or customer identification, and how to find that initial funding source.”

## Environmental Nano GRC June 2-7, 2019

The registration is now open for the GRS/GRC meeting on Environmental Nanotechnology this June for which **Rebecca Klaper** is the Chair. She says, “I would encourage all to consider attending this meeting or both parts if you are a student/pdoc. It is an excellent meeting!” Find more information [here](#).

## Site Visit Dates to Remember

- April 12 “Red Team” meeting in Minneapolis: Faculty, presenters, and External Advisory Board members will meet to rehearse the site visit presentation.
- May 6-8 Site Visit in Madison: All Center members will participate in the NSF site visit; stay tuned for details about specific travel dates, who will give oral and poster presentations, etc.

## Mark your calendars!

The Fall CSN All-hands meeting will be held on November 18-19 in Minneapolis, MN.





## Lost in Cyber-Space?

[HOME](#) [ABOUT US](#) [OUR TEAM](#) [NEWS](#) [EDUCATION & OUTREACH](#) [WORKING WITH THE CSN](#) [PUBLICATIONS](#) [RESEARCH](#) [MEMBERS](#)

### **Links to frequently requested CSN documents and information sources**

For these documents and more, visit the [Center Resources page](#) on the [CSN website](#) (requires login though [Members page](#), contact [CSN Help](#) if you need help).

#### **Newsletter submissions**

Awards, highlights, lab exchanges, publications, FUN, etc: [link](#)

#### **CSN Documents and Downloads**

- Nanodatabase Login: [link](#)
- Nanodatabase Help page: [link](#)
- CSN calendar (RFA, All-hands, professional development): [link](#)
- Request a Zoom Meeting: [link](#)
- CSN Operations Guide: [link](#)
- CSN participants list (Names, group, and email addresses): [link](#)
- CSN Projects Documents: [CSN Projects](#) - [% Effort sheet](#)

#### **CSN Reporting Forms**

- Report lab exchange activities: [link](#)
- New CSN Presentations: [link](#)
- Report Outreach Activity: [link](#)
- CSN Safety Verification form: [link](#)
- CSN Shipping Addresses: [link](#)

#### **CSN Feedback Forms**

- SuggestionOx (completely anonymous comments/suggestions to CSN staff):  
Director (Bob): [link](#)  
Associate Director (Christy): [link](#)  
Managing Director (Mike): [link](#)  
E/O Director (Miriam): [link](#)

Find the most recent list of all center publications on the [CSN Google Scholar](#) page.

**Are there any links that you want added to the list above?** Email Mike ([mpschwartz@wisc.edu](mailto:mpschwartz@wisc.edu))

