

What's happening in the CSN?

March 18, 2020

Volume 5, Issue 2



Celebrations

We completed our Reverse Site Visit for NSF on February 20! This was the culmination of months of hard work by everyone in the center, and we couldn't be more pleased with how it went. We are still awaiting news about the results, but hope to hear soon.



Welcome to New CSN Members

(Pictured L to R below) The CSN welcomes new graduate students **Beza Tuga**, **Riley Lewis**, and **Eleni Spanolios** (Haynes group), **Sarah Benware** and **Caroline Anastasia** (Pedersen group), **Alessandra Gavin** (Carlson group), and **Connor Protter** (Hamers group), and undergraduate **Elizabeth Mensah** (Hernandez group). Two new postdocs have also joined the center; **Deepti Sharan** (Carlson group) and **Swapnil Ambade** (Rosenzweig group). Many of you have been in the CSN for quite a long time, so let this serve as a long overdue "What's happening" welcome!



In addition, **Miranda Gallagher** (Fairbrother group alum) recently had twins! Congratulations and welcome to Lilas and Zoë Gallagher.



Good news!

Congratulations to **Dr. Hyunho Kang** (Haynes group) on the successful defense of his thesis, entitled “Design of Silicon Dioxide Nanomaterials and Understanding their Colloidal Behaviors for Sensing and Biological Applications.” Hyunho is still performing CSN research in the Haynes lab while he hunts for his dream job (preferably in Madison, WI).



Dr. Emily Caudill (Pedersen group) defended her thesis, entitled “Interactions of Nanoparticles and Polymers with Bacterial and Eukaryotic Cell Surface Structures.” Emily is currently a Visiting Assistant Professor at Lake Superior State University. Congratulations Emily!

Three CSN postdocs accepted tenure-track faculty positions this year. **Arielle Mensch** (Orr group) will be joining the Department of Chemistry at Lafayette College, **Clyde Daly, Jr.** (Hernandez group) will be joining the Department of Chemistry at Haverford Union College, and **Alyssa Deline** (Fairbrother group) will be joining the Department of Chemistry at Bridgewater State University. Congratulations to Arielle, Clyde, and Alyssa!



We also extend our congratulations to several current and former CSN participants who have accepted new positions in both industry and academia. **Kelly Zhang** (Hamers group) accepted a Senior Scientist position at Merck. **Merve Dogangun** (Ph.D. 2018, Geiger group) accepted a position in the Thin Films group at Intel. **Gene Chong** (Ph.D. 2019, Hernandez group) is now a postdoc in Alex MacKerell's group at the University of Maryland. Finally, **Ali Rahnamoun** (former postdoc, Hernandez group) is now a Research Scientist at Michigan State.

Ricky Brown (Rosenzweig group) married **Chia-Hua Lue** on October 26th, 2019. **Nicholas Niemuth** (Klaper group) has also gotten engaged, with the wedding scheduled for November 2020. Congratulations to All!



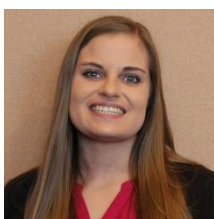
Milestones and awards

Congratulations to **Kelly Zhang** (Hamers group) for winning the Richard and Joan Hartl Excellence in Research Award (Materials Chemistry) from the Department of Chemistry at UW-Madison! The award is given annually to the graduate student who conducted the most outstanding research in Materials Chemistry.



Denise Williams-Harris (Rosenzweig group) was accepted into the NextPROF Science workshop at the University of Michigan the first week of May ([link](#)). Denise also won a poster award at the 2nd Pan-American Nanotechnology (PANNANO) conference. Finally (for now), she was selected as an ACS Bridge Travel Award Winner for the ACS National Meeting this Spring in Philadelphia, Pennsylvania, although she unfortunately won't be able to use it. Congratulations Denise!

Congratulations to **Meghan Cahill** undergraduate researcher in the **Haynes** lab, on being awarded an ACS Undergraduate Award in Analytical Chemistry!



Congratulations to **Katie Kruszynski** (Hamers group, left) for passing her Thesis Background Exam and **Tana O'Keefe** (Haynes group, right) for passing her candidacy exam.

Vivian Feng was selected as a Fulbright scholar for a four month [teaching/research position](#) at the Graz Technical University in Austria in 2020-2021. Congratulations Vivian!



Congratulations to **Rigoberto Hernandez**, who was admitted into The Royal Society of Chemistry; read more in the press release [here](#). Rigoberto also won the 2020 IMPACT Award from the Research Corporation for Science Advancement (RCSA), which you can read about [here](#).





Cathy Murphy will serve as the next Department Head for the Department of Chemistry at UIUC. **Jason White** will also serve as the next Director of the Connecticut Agricultural Experiment Station. Congratulations Cathy and Jason!

CSN Productivity

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

New CSN publications since the last newsletter:

Gene Chong, Isabel U. Foreman-Ortiz, Meng Wu, Anthony Bautista, Catherine J. Murphy, Joel A. Pedersen and Rigoberto Hernandez (2019). Defects in Self-Assembled Monolayers on Nanoparticles Prompt Phospholipid Extraction and Bilayer Curvature-Dependent Deformations. *Journal of Physical Chemistry C*. 123 (45), 27951-27958. Read the online version [here](#).

Mitradip Das, Udaya Dahal, Oluwaseun Mesele, Dongyue Liang and Qiang Cui (2019). Molecular Dynamics Simulation of Interaction between Functionalized Nanoparticles with Lipid Membranes: Analysis of Coarse-Grained Models. *Journal of Physical Chemistry B*. 123 (49), 10547-10561. Read the online version [here](#).

Joseph T. Buchman, Wade Elmer, Chuanxin Ma, Kaitlin Landy, Jason C. White and Christy L. Haynes (2019). Chitosan-coated Mesoporous Silica Nanoparticle Treatment of *Citrullus lanatus* (Watermelon): Enhanced Fungal Disease Suppression and Modulated Expression of Stress-related Genes. *ACS Sustainable Chemistry & Engineering*. 7 (24), 19649-19659. Read the online version [here](#).

Elizabeth D. Laudadio, Poorandokht Ilani-Kashkouli, Curtis M. Green, Nadine Kabengi and Robert J. Hamers (2019). Interaction of phosphate with lithium cobalt oxide nanoparticles: a combined spectroscopic and calorimetric study. *Langmuir*. 35 (50), 16640-16649. Read the online version [here](#).

Arielle C. Mensch, Eric S. Melby, Elizabeth D. Laudadio, Isabel U. Foreman-Ortiz, Yongqian Zhang, Alice Dohnalkova, Dehong Hu, Joel A. Pedersen, Robert J. Hamers and Galya Orr (2020). Preferential interactions of primary amine-terminated quantum dots with membrane domain boundaries and lipid rafts revealed with nanometer resolution. *Environmental Science: Nano*. 7 (1), 149-161. Read the online version [here](#).

Joseph T. Buchman, Evan A. Bennett, Chenyu Wang, Ali Abbaspour Tamijani, Joseph Bennett, Blake Hudson, Curtis Green, Peter Clement, Bo Zhi, Austin H. Henke, Elizabeth Laudadio, Sara E. Mason, Robert Hamers, Rebecca Klaper and Christy Haynes (2020). Nickel enrichment of next-generation NMC nanomaterials alters material stability, causing unexpected dissolution behavior and observed toxicity to *S. oneidensis* MR-1 and *D. magna*. *Environmental Science: Nano*. 7 (2), 571-587. Read the online version [here](#).

Zachary R. Jones, Nicholas J. Niemuth, Margaret E. Robinson, Olga A. Shenderova, Rebecca D. Klaper and Robert J. Hamers (2020). Selective Imaging of Diamond Nanoparticles within Complex Matrices using



Magnetically Induced Fluorescence Contrast. *Environmental Science: Nano*. 7 (2), 525-534. Read the online version [here](#).

Cristian Perez, Roberto De La Torre Roche, Nubia Zuverza-Mena, Chuanxin Ma, Yu Shen, Jason C. White, Edson Pozza, Adélia Pozza and Wade Elmer (2020). Metalloid and metal oxide nanoparticles suppress Sudden Death Syndrome of soybean. *Journal of Agricultural and Food Chemistry*. 68 (1), 77-87. Read the online version [here](#).

Denise N. Williams, Julia S. Saar, Vera Bleicher, Sibylle Rau, Karen Lienkamp and Zeev Rosenzweig (2020). Poly(oxanorbornene)-Coated CdTe Quantum Dots as Antibacterial Agents. *ACS Applied Bio Materials*. 3 (2), 1097-1104. Read the online version [here](#).

HanByul Chang, Paul E. Ohno, Yangdongling Liu, Emilie H. Lozier, Naomi Dalchand and Franz M. Geiger (2020). Direct Measurement of Charge Reversal on Lipid Bilayers Using Heterodyne-Detected Second Harmonic Generation Spectroscopy. *Journal of Physical Chemistry B*. 124 (4), 641-649. Read the online version [here](#).

Jenny K. Hedlund Orbeck and Robert J. Hamers (2020). Surface properties and interactions of transition metal oxide nanoparticles: A perspective on sustainability. *Journal of Vacuum Science & Technology A*. 38 (3), 031001. Read the online version [here](#).

Ali Abbaspour-Tamijani, Joseph W. Bennett, Diamond T. Jones, Natalia Cartagena-Gonzalez, Zachary R. Jones, Elizabeth D. Laudadio, Robert J. Hamers, Juan A. Santana and Sara E. Mason (2020). DFT and Thermodynamics Calculations of Surface Cation Release in LiCoO₂. *Applied Surface Science*. 145865. Read the online version [here](#).

Hongbo Chen, Chenguang Wang, Hyunho Kang, Bo Zhi, Christy L. Haynes, Aktham Aburub and Changquan Calvin Sun (2020). Microstructures and pharmaceutical properties of ferulic acid agglomerates prepared by different spherical crystallization methods. *International Journal of Pharmaceutics*. 574, 118914. Read the online version [here](#).

Naomi Dalchand, Qiang Cui and Franz M. Geiger (2020). Electrostatics, Hydrogen Bonding, and Molecular Structure at Polycation and Peptide:Lipid Membrane Interfaces. *ACS Applied Materials & Interfaces*. [Available Online](#).

Peter L. Clement, Joshua E. Kuether, Jaya R. Borgatta, Joseph T. Buchman, Meghan S. Cahill, Tian A. Qiu, Robert J. Hamers, Z. Vivian Feng and Christy L. Haynes (2020). Cobalt release from a nanoscale multiphase lithiated cobalt phosphate dominates interaction with *Shewanella oneidensis* MR-1 and *Bacillus subtilis* SB491. *Chemical Research in Toxicology*. [Available Online](#).

Ali Rahnamoun, Kyoungtea Kim, Joel A. Pedersen and Rigoberto Hernandez (2020). Ionic Environment Affects Bacterial Lipopolysaccharide Packing and Function. *Langmuir*. [Available Online](#).

Benjamin P. Frank, Leslie Sigmon, Alyssa Deline, Ronald S. Lankone, Miranda Gallagher, Bo Zhi, Christy L. Haynes and D. Howard Fairbrother (2020). Photochemical Transformations of Carbon Dots in Aqueous Environments. *Environmental Science and Technology*. [Available Online](#).

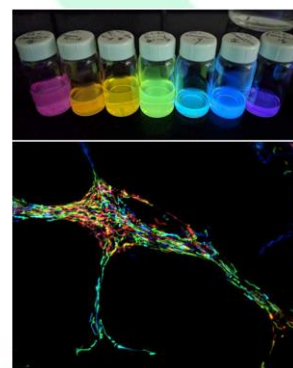
Pu Duan, Bo Zhi, Luke Coburn, Christy L. Haynes and Klaus Schmidt-Rohr (2020). A molecular fluorophore in citric-acid/ethylenediamine carbon dots identified and quantified by multinuclear solid-state NMR. *Magnetic Resonance in Chemistry*. [Available Online](#).



Nicholas K. Geitner, Christine Ogilvie Hendren, Geert Cornelis, Ralf Kaegi, Jamie R. Lead, Gregory V. Lowry, Iseult Lynch, Bernd Nowack, Elijah Petersen, Emily Bernhardt, Scott Brown, Wei Chen, Camille de Garidel-Thoron, Jaydee Hanson, Stacey Harper, Kim Jones, Frank von der Kammer, Alan Kennedy, Justin Kidd, Cole Matson, Chris D. Metcalfe, Joel Pedersen, Willie J. G. M. Peijnenburg, Joris T. K. Quik, Sónia M. Rodrigues, Jerome Rose, Phil Sayre, Marie Simonin, Claus Svendsen, Robert Tanguay, Nathalie Tefenkji, Tom van Teunenbroek, Gregory Thies, Yuan Tian, Jacelyn Rice, Amalia Turner, Jie Liu, Jason Unrine, Marina Vance, Jason C. White and Mark R. Wiesner (2020). Harmonizing across environmental nanomaterial testing media for increased comparability of nanomaterial datasets. *Environmental Science: Nano*. 7 (1), 13-36. Read the online version [here](#).

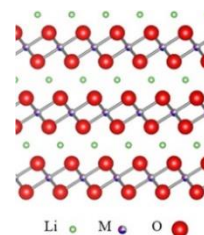
CSN Media & Other Recognition

The FY 2020 NNI Budget Supplement's Agency Highlights featured CSN research from **Bo Zhi (Haynes group)** and **Yi Cui (Orr group)** ([Link to Highlights Document, see p. 6-7](#)), which was based on their published work in *ACS Nano* (2018, 12, 5741-5752). The CSN publication has also been included in a new Virtual Issue on Super-Resolution Microscopy, which you can read [here](#). This issue features recent papers from several ACS journals that describe the development and application of super-resolution measurements in far-field optical microscopes.



Research from **Stephanie Mitchell's (Carlson group)** publication on *S. Oneidensis* resistance to NMC nanoparticles in *Chemical Science* (2019, 10, 9768-9781) was featured in *Chem World*, in an article entitled "Chronic exposure to battery nanomaterial leads to resistant bacteria," by Ruth Zadik. Read the feature [here](#).

Jenny Hedlund Orbeck's (Hamers group) review in the *Journal of Vacuum Science and Technology* (online link [here](#)) will be featured in a special issue honoring women in science, entitled "30 years of the Nellie Yeoh Whetten Award — Celebrating the Women of the AVS."





Meghan Cahill (Haynes group) was recently interviewed on Fox9 News. She [tweeted](#): “Buzz Worthy News! Spent yesterday morning @fox9 sharing my experience in STEM to empower the next generation of women to pursue the sciences. Always remember that this is what a scientist looks like 🧑🔬📊📈”

Rigoberto Hernandez was featured in the ACS Student Member Magazine in an article entitled “Eminent Scientist Rigoberto Hernandez Knows How the Tiniest Things Have Big Impact,” which connected to the Eminent Scientist Lecture at the ACS Spring 2020 National Meeting (which was unfortunately canceled). You can read the press release [here](#) and the full article [here](#).

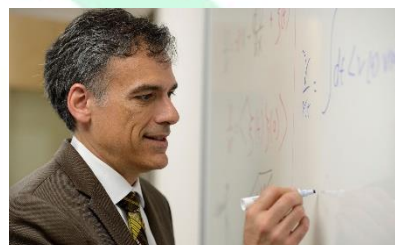


Photo Credit: [In Chemistry, The ACS Student Member Magazine](#)

Cathy Murphy and **Becky Rodriguez (Haynes group)** have both been recognized as part of C&E News and Pfizer’s Women in Science Twitter campaign for Women’s History Month.



@beck_ayeee was obsessed with dinosaurs when she was little. These days, she uses surface-enhanced Raman spectroscopy to detect toxins with polymer affinity agents and pursues [#diversity](#) in [#chemistry](#). [#PfizerProud](#) [#WomeninScience](#) [#sponsored](#)

Catherine Murphy at @ChemistryUIUC loves teaching and discussing [#science](#) with her research students. Scheduling and organizing things, and answering 200+ emails per day? Less so! [#PfizerProud](#) [#WomeninScience](#) [#sponsored](#)





Photo Credit:
[Citizen Climate Radio](#)

CSN alumnus **Donald White** (Curry group) and CSN Affiliate **Mike Curry** were interviewed on Citizen Climate Radio, [Episode 41](#) about the startup founded based on their CSN research, [Eco-Friendly Plastic Materials](#). Mike was also [interviewed in VoyageATL](#) to talk about Eco-Friendly Plastic Materials. Finally, be sure to check out [The Sustainable Agenda](#), Mike's podcast with Dr. Trina Coleman!



The Sustainable Nano blog continues to be popular with science news aggregator ScienceSeeker: Meng Wu's blog post [What gives gold nanoparticles their color?](#) was selected as a Science Seeker Editor's Pick for the week of November 11, 2019. ScienceSeeker also shared several additional Sustainable Nano posts on their Facebook page: [How is a shopping cart like a nanoparticle?](#) [What coarse-grained molecular models can show us about nano-bio interactions](#) by QC, [Pokémon Carbon Chemistry: Carbink and Diancie](#) by Natalie Hudson-Smith, [How do we measure the size of nanoparticles in a solution?](#) by Hyunho Kang, and [COVID-19, Nano, and You](#) by Miriam Krause.

Several members of the CSN were highlighted in a Diversity Award presented to the UW-Madison Department of Chemistry by the Board of Regents of the UW System. The Diversity Committee was recognized for its overall efforts to improve climate and increase diversity in the department. The nomination highlighted CSN Affiliate **Desiree Bates** for founding the CHOPS and Catalyst programs; **Bob Hamers** for launching the UW-Madison Research Experience for Undergraduate program in Renewable Energy; and Bob and Desiree for co-leading the UW-Madison/ACS Bridge to the Chemistry Doctorate Program. Of special note is the participation of CSN student **Zack Jones** (Hamers group) who is both a member of the Diversity Committee and a Catalyst mentor. Bob and Desiree gave brief presentations to the Board of Regents, UW-Madison Chancellor and UW-System president at their spring meeting.



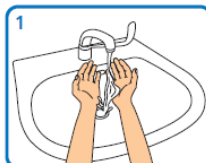
Left: UW-Madison Diversity Committee, including Zack Jones, Bob Hamers, and CSN collaborator Desiree Bates. *Right:* Hamers (second from left), Desiree Bates (second from right), UW-Madison Dept. Chair Judith Burstyn (center), UW-System President Ray Cross (far right) and several members of the Board of Regents accept the UW-System Diversity Award on behalf of the Department of Chemistry.



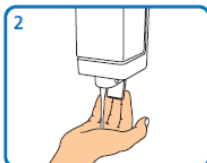
Did You Know?

Need to spruce up your hand-washing routine? Instead of “Happy Birthday,” try singing “[The Elements](#)” by [Tom Lehrer](#). Watch out – you’ll have to go very fast to get this down to 20 seconds!

Hand-washing technique with soap and water



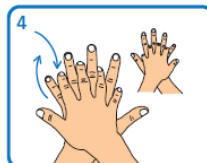
1
There's antimony, arsenic,
aluminum, selenium,



2
And hydrogen, and
oxygen, and nitrogen, and
rhenium



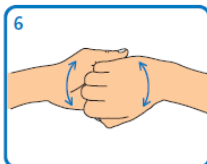
3
And nickel, neodymium,
neptunium, germanium



4
And iron, americium,
ruthenium, uranium



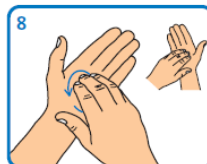
5
Europium, zirconium,
lutetium, vanadium



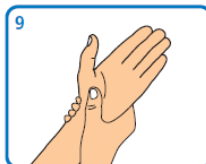
6
And lanthanum, and
osmium, and astatine, and
radium



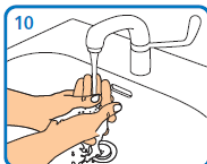
7
And gold, protactinium,
and indium, and gallium,



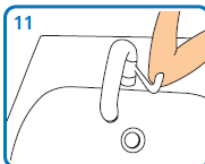
8
And iodine, and thorium,
and thulium, and thallium



9
There's yttrium,
ytterbium, actinium,
rubidium



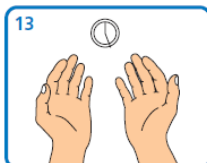
10
And boron, gadolinium,
niobium, iridium



11
And strontium, and
silicon, and silver, and
samarium



12
And bismuth, bromine,
lithium, beryllium, and
barium



13
There's holmium, and
helium, and hafnium, and
erbium

Create your own
<https://washyourlyrics.com>

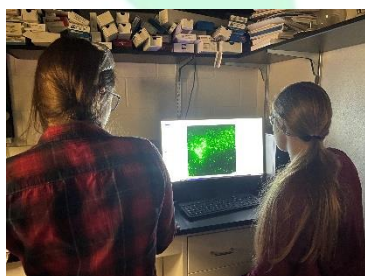
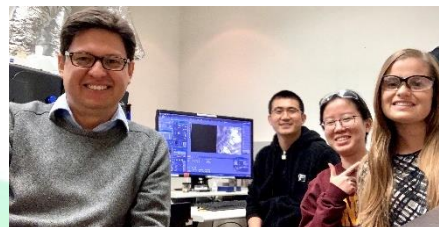
The Elements (Periodic Table)
Tom Lehrer

Adapted from National Health Service, who adapted from the World Health Organization [Guidelines on Hand Hygiene in Health Care](#).
Created under the Open Government License. See <http://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/> for details



Lab Exchanges

Tana O'Keefe (far right) and **Xiaoxiao Yao** (Haynes group, second from right) did a lab exchange with **Peiguang Hu** (Giraldo group, third from right) at UC-Riverside. **Juan Pablo Giraldo** (far left) notes that the lab exchange reflected hard work and included a fun outing in Riverside!



Katie Kruszynski (Hamers group, left) did a lab exchange with **Tana O'Keefe** (Haynes group, right), where they tested the impact of doped silicon nanoparticles on *S. oneidensis*.

Clyde Daly, Jr (Hernandez group) visited **Andrew Northwick** (Carlson group) and **Hyunho Kang** (Haynes group) in early January to talk about strategies for modeling amorphous silicon and surface protonation and to learn about the experimental work being done in the Carlson and Haynes labs.



Jenny Hedlund Orbeck (Hamers group) visited **Arielle Mensch** (Orr group) at Pacific Northwest National Laboratory to collect what will hopefully be the last pieces of data for her manuscript! Jenny and Arielle spent their lab exchange preparing samples of trout gill cells exposed to two different polymorphs of LCP nanoparticles for TEM imaging as well as looked at their ROS response following exposure to the particles.



CSN Talks and Presentations

The CSN held our January All-Hands Meeting in Minneapolis. CSN SPRINGs gave flash talks and we discussed strategy for our Reverse Site Visit at the NSF.

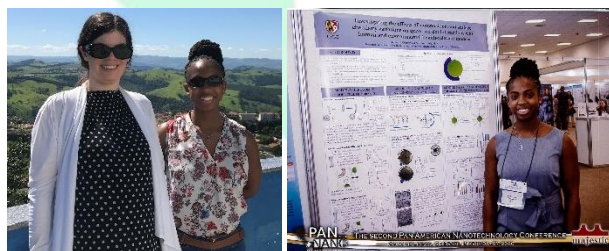
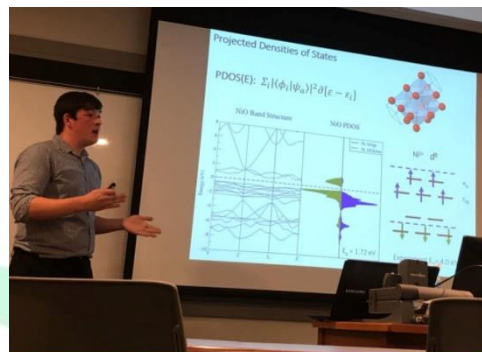


The whole center gathered in the lobby of Smith Hall for a group photo (above). Arielle Mensch took a corresponding picture of photographer Sue Martin-Zernicke (left), affectionately titled “The Real CSN.”

The day after the All-Hands Meeting, about 30 Center members conducted an outreach event at the Science Museum of Minnesota, including 12 different demonstrations (see more pictures in the “Fun” section).



The University of Iowa and the ACS Iowa Local Section co-hosted the [first American-Mexican Symposium on Supramolecular Chemistry](#) on November 8. **Sara Mason** tweeted, "... amongst many great presenters is 2nd yr student **Blake Hudson**, talking about @SustainableNano research modeling complex metal oxides using DFT + thermodynamics."



Laura Kesner and **Denise Williams** (Rosenzweig group) presented TED talks and posters at the [2nd Pan-American Nanotechnology \(PANNANO\)](#) conference in Aguas de Lindoia, Brazil. Denise's poster was entitled "Investigating the effects of composition and surface chemistry variations on quantum dot interactions with human and

environmental health-relevant models" and Laura's was "Fluorescence measurement of nanoparticle-induced membrane phase change."

At the end of February, **Paige Kinsley** & **Jaya Borgatta** (Hamers group), and **Stephanie Mitchell** (Carlson group) attended the American Association for the Advancement of Science (AAAS) meeting in Seattle. They had a wonderful time listening to a variety of speakers ranging from science policy and communication, to life in space. Steph also had lunch with **Emily Tollefson**, a former CSN postdoc in the Carlson lab who is now a chemistry professor at the University of Puget Sound.



Kyoungtea Kim (Pedersen group), **Alyssa Deline** (Fairbrother group), **Laura Kesner** (Rosenzweig group), **Zeev Rosenzweig**, and **Juan Pablo Giraldo** all attended the Sustainable Nanotechnology Organization (SNO) meeting in San Diego.



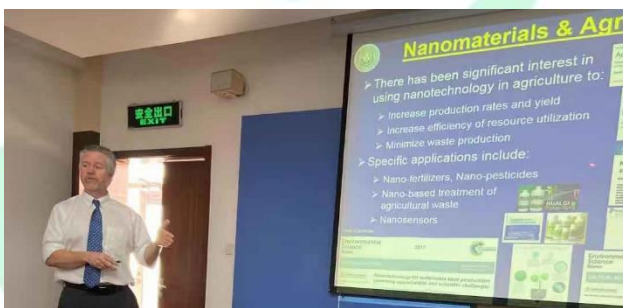


Sara Mason and **Mike Schwartz** visited the University of Puerto Rico (Cayey and Río Piedras) to recruit for the CSN Summer Undergraduate Research Experience (SURE) program. Sara also gave seminars at both campuses.

Christy Haynes gave an invited seminar about CSN research at Merck headquarters and learned a lot about Merck's sustainability efforts as well as their postdoctoral fellow and internship programs. She also gave a short course on "Analytical Techniques to Characterize Nano-Bio Interactions" at a summer school in Sao Carlos, Brazil. She delivered a plenary talk on CSN work while in Brazil.



Jason White traveled to China in 2019 to present lectures at Nanjing Agricultural University and at the Chinese Academy of Science Institute of Soil Science. Jorge Gardea Torresdey of the University of Texas El Paso attended with Jason, tag-teaming the audiences for a technical talk (Jason) and a writing workshop (Jorge). Jason also presented an invited lecture entitled "Nanotechnology in agriculture: Balancing applications and implications" at the Golden Jubilee International Conference on New Millenia Agriculture at CCS Haryana Agricultural University in Hisar, India (November 2-8, 2019) and was an invited speaker and session chair at NanoDav IV (December 12-15, 2019) at the University of Milan in Italy. Finally, he travelled to the University of Parma in Italy to meet with collaborators.



New CSN Capabilities

Rigoberto Hernandez was recently awarded an XSEDE allocation for his project entitled "Nonequilibrium Molecular Dynamics Simulations." Rigoberto's lab will be allocated computational resources (such as a very precise 4,092,020 SUs of computing time) with an estimated value of ~\$107k, of which ~40% will be for CSN research. Congratulations Hernandez lab!



Latest from Sustainable Nano

See sustainable-nano.com for all the CSN blog posts and podcast episodes.

CSN Blog posts & podcast episodes since the last newsletter

- [How science helped me overcome my fear of death](#) by **Natalie Hudson-Smith**
- [Nanostructures in butterfly wings](#) by **Jaya Borgatta**
- [What gives gold nanoparticles their color?](#) by **Meng Wu**
- Podcast episode 32: [An Electronic Circuit on Every Seed?](#)
- Podcast episode 33: [It Just Didn't Feel Like Me: Belonging and Sexism in Science](#)
- [It's December - time to apply for summer research!](#) by **Miriam Krause**
- Podcast episode 34: [Winter Holiday Mini-Episode: Colorful Carbon Dots](#)
- [How is a shopping cart like a nanoparticle? What coarse-grained molecular models can show us about nano-bio interactions](#) by **Qiang Cui**
- [Why should YOU apply for the Center for Sustainable Nanotechnology summer program?](#) (recruitment video)
- [Entertaining and Informing: The Art of Fun Science Abbreviations](#) by **Curtis Green**
- [Pokémon Carbon Chemistry: Carbink and Diancie](#) by **Natalie Hudson-Smith**
- [How do we measure the size of nanoparticles in a solution?](#) by **Hyunho Kang**
- [COVID-19, Nano, and You](#) by **Miriam Krause**

Fun!

Seen on **Stephanie Mitchell's** (Carlson group) Facebook page: I've been passionate about science and art since I was a kid, but it wasn't until grad school that I realized how beautifully these two subjects come together! Featuring (left to right): gold nanoparticles, ferrofluid, and pH paper made from cabbage.



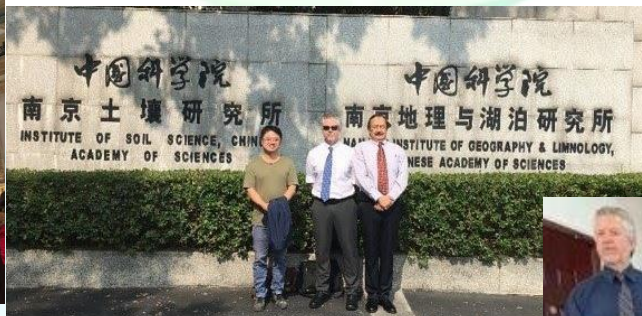
An opportune meeting in Providence: **Alec Kinczewski** (Geiger group REV alum), who is in his third year of medical school at Brown, met **Ese Ehimiaghe** (Geiger group undergrad alum), who was in town for an OB/GYN residency interview.





Fun with lab exchanges!

From the wedding of Austin Henke (Hamers group) and Katie Buxton (October 13, 2019, announced in Vol 5 Iss 1).



Fun pics from Jason's travels!



Steph, Jaya, and Paige take a break from the AAAS workshop to check out Pike Place Market, Washington Park Arboretum.



CSN at the Science Museum of Minnesota!



More fun at the All-hands meeting!



"That figures!" (a little figure planning humor – very little!)



Can-Can Wonderland



The day before the Reverse Site Visit



Creative editing: Heard in the general vicinity of posters -
 "This graph looks nothing like what I sent to Mike..."
 "How in the world did he spell 'oxide' wrong??!?!"



Almost showtime...



Showtime!



And breathe...!



The big decompress, MD style: Takeout, a 4-pack of ice cream, a couch, and whatever show doesn't involve concentrating....

Opportunities

The National Academies of Science, Engineering, and Medicine (NASEM) will be hosting “Action Collaborative on Preventing Sexual Harassment in Higher Education: 2020 Public Summit” at UW-Milwaukee on October 19-20, 2020 ([link](#)). Registration information will be coming out at a later time, but you can sign up for updates about NASEM’s upcoming events [here](#).



Skype a Scientist - heard of it? Dr. Rachael Hall, Director of Education, Outreach and Diversity for the NSF Center for C-H Functionalization (CCHF) at Emory University, shared a description of the program recently with Miriam. This program pairs a scientist with a classroom for a Skype session so the kids can talk to a real-life scientist. More information about the programming and a link to the Google form to sign up can be found [here](#). Consider this great opportunity for remote-working outreach!

Applications for the **ACS Postdoc to Faculty workshop** are being accepted until **April 5** (Apply [here](#)). Clyde Daly, Jr. (Hernandez group) attended last year and found it extremely helpful for completing his job applications. The workshop offers the following:

- compares positions and respective expectations in undergraduate and graduate chemistry departments
- provides assistance with and feedback on teaching philosophies and research statements
- presents strategies for balancing scholarship, teaching and service expectations with life outside academia
- creates a network of early-career faculty along with mentors who can help guide newly-appointed professors
- introduces interactive teaching models and provides resources to facilitate their incorporation

The **Data Incubator Summer 2020 Data Science Fellowship** is open for applications. The Data Incubator is an intensive 8-week fellowship that prepares masters students, PhDs, and postdocs in STEM and social science fields seeking industry careers as data scientists. The program is free for Fellows and supported by sponsorships from hundreds of employers across multiple industries.

- Deadline for early applications: **April 2, 2020**.
- Regular application deadline: **May 2, 2020**.

You can find more information and instructions for applying [here](#).



National Research Mentoring Network grant writing coaching opportunity for postdocs/early career faculty: Are you an early stage researcher ready to write a new or revised NIH-style proposal and interested in receiving coaching support while you write? If so, we invite you to apply for participation in the National Research Mentoring Network Grant Writing Coaching Study at the University of Utah. Application deadline March 31, 2020; more information [here](#).

Looking Ahead

CSN Professional Development: Academic Job Search Panel - Wednesday, March 25, 12:15 Central.
Featuring **Clyde Daly, Alyssa Deline, and Arielle Mensch.**

ACS Webinar: Patents: Catalyze Your Career – Thursday, April 9, 1:00 Central

Patents can catalyze your career. In education, patents show and describe state of the art. In academia, patents showcase your thought leadership. In business, patents protect your research investment. Join Christopher Turoski, Director of Patent Law Programs & Law Professor at the University of Minnesota Law School, during this free interactive broadcast as he discusses how the knowledge of patents can help you distinguish your work beyond the bench and opens doors for career advancement.

Registration and more information [here](#).



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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](#)
- Schedule 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](#)
CSN Bimonthly Report Unanticipated Problems: [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)

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