



WHAT'S HAPPENING IN THE CSN?

NSF Center for Sustainable Nanotechnology



"Traveling Family"
by Amos Supuni

WELCOME TO NEW CSN MEMBERS

The CSN welcomes graduate students **Lissett Guadalupe Diaz** (Klaper group, left) and **Corey Thrasher** (Fairbrother group, middle), and postdoc **Chaoyi ("Joey" Deng** (White group, right).



icanpersist.com

Dr. Kerrie Wilkins-Yel has accepted our invitation to become our CSN Scholar-in-Residence for summer 2022. Kerrie is an Assistant Professor of Counseling and School Psychology, College of Education and Human Development at the University of Massachusetts-Boston. She also founded and co-directs the **! Can Persist STEM Initiative**, "a multi-component research-based program aimed at promoting STEM persistence among women and girls of color." She will participate in various activities with the center, including a Wednesday seminar about her research and mentoring summer undergraduate students on translating science through an equity-centered lens.

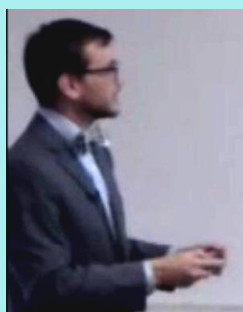


THIS HAPPENED!





Becky Curtis (Klaper group) defended her thesis, entitled "Improved evaluations of engineered nanomaterial (ENM) impact and risk: cross species comparisons from the laboratory and environmentally realistic exposure scenarios in the field," on May 4, 2022. She is continuing her 1-year Sea Grant Fellowship as a fisheries management specialist. Congratulations Dr. Curtis!



Christian Reardon-Lochbaum (Pedersen group) defended his thesis, entitled "Analytical Models to Understand Interactions at the Nano-bio Interface," on April 18, 2022. He has accepted a postdoc position at Harvard Medical School. Congratulations Dr. Reardon-Lochbaum!



Congratulations to CSN Affiliate **Theresa Gaines**, who has accepted a faculty position at Haverford College. She'll be joining CSN Alum Clyde Daly, Jr at Haverford next Fall!



Image credit: Quack

Paige Kinsley (Hamers group) has accepted a position as Education Outreach Lead for the Argonne Leadership Computational Facility at Argonne National Labs. Congratulations Paige!

Kyoungtea Kim (Pedersen group) defended his thesis, entitled "Characterization of Nanoparticle Interactions at the Biological Interfaces" on Dec 13, 2021. Kyoungtea accepted a postdoc position with Alexander Kabanov at the University of North Carolina at Chapel Hill. Congratulations Dr. Kim!

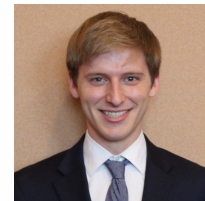


Vivian Feng has accepted a position at Princeton, where she will be the Assistant Director at the Council on Science and Technology. While we will miss the Feng group's scientific contributions, we're excited to find new ways to collaborate! Congratulations, Vivian!



augsborg.edu

Congratulations to **Curtis Green (Hamers group)**, who accepted a research scientist position with MilliporeSigma. He will be helping with analytical method development and validation for analysis of pharmaceuticals.



Deepti Sharan (Carlson group postdoc alum) has joined the University of Chicago, where she'll be doing research in Dr. Sam Light's lab. Congratulations Deepti!



Congratulations to **Younghoon Oh (Cui group)**, who accepted a position with Eli Lilly!





Wade Elmer (right, celebrating with **Jason White**) has retired from his position as the Connecticut Agricultural Experiment Station Vice Director. He has Emeritus status, which is an honorary for retirees to recognize their contributions and accomplishments over their careers. Congratulations, Wade!

Congratulations to CSN alum **Caley Allen** (**Hernandez** group Research Scientist) accepted a Managing Director position with Center for Hybrid Approaches in Solar Energy to Liquid Fuels.



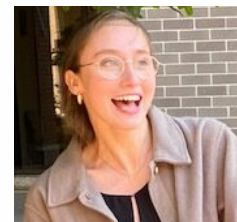
chem.unc.edu

Congratulations to CSN alum **Tian (Autumn) Qiu** (**Haynes** group, Ph.D. 2018) who has accepted a tenure-track faculty position with Michigan State University!



Congratulations to CSN undergraduate researcher **Astrid Hernandez** (**Haynes** group), who is graduating and has accepted a position at WuXi AppTec in the Twin Cities. Astrid also presented a poster about her CSN work at the Winchell Undergraduate Research Symposium.

CSN alumni **Jaya Borgatta** (**Hamers** group, Ph.D. 2021, White group postdoc) accepted a position with Corteva Agriscience. Congratulations Jaya!



Congratulations to CSN postdoc **Swapnil Ambade** (**Rosenzweig** group) and his wife **Anjira**, on the arrival of their beautiful daughter, Myra. She was born on January 9th!

MILESTONES & AWARDS



Stephanie Mitchell (Carlson group) was accepted to ASU's [Winter School](#) on "Emerging Technologies: Accelerating Impactful Scholarship." During that week, she wrote a proposal and presented a pitch for a Chemistry Open House Day ("Chem on in!"), and was selected as a winner of the pitch competition. Stephanie was also selected for the science policy scholars program through the National Science and Policy Network, and will participate in a 6-week [SciPol Scholars-in-Residence bootcamp](#) to learn about science policy, communication, and advocacy.

Beza Tuga (Haynes group) was selected for a University of Minnesota Interdisciplinary Doctoral Fellowship. Check out the University of Minnesota press release [here](#).



Alicia Tripp (Hamers group) received the Michael W. McCoy Memorial Scholarship by the UW-Madison Department of Chemistry, which "honors graduate students who, like Michael, exemplify a love of life, love of people, and love of chemistry."



Nikki Hoang (Murphy group) received an ACS/Pfizer Travel Award from the American Chemical Society Committee on Minority Affairs (CMA) for travel to the ACS SPRING 2022 National Meeting in San Diego, CA. CSN alum **Rodrigo Tapia Hernandez** (Feng group, B.S. 2018) was also a recipient of the award! Check out the press release [here](#).



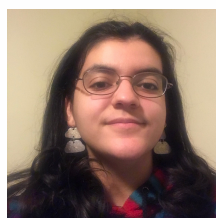
Zeke Piskulich (Cui group) was awarded the 2022 Marnie and Bill Argersinger Award for Outstanding Dissertation in Science, Technology, Engineering, and Math by the University of Kansas. Read the press release [here](#). Zeke also received the 2022 [Justin Jankunas Doctoral Dissertation Award in Chemical Physics](#) from the American Physical Society - Division of Chemical Physics for doctoral thesis research of outstanding quality and achievement in chemical physics. Zeke was selected after presenting with finalists at the APS meeting in March.



Falak Tawakalna (Feng group) won a Colloidal Division Outstanding Student Poster award at the ACS Spring 2022 National Meeting in San Diego, CA.



Congratulations to **Cheng-Hsin Huang** (Haynes group, left) for passing her oral preliminary exam and to **Victoria Rivera** (Mason group, right) for passing her candidacy exam. Both are now officially PhD candidates!



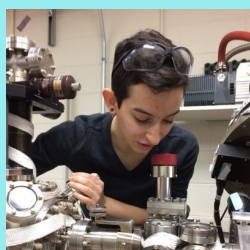
CSN undergraduate researcher **Andrea Ligocki** (Haynes group) has been awarded both a University of Minnesota Summer Research Fellowship and a UROP award (for Fall 2022) for her CSN research! She also presented a poster at the Twin Cities Winchell Symposium and was awarded a Judges' Choice Award! Congratulations Andrea!



MILESTONES & AWARDS



CSN alum **Diamond Jones** (Mason group, Ph.D. 2021) was selected as an ASCEND Postdoctoral Fellow for her proposal entitled "MPS-Ascend: First-Principles Modeling of Etching and Intercalation in 2D Nanomaterials and Heterostructures." She will be joining Dr. Andrew Rappe at the University of Pennsylvania this summer. Fun fact! Sara is also an alum of the Rappe lab! Read the University of Iowa press release [here](#). Congratulations Diamond!



CSN alum **Liz Laudadio** (Hamers group, PhD 2020) was selected for a Walter Massey Fellowship at Argonne National Labs. Check out the Argonne press release [here](#).

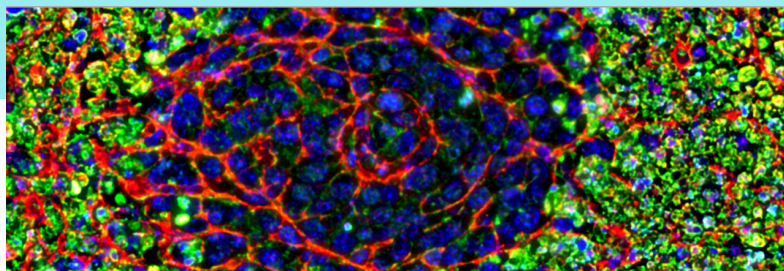


CSN alum **Austin Henke** (Hamers group, Ph.D. 2021) is the recipient of an outstanding TA award from UW-Madison Department of Chemistry.



Photo by Patrick Montero
haverford.edu

Congratulations to CSN alum **Clyde Daley, Jr.** (Hernandez group postdoc), who was awarded an NSF grant for his work developing a vibrational spectroscopic map for terminal alkyne molecules. Read the Haverford press release [here](#).



Check out CSN alum **Metti Gari's** (Feng group, B.S. 2021) winning image (entitled "Every Rose has a Fiber") for the 2022 American Society for Matrix Biology image contest (read more [here](#))! Yay cool images!

Jason White was recognized as a highly cited researcher in 2021 by Clarivate. The criteria for selection is based on the "production of multiple highly-cited papers that rank in the top 1% by citations for field and year in the Web of Science™."



portal.ct.gov

Rigoberto Hernandez is the recipient of a Humboldt Fellow Return Fellowship from the Alexander von Humboldt Foundation. The award provides funding for a 3-month stay in Germany (in Fall 2022).



chemistry.jhu.edu

Christy Haynes was selected as an Academic Leadership Program (ALP) Fellow by the Big Ten Academic Alliance. Christy will participate in a year-long Big Ten-wide leadership development program. Learn more about the program [here](#).



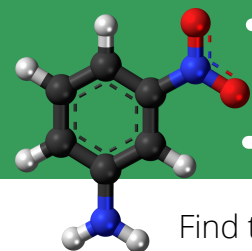
chem.umn.edu

Sara E. Mason won a University of Iowa Research Scholar Award through an internal departmental competition. The award provides teaching release for the Spring 2023 semester to enable greater focus on research.

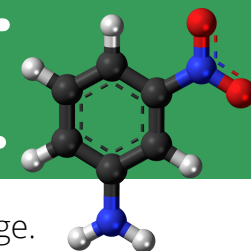


masongroup.lab.uiowa.edu





CSN PUBLICATIONS



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

Becky J. Curtis, Nicholas J. Niemuth, Evan Bennett, Angela Schmoldt, Olaf Mueller, Aurash A. Mohaimani, Elizabeth D. Laudadio, Yu Shen, Jason C. White, Robert J. Hamers and Rebecca D. Klaper (2022). Cross-species transcriptomic signatures identify mechanisms related to species sensitivity and common responses to nanomaterials. *Nature Nanotechnology*. Read the online publication [here](#).

Khoi Nguyen L. Hoang, Korin E. Wheeler and Catherine J. Murphy (2022). Isolation Methods Influence the Protein Corona Composition on Gold-Coated Iron Oxide Nanoparticles. *Analytical Chemistry*. Read [here](#).

Dongyue Liang, Juan Liu, Hendrik Heinz, Sara E. Mason, Robert Hamers and Qiang Cui (2022). Binding of Polar and Hydrophobic Molecules at the LiCoO₂ (001)-water Interface: Force Field Development and Molecular Dynamics Simulations. *Nanoscale*. Read the online publication [here](#).

Irene K. Metz, Joseph W. Bennett and Sara E. Mason (2021). Examining the Aufbau Principle and Ionization Energies: A Computational Chemistry Exercise for the Introductory Level. *Journal of Chemical Education*. 98 (12), 4017-4025. Read [here](#).

Fangjia Li, Hugh D. Mitchell, Arielle C. Mensch, Dehong Hu, Elizabeth D. Laudadio, Jenny K. Hedlund Orbeck, Robert J. Hamers and Galya Orr (2022). Expression Patterns of Energy-Related Genes in Single Cells Uncover Key Isoforms and Enzymes That Gain Priority Under Nanoparticle-Induced Stress. *ACS Nano*. Read [here](#).

Paige C. Kinsley, Aiping Zeng, Jenny K. Hedlund Orbeck, Shaun Debow, Zachary B. Zander, Patrick J. Heaney, & Robert J. Hamers (2022). Reactivity passivation of red phosphorus with thin plasma-deposited carbon coating. *Applied Surface Science*. Volume 581, 152971. Read [here](#).

Yu Shen, Jaya Borgatta, Chuanxin Ma, Gurpal Singh, Carlos Tamez, Neil P. Schultes, Zhiyun Zhang, Om Parkash Dhankher, Wade H. Elmer, Lili He, Robert J. Hamers and Jason C. White (2022). Role of Foliar Biointerface Properties and Nanomaterial Chemistry in Controlling Cu Transfer into Wild-Type and Mutant Arabidopsis thaliana Leaf Tissue. *Journal of Agricultural and Food Chemistry*. Read the online publication [here](#).

Isabel U. Foreman-Ortiz, Ting Fung Ma, Brandon M. Hoover, Meng Wu, Catherine J. Murphy, Regina M. Murphy and Joel A. Pedersen (2022). Nanoparticle tracking analysis and statistical mixture distribution analysis to quantify nanoparticle-vesicle binding. *Journal of Colloid and Interface Science*. Read [here](#).

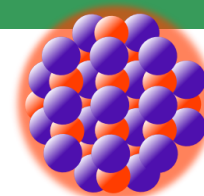
Zachary R. Jones, Nicholas J. Niemuth, Yongqian Zhang, Connor R. Protter, Paige C. Kinsley, Rebecca D. Klaper and Robert J. Hamers (2022). Use of Magnetic Modulation of Nitrogen-Vacancy Center Fluorescence in Nanodiamonds for Quantitative Analysis of Nanoparticles in Organisms. *ACS Measurement Science Au*.

Blake G. Hudson and Sara E. Mason (2022). Metal Release Mechanism and Electrochemical Properties of Lix(Ni_{1/3}Mn_{1/3}Co_{1/3})O₂. *Applied Sciences*. 12 (8), 4065. Read the online publication [here](#).

Xingfei Wei, Alexander Popov and Rigoberto Hernandez (2022). Electric Potential of Citrate-Capped Gold Nanoparticles Is Affected by Poly(allylamine hydrochloride) and Salt Concentration. *ACS Applied Materials & Interfaces*. Read [here](#).



Latest from
Sustainable Nano



See [Sustainable-Nano.com](#) for all CSN blog posts & podcast episodes



Curtis's dog Ginny helping with outreach (photo by Sarah Green)

Blog posts published since the last newsletter:

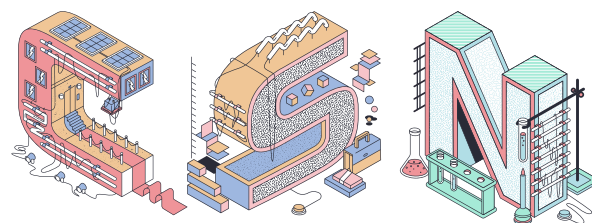
- [Nanotechnology and the Military](#) by Shreyasi Sengupta (Rosenzweig group)
- [Lipid Nanoparticles in COVID vaccines](#) by Yinhan Wang (Hernandez group)
- [Snowballs and... Nanoparticles?](#) by Curtis Green (Hamers group)
- [Electrifying the night: supporting solar energy conversion in the dark](#) by Alicia Tripp (Hamers group)
- [A Photon Saved is a Photon Earned](#) by Randy Goldsmith
- [A Love Letter for Black History Month: St. Elmo Brady, the first Black Ph.D. chemist in the United States](#) by Cathy Murphy
- [Please Take Our Science Communication Survey!](#) by Natalie Hudson-Smith (Haynes group alum, PhD 2020)



CSN Media & Other Recognition



Juan Pablo Giraldo was recently featured on the National Nanotechnology Initiative's NanoTube channel on YouTube for a Nano Matters podcast episode entitled "[Using Nanotechnology to Turn Plants into Sensing and Biomanufacturing Devices.](#)"



Rebecca Klaper was interviewed for the Waterloo podcast, where she talked about "Getting Schooled in Freshwater." Listen to her interview [here](#)!



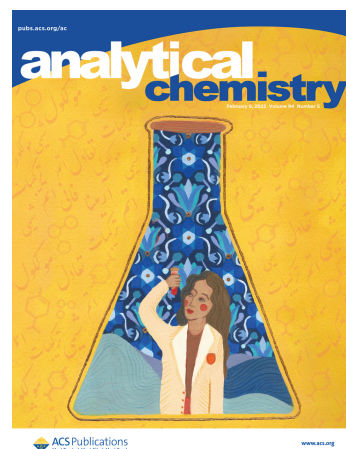
Photo by Augustus Isaac.

Christy Haynes was highlighted in a UMN Science and Engineering article discussing her journey in education and to a career in nanotechnology. [Read the article here.](#)



DID YOU KNOW?

A new *Analytical Chemistry* cover in the ACS Diversity & Inclusion cover art series was published [here](#), along with an editorial from the artist, Armina Fani, [here](#). In 2022, the cover art series that started with *Analytical Chemistry* is expanding to all ACS journals. To learn more, check out **Christy Haynes'** [editorial](#) (written with Jonathan Sweedler), where she discusses how she was motivated by "Activism" during the 2020 [Academics for Black Survival and Wellness](#) workshop.



Bob Hamers' company, Silatronix, was recently acquired by Koura, inc. Bob co-founded Silatronix in 2007 to commercialize new organosilicon-based electrolytes for improved, safer lithium-ion batteries. Silatronix was acquired by Koura, Inc. in November as part of their strategy for expanded presence in the renewable energy field.



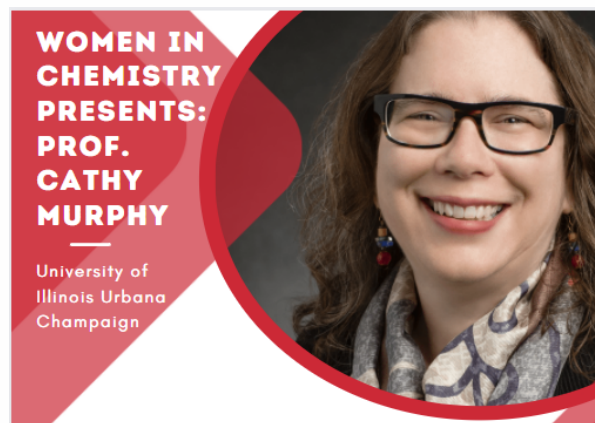
CSN Talks & Presentations



Christy Haynes gave three invited seminars on CSN science in March and April: the Brown & Williamson Distinguished seminar at the University of Louisville, a general science lecture for the local MN chapter of the American Association of University Women (AAUW), and an invited seminar at Oberlin College.



Jason White gave a talk entitled "Tuning agrochemical chemistry at the nanoscale to enhance stress tolerance, crop nutrition, and yield" at the 2021 ASA-CSSA-SSSA meeting in Salt Lake City Utah.



Cathy Murphy was invited to UW-Madison by the Department of Chemistry's [Graduate Women in Chemistry \(WIC\)](#) organization. Cathy gave the Analytical seminar and had a Q&A with WIC where she shared her experiences in academia.



Jaya Borgatta (Hamers group alum), **Paige Kinsley** (Hamers group) and **Stephanie Mitchell** (Carlson group) presented an invited webinar called "Getting to know yourself as a collaborator" for Lifeology's professional development series on Dec 7, 2021. (photo from AAAS 2020)

New CSN CAPABILITIES

The **Cui** group was awarded an XSEDE Allocation for Molecular Simulations of Metalloenzymes, Biomembranes and Multi-level QM/MM Free Energy Calculations.



Lab Exchanges



Shreyasi Sengupta (Rosenzweig group) did a lab exchange at the University of Minnesota, where she worked with **Tana O'Keefe** (Haynes group) on using biological assays to understand the toxicity and membrane damage effect of Epigallocatechin gallate (EGCG, a natural organic matter simulant) surface modified water soluble InSe nanosheets and nanospheres on *Shewanella oneidensis* MR1.



LOST IN CYBER-SPACE?

Links to frequently requested CSN documents and information sources.

Newsletter submissions:

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

CSN Documents and Downloads

- Nanodatabase Login: [link](#)
- Nanodatabase Help page: [link](#)
- CSN calendar: [link](#)
- CSN Operations Guide: [link](#)
- CSN participants list (Names, group, and email addresses): [link](#)

CSN Reporting Forms

- Report lab exchange activities: [link](#)
- New CSN Presentations: [link](#)
- Report Outreach Activity: [link](#)
- Report Awards and Other Activities: [link](#)

CSN SuggestionOx (Completely Anonymous Feedback to Admin)

- Director (Bob): [link](#)
- Associate Director (Christy): [link](#)
- Managing Director (Mike): [link](#)
- E/O Director (Miriam): [link](#)
- SPRING Board liaison: [link](#)

ADMIN EMAILS

- Bob (rjhamers@wisc.edu)
- Christy (chaynes@umn.edu)
- Miriam (mkrause@umn.edu)
- Mike (mpschwartz@wisc.edu)



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