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Updates from Dean Charlene Wolf-Hall

Welcome to a new semester! Thank you all for what you do everyday to make this a successful one. I hope your first few days into the semester have gone well. Please let us know if you have any challenges and we will do our best to help you.

Thanks to those who helped with the college's Welcome Back virtual event on August 27th. There was a great showcase of the student led clubs in the college. If you missed the event, please note the information in this newsletter about the clubs. I encourage everyone to get involved with at least one of the clubs. Club involvement can be the best part of a college experience.

As we move into September, pay attention for more college activities and events. September 10 is the One Day at State event. This is an important day for our college to further extend our supporter network. I encourage you all to participate to help extend our network and consider a donation if you are able. Every bit helps, no matter the size.

We have wonderful network of college supporters who believe in and value the potential our students have for making the world a better place. I am so very thankful and humbled by their support.

Our Dean's Office physical location is transitioning from our temporary location in West Hall to Avera Health & Science Center. We hope to be fully moved in by the end of September. We will continue the best practices to limit the spread of COVID-19, but also encourage you to stop in when you are able. Maybe we will have some pictures in the next issue.

I wish you a fantastic September. Stay healthy, embrace the learning and college experiences.

Reminder: CNS Office has moved

The College of Natural Sciences Dean's Office has moved to room 131 in the Avera Health & Sciences building! The office phone line (688-4420) remains the same and a new address will be announced soon.

Past Newsletters

All the CNS newsletters have been uploaded for accessibility. You can view any past issue here:

<https://bit.ly/CNSnewsletters>



**SOUTH DAKOTA
STATE UNIVERSITY**

College of Natural Sciences

Work Anniversaries August 2020

Thank you for all your hard
work & dedication!

- Larry Browning – 30 years
- Jaque Mann – 25 years
- Scott Pedersen – 21 years
- Jihong Cole-Dai – 20 years
- Bob Watrel – 19 years
- Judy Vondruska – 19 years
- Xiuqing Wang – 18 years
- Yung Huh – 18 years
- Donald Auger – 17 years
- Sara Madsen – 17 years
- Brian Logue – 16 years
- Geoffrey Bonvallet - 15 years
- Kristin Lenertz-Kersey – 14
- Randall Warren – 14 years
- Adam Hoppe – 12 years
- George White – 11 years
- Madhav Nepal – 11 years
- Suvobrata Chakravarty – 11
- Yajun Wu – 11 years
- Ashley McConnell – 10
- Cheng Zhang – 9 years
- Rui Li – 9 years
- Nicole Grove – 7 years
- Parashu Kharel – 7 years
- Xiaoyang Zhang – 7 years
- Iram Surtaj – 6 years
- Julie Leibold – 6 years
- Mark Messerli – 6 years
- Tanya Gupta – 6 years
- Todd Gardner – 6 years
- Dasuni Ranapathi Arachchige - 5
- Harika Vuppula – 5 years
- Charles Fenster – 4 years
- Darci Fink – 4 years
- Brian Long – 3 years
- Cary Capparelli – 3 years
- Dapeng Li – 3 years
- Isaac Vroman – 3 years
- Jaime Lopez-Mosqueda – 3
- Peggy Harper – 3 years
- Timothy Vowles – 3 years
- Rachel Willand-Charnley – 2

Awards & Recognition

Sydney Bormann, a recent Human Biology graduate, was awarded a prestigious NCAA Postgraduate Scholarship. She is one of 42 recipients of the scholarship, which includes 21 from women's sports among all three NCAA divisions to earn the honor this spring.

Bormann, who was a member of SDSU's women's golf team, held a 79.50 stroke average this past season. She shot a season-low 70 in the final round of the Las Vegas Collegiate Showdown.

Bormann is attending medical school at USD this fall. "The research I did at SDSU helped prepare me for the research project I am currently working on as a medical student," she said.

Adam Hoppe, a professor in Chemistry & Biochemistry, is the second SDSU researcher to receive COVID-related Rapid Response Research funding from the National Science Foundation.

Dr. Hoppe and his team (Jason Kerkvliet and Md. Saddam Hossain) aim to identify genes that inhibit or contribute to viral infections through a one-year, \$200k grant.

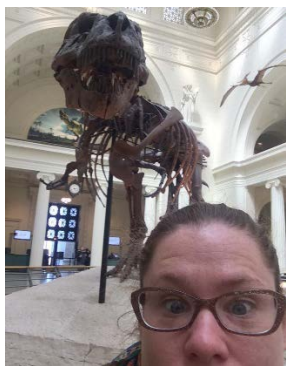


Grants Awarded within CNS, June & July 2020

- **Judy Vondruska, co-PI** | Physics | South Dakota School of Mines & Technology / National Aeronautics and Space Administration | SD Space Grant
- **Mark Messerli, PI** | Biology & Microbiology | Chonex Inc. | BSF larvae chitin analysis
- **Dapeng Li, PI** | Geography & Geospatial Sciences | South Dakota State University | Using computer models, big data, and GIS to improve community wildfire evacuation planning
- **Larry Browning / Matt Miller / Madhav Nepal, co-PIs** | Physics / Chemistry & Biochemistry / Biology & Microbiology | National Science Foundation | Rural Enhancement of Mathematics and Sciences Teachers Scholarship Program
- **Jaime Lopez-Mosqueda, co-PI** | Biology & Microbiology | SD Governor's Office of Economic Development | South Dakota Center for Biologics Research and Commercialization (SD-CBRC)
- **Bruce Bleakley, co-PI** | Biology & Microbiology | SD Soybean Research & Promotion Council | Supporting soybean cyst nematode testing in South Dakota
- **Mike Hildreth, PI** | Biology & Microbiology | SD Department of Health/US Department of Health & Human Services | South Dakota West Nile Surveillance and Epidemiology Project, August 1, 2020-July 31, 2021
- **Adam Hoppe, PI** | Chemistry & Biochemistry | National Science Foundation | CRISPR Whole genome screen to identify cellular machinery and pathways of SARS-CoV-2 entry into cells
- **Adam Hoppe, PI** | Chemistry & Biochemistry | National Institutes of Health. | The Immune Regulation of Macrophage Antibody Dependent Cellular Phagocytosis

New College of Natural Sciences Faculty – Fall 2020

- **Name:** Dr. Danielle Haskett Jennings
- **Department:** Geography & Geospatial Sciences
- **Education:**
 - B.S. Geology, University of Georgia (2004)
 - M.S. Geography, University of Georgia (2013)
 - PhD Geography, University of Georgia (2020 – on April Fool's Day!)
- **Specialty:** Paleoclimatology and Paleoecology
- **Hobbies:** Travel, playing the flute, crochet, and Pokémon Go (yes! People are still playing.)
- **Hometown:** Athens, GA
- **Fun fact:** I am also a certified graduate gemologist with a specialty in diamonds.
- **AY21 classes:** This Fall I'm teaching two sections of GEOG 132: Natural Landscapes. In the Spring, I will have one section of GEOG 132 and GEOG 714: Research and Writing.
- **What brought you to SDSU?** I am starting as an Assistant Professor in the Geography and Geospatial Sciences Department. I am currently in the process of getting my lab up and running - the (Paleo)Ecological and Environmental Change Research Laboratory. I can't wait to get started!



- **Name:** Dr. Bishnu Karki
- **Department:** Biology & Microbiology
- **Education:**
 - B.S. Microbiology, Tribhuvan University, Nepal
 - M.S. Food and Bioprocessing Technology, Asian Institute of Technology, Thailand
 - PhD Bioprocessing w/ minor in Food Science, Iowa State University
- **Specialty:** My research focuses on the broad area of bioprocessing
- **Hobbies:** Exploring new places & culture, gardening, window shopping
- **Hometown:** Bharatpur, Nepal
- **Fun fact:** Brookings is the city where I have lived longest thus far.
- **AY21 classes:** Applied Microbiology & Biotechnology (MICRO 450/550)
- **What brought you to SDSU?** My professional career brought me to SDSU several years ago. First few years, I worked as a postdoctoral research associate, and for the past 4 years I was working as a senior research scientist in the Dept. of Biology and Microbiology. Now, I am starting as an assistant professor of Biotechnology in the same department. Currently, I am advising three graduate students and in the process of establishing my research team and capabilities.



The Scoop on Student Clubs

If you are looking for student clubs to join, consider getting involved with one professional organization in your field and one "just for fun" group! There are many fantastic student clubs within the College of Natural Sciences and all throughout SDSU – [browse all the clubs here](#). In CNS, we have 11 clubs total. Each club has a faculty advisor, but they are largely run by student leadership! Click through the links below to see videos and learn more about these groups.

Biology & Microbiology Graduate Student Association

Chemistry & Biochemistry Association of Graduate Students

Pre-Professional Science Club

Society of Physics Students

National Science Teachers Association

Pre-Medical Chapter of the American Medical Student Association

Microbiology Club

Women in STEM

Chemistry Club

Drone Club

Geography Club

Research Spotlight – PhD Candidate Kimberly Johnson Maier

Kimberly Johnson Maier is an Instructor in Geography & Geospatial Sciences. Currently, she is preparing three manuscripts for the completion of her PhD at Oklahoma State University, Stillwater, OK. She is a broadly trained geographer with research interests in historical and cultural geographies and qualitative methods. More specifically, her research focuses on the intersection of social memory, historical fiction, and tourism.

Her dissertation work brought her back to South Dakota as it focuses on the *Little House on the Prairie* tourism. Her work exposes the complex web between social memories, how we think about our past, Wilder's work that preserves (truthful or not) it, the places inspired by it, and how tourists today interpret and create meaning through them. She spent a considerable amount of time at numerous Wilder tourist's sites, including the Ingalls Homestead in DeSmet, SD.

The first manuscript in preparation focuses on how Wilder tourist sites act as places where the white Frontier Myth is preserved by tourists. Despite criticisms of Wilder's work and the Frontier Myth by the academic community, the representations and practices often found at Wilder tourist sites ensure that tourists are exposed to a white frontier history. The often lack of critical engagement on the part of the tourist, works to continue the white Frontier Myth into the future.

The second manuscript uses settler colonial theory to address the spatializing of the Indigenous narratives at the Ingalls Homestead and how this impacts tourists' interpretation of frontier history. Here, indigenous perspectives are found in an isolated loft and couched in discussions of the prairie. Ultimately, this works to justify the removal of Indigenous people to make way for productive agricultural land as in this representation, the two are linked.

Finally, her third manuscript addresses gendered performance at the Ingalls Homestead through a focus on the bonnet, which tourists are often found wearing. In part, she is interested in how the bonnet may impact tourist interpretations of gender roles, femininity, and race.

Beyond her dissertation work, Kim also serves as an editor of *Atlas of the 2020 Elections*.



Open PRAIRIE data for July 2020

Microbial Communities and Their Impact on Bioenergy Crops in Dynamic Environments was the most frequently downloaded piece last month at 239 downloads. This dissertation is by past Ph.D student Brandon Monier, who was an advisee of Dr. Heike Bücking.



September 10th marks the 4th annual One Day for State! We are quickly approaching the deadline and are requesting the support of all the faculty and staff within the College of Natural Sciences as we seek to make this our most successful year yet. This is opportunity for us to share with our external supporters and alumni that Science has a home at SDSU. I cannot convey how excited our alumni base is about the creation of the College of Natural Sciences. Each of their stories contain a faculty, staff member, or graduate assistant that transformed their lives. This year has unfolded in a manner than no one could anticipate. The resilience, imagination, and dedication that all of you have shown towards your craft of impacting and enhancing the lives of our students is truly inspiring. Help us share this truth on the biggest stage, on State's biggest day. Remind your students that every dollar and every donor can make a difference on September 10th! I implore you to spread the word of Science's new home at SDSU by sharing posts and encouraging others to do the same, and by donating to our continued growth on this One Day for State!

Go Jacks!

Marissa Marshall

Development Director

for the College of Natural Sciences

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Where did your interest in science begin?

Geoffrey Bonvallet, Ph.D.

Department of Physics

It is common knowledge that children go through a “why” phase. I not only didn't grow out of it, I added a “why not” phase on top. Because the people around me inevitably ran out of explanations (or patience), I learned the importance of investigating these questions myself. By pursuing a career in education, this is what I hope to pass on to my students: what is more valuable than being given the answer is being given the tools to discover the answer.

Sometimes the tools are literal. Broken appliances and toys were a trove of information about the physical world, so they inevitably found their way to the workbench before the trashcan. The first computer game I bought came as a book of BASIC code, and modifying it was an excellent jumping-off point for learning. Particularly with physics, which seeks a

broad array of knowledge about all phenomena, I have had the opportunity to build up a wide variety of skills. When I needed to power a laptop in the middle of a field all night, I bought a car battery and figured out how to make them compatible. When dealing with repetitive tasks, I learned to code well enough to automate them. No commercial product existed for how I wanted to set up my graduate project, so I learned to use the machine shop. Then the apparatus overheated so I learned enough plumbing to water-cool it. Particularly when learning is driven by a purpose, a great degree of satisfaction is gained when it actually works. Of course that just leads to thoughts of how it can work better. Both of these are the basic drivers of science.

Other times the tools are mental ones. While science does involve learning some number of facts, my favorite days in school were when we learned systems of thought and analysis.

Instead of needing to be told the answers to my questions, I was empowered to answer them myself. In college, I took as wide a variety of physical science classes as I could, from coding to instrumental chemical analysis to particle physics. The constant was always the love of learning and of acquiring more tools to learn on my own. This is where I got my first taste of both research and teaching as an assistant. However what stand out to me the most were the greatest challenges presented by teachers. It is rote to given an equation and asked for the result when putting various vales into it. It is far more exciting to be asked to estimate the temperature of Sputnik as moved through the atmosphere, being given no further information than that nor a determined starting point.. That sort of self-driven open-ended challenge is exactly what I hungered for and what has served me well as I moved into graduate and professional work.