

# What's happening in the CSN?

October 24, 2016

Volume 2, Issue 2



## Reminders!

Do you have any new **CSN conference presentations** since the start of Year 2 (September 1, 2016)? We need to keep track of these for the Year 2 annual report, so please provide the information here (if you haven't already): [New CSN Presentations](#)

Do you have any students who will be joining your lab as CSN participants? Please let Mike and Miriam know right away so they can be welcomed into the Center and added to all the necessary lists to participate in CSN activities!

## Celebrations!

### Good news

Congratulations to CSN graduate student **Jared Bozich (Klaper group)** for successfully defending his doctoral dissertation, entitled "Surface functionalization and core chemistry impact the toxicity of nanomaterial to *Daphnia magna*." Jared has accepted a position at International Flavors and Fragrances beginning this month. Congratulations Dr. Bozich!



### Welcome

The CSN welcomes **Katie Landy**, a University of Minnesota junior majoring in Chemistry with minors in Biochemistry and Sustainability Studies. Katie joined the **Haynes group** in August 2016, where she is working with Joe Buchman to explore bacterial toxicity of nanoparticles.

### Milestones and awards

**Alicia McGeachy (Geiger group)** received a travel award to present her work, "Quantifying Polycation-Membrane Interactions from Experiment and Theory" at the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE) annual meeting. Congratulations Alicia!

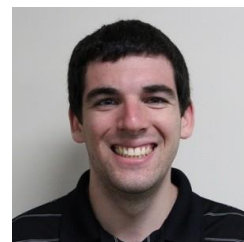


**Laura Olenick's (Geiger group)** presentation, entitled "Supported lipid bilayers containing lipids with varying transition temperatures studied by vibrational sum frequency generation spectroscopy," was awarded Best Presentation of her session at the 252nd ACS National Meeting! Congratulations Laura!



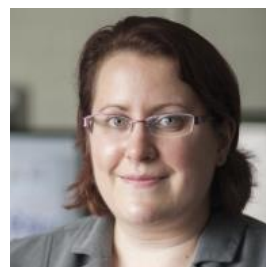
**Hyo Park**, a CSN REV student who spent the summer in the **Rosenzweig group**, received a travel award to attend the Annual Biomedical Research Conference for Minority Students (ABRCMS), where he will present a poster titled "Quantum Dot Chemical Stability and their Interactions with Zebrafish Embryos." Congratulations Hyo!

Congratulations to **Ben Frank (Fairbrother group)**, who passed his Ph.D. candidacy exam this week in the Chemistry Department at Johns Hopkins University!



Congratulations to Prof. **Erin Carlson** for being selected to receive a 2017 Rising Star Award from the American Chemical Society Women Chemists Committee (WCC)! This award recognizes six early to mid-career women chemists annually who have demonstrated exceptional promise for contributions to their fields, and recognizes Erin's contributions to research, education, and the chemistry profession. You can read more about the award and Erin's contributions in a recent University of Minnesota [press release](#).

Prof. **Sara Mason** has been awarded an XSEDE (the Extreme Science and Engineering Discovery Environment) Resource Allocation for her proposal titled "Density Functional Theory Calculations for Nanomaterials in Energy Applications and the Environment," which provides computational resources for advanced computing, visualization, and storage. The award is valued at an incredibly precise \$72,503.22! Congratulations Sara!



Congratulations to **Emily Caudill (Pedersen group)**, who was elected to succeed **Alicia McGeachy** as the new Student Board Executive Committee Liaison! Emily provided a few words to help students get to know her a little better (next page).

Greetings, my fellow CSN members! It is my third year working in Joel Pedersen's Lab at the University of Wisconsin-Madison, and I'm technically under the analytical chemistry branch, but we all know that



Emily's Birthright trip to Israel with Sydney, one of her best friends growing up. She describes it as "an amazing trip; beautiful scenery, and I learned a lot about the country, religion, and culture."

categorizing means little when it comes down to doing cool science. I joined the Center when we were about to enter Phase II with full force, and I honestly think working with this group has been one of the most enriching parts of grad school. From professional development to the opportunities to explain our science to a diverse group, including theorists, biologists, and materials chemists, I know I am getting an experience unlike other grad students at UW.

I'm excited about my new role as the Student Board Liaison, because I care greatly about my experience in the Center. We are in such a unique position as students to be working as part of a collaboration on this scale, and the true driving force has to be effective communication. Students need to feel valued and motivated, just as PIs need to be able to suggest new, exciting research directions. Both cannot happen without open communication. I will do my best to remain in tune with the voice of the students and feel comfortable stating this voice to the PI's. I see big things happening for the Center, and I've already had such a great experience getting to know the students and advisors that I have thus far.

### ***CSN Productivity***

**Aiesha Ethridge (Curry group)** had an invention titled "A Multifunctional Benchtop Nanoreactor Design for High-Throughput Synthesis of Complex Metallic Nanoparticles" approved for filing with the U.S. Patent Office. Aiesha's invention describes a system for producing gram quantities of metallic nanoparticles.



The Curry group has been busy with IP, as **Donald White** also had an invention approved for filing with the USPO. His invention is titled "A Facile Method for Suspension and Dispersion of Micro- and Nanocellulose," and describes a simple way to disperse cellulose particles in polar solvents.

## CSN Media Coverage

Rigoberto Hernandez's efforts as director of OXIDE was reported in *C&E News*, which was titled "[Women crack the academic glass ceiling.](#)" Christy Haynes was also quoted in this article. Rigoberto was also [interviewed on KGOU](#), where he explained some of the people and events that shaped his career choices. The link provides an online transcript of the entire interview, so be sure to check it out at [ACS.org](#)!



Photo credit: Paige Willett Lough / KGOU



CSN was recently featured in a *Slate Magazine* article, titled "[From Nano to Nature: Predicting the fate of nanomaterials in the environment is no small task.](#)" The article highlighted Miriam Krause's Sustainable Nano blog post ("[Our Day of TV News Glory](#)"), and a recent CSN *Chemistry of Materials* paper that investigated [NMC toxicity towards \*Shewanella oneidensis\* MR-1](#). The article discusses the potential for misunderstanding when studies investigating the risks of nanotechnology are covered by the media

(see the image above), but emphasizes, "this kind of scientific research lays essential groundwork for understanding nanotechnology's impact on the environment." Read more at [Slate.com](#)!

## Lab Exchanges

Becky Curtis and Nicholas Niemuth (Klaper group) spent a few days in the Rosenzweig and Haynes labs, where they learned about quantum dots and imaging techniques.



Mike Schwartz visited the Klaper group at UW-Milwaukee. While he was there, he learned about critters, creepy crawlies, and other very tiny creatures (one of these is a technical term) from Becky Curtis, Nicholas Niemuth, and Meagan Stettinich. He also witnessed Dr. Jared Bozich's thesis defense. As usual, our Managing Director forgot that his phone is capable of taking pictures, so enjoy this picture of a fluffy bunny instead.

## CSN Talks and Presentations

The CSN had a strong showing at the SciX Meeting in Minneapolis, MN (September 18-23). Bob Hamers organized a symposium on Sustainable Nanotechnologies. Talks were given by Brian Mader (3M, CSN External Advisory Board member), Joel Pedersen (UW Madison), Rebecca Klaper (UW Milwaukee), Tian (Autumn) Qui (Haynes group, U Minnesota), and Vivian Feng (Augsburg College). Autumn and Joe Buchman (Haynes group) also presented posters at the meeting.



**Mimi Hang, Arielle Mensch, Liz Laudadio (Hamers group), Emily Caudill (Pedersen group), and Natalie Hudson-Smith (Haynes group)** attended the 64th Annual Meeting of the Midwest Association of Chemistry Teachers in Liberal Arts Colleges (MACTLAC) in Minnesota.



Emily, Mimi, and Arielle (along with other UW-Madison friends) conducting an impromptu investigation of battery storage capacity on the way to MACTLAC.

**Joel Pedersen** presented CSN research at the Civil & Environmental Engineering departmental seminar at Temple University and at the Superfund Basic Research Program seminar at Brown University on. Joel also gave a talk on the interactions of nanoparticles with bacterial cell surfaces at the 29th Annual Raper Symposium, University of Wisconsin-Madison.

## ***Fun***



**Left image:** Bo Zhi and Christy Haynes at the Twin Cities 10K (left image). **Middle image:** Joe Buchman, Christy Haynes, Erin Carlson (left to right), and friends at the Chocoholic Frolic. **Right image:** Chocolate bunny (no affiliation with the Chocoholic Frolic).



STUDENT

SEED

GRANTS



Do you have a creative project idea  
for the CSN?

Apply for a four month grant to work  
on a new direction by submitting a  
one paragraph White Paper

Submit to ([krau0067@umn.edu](mailto:krau0067@umn.edu))

White Paper Submission Date:	October 31 <sup>st</sup> , 2016
3 Page Grant Submission Date:	December 1 <sup>st</sup> , 2016
Winner Announced:	December 2016
Grant Start Date:	January 2017

The CSN Newsletter's first official full-page ad!

## ***Interesting Science in the News!***

**From the Director:** As everyone knows, we've focused a lot of our research on understanding the potential toxicity of NMC and related material due to the fact that they are on the cusp of large-scale commercialization. In the last 6 months or so there has recently been a flurry of activity regarding large-scale commercialization of NMC. 3M has recently [licensed NMC to Johnson Matthey](#), a major global materials producer. Tesla is now using NMC batteries in their Roadster, [GM has licensed an advanced "Li-rich" NMC](#) from Argonne National Labs, and it was recently indicated that the next-generation Nissan Leaf will feature a 60 kWh NMC battery. A 60 kWh NMC battery would contain about 100 kg (220 pounds) of NMC.

## ***Looking Ahead***

### **Fall Semester Professional Development Activities.**

Mark your calendars for these upcoming professional development activities!

- **Friday, November 4 at 12:00 pm CST:** Academic Leadership (Rigoberto Hernandez).
- **Tuesday, December 13 at 3:00 pm CST:** Writing Research Statements for Job Applications (Vivian Feng & Erin Carlson).

### **Mark your calendars**

The **CSN Site review** is scheduled for **May 8-9, 2017**, and will be held at UW-Madison. Most people will need to arrive on Sunday, May 7<sup>th</sup>. Speakers will need to arrive on Saturday, May 6<sup>th</sup> to prepare.

The **"Red Team" meeting** for conducting a full dress rehearsal in preparation for the site review is scheduled for **April 13<sup>th</sup>, 2017**. All faculty and student presenters will **arrive on April 12<sup>th</sup>** and **depart in the evening on April 13<sup>th</sup>**.

## 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 [Miriam](#) if you need help).*

**Newsletter submissions** (awards, highlights, lab exchanges, publications, FUN, etc.): [link](#)

### CSN Documents and Downloads

- CSN calendar (RFA, All-hands, professional development): [link](#)
- CSN Operations Guide 2.0: [link](#)
- CSN participants list (Names, group, and email addresses): [link](#)
- CSN Projects Documents (May 2016 version): [CSN Projects](#)

### CSN Reporting Forms

- Report lab exchange activities: [link](#)
- New CSN Publications: [link](#)
- New CSN Presentations: [link](#)
- Report Outreach Activity: [link](#)
- CSN Safety Verification form: [link](#)
- Nanoparticle availability (Listing of NPs available center-wide): [link](#)

### CSN Feedback Forms

- Requests for the Executive Committee (meeting agenda): [link](#)
- SuggestionOx (completely anonymous comments/suggestions to CSN staff):  
Director (Bob): [link](#)  
Associate Director (Christy): [link](#)  
Managing Director (Mike): [link](#)  
E/O Director (Miriam): [link](#)

