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Celebrating Work Anniversaries for Jan. & Feb. 2020

Thank you for all your hard work & dedication!

- Mike Hildreth – 33 years
- Terry McCutcheon – 21 years
- Andy Ellis – 18 years
- Natalie Thiex – 12 years
- Heike Bücking – 11 years
- Liping Gu – 11 years
- Sam Smith – 7 years
- Fangjun Li – 6 years
- Hankui Zhang – 6 years
- Courtney Jones – 5 years
- Shin-Yi Marzano – 4 years
- Charlene Wolf-Hall – 1 year
- Chen Huang – 1 year
- Ian Charnley – 1 year

Welcome!

Dr. Jennifer Krauel is joining the Biology & Microbiology Department as an Adjunct Assistant Professor.

Updates from Dean Charlene Wolf-Hall

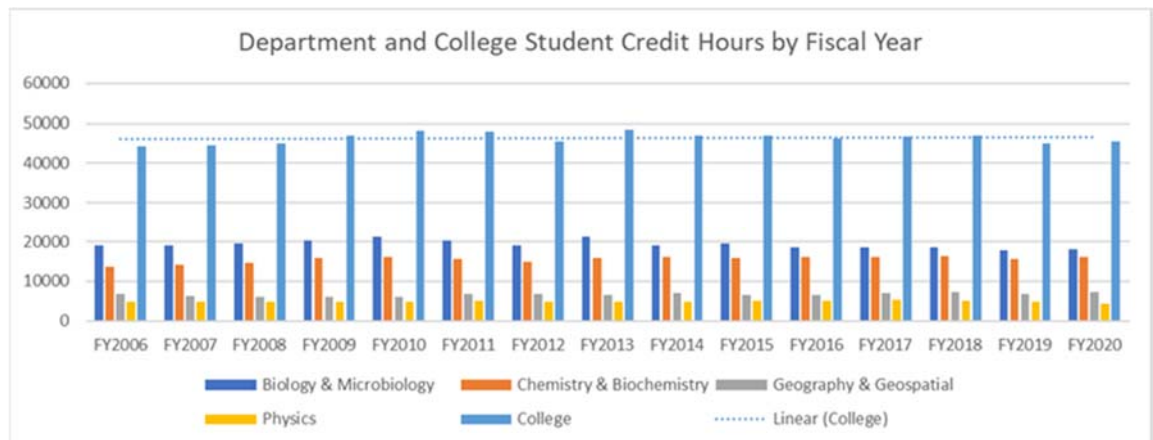
As we pass the 1.5 year mark as a college, we can be proud of our successes. Note in this issue the recognitions of our colleagues and students and recent fundraising success. Thank you to the nominators for preparing nomination materials and to those working on fundraising efforts.

Budget Updates - despite institutional, regional, national, and global trends, our college has seen a continued steady to positive trend in enrollment and student credit hour generation (see chart below). Thank you for your efforts in recruitment and student success.

The University Budget Oversight Committee is working through the budget exercise to determine

adjustments SDSU needs moving forward. Our college will experience some cutting due to enrollment decline for the university. However, we remain in good shape and our leadership team is working towards enhancing recruitment, retention, and efficiencies to provide the flexibility to invest in growth and strength areas. Consider attending the UBOC hearings April 7 (CNS presentation 10:50-11:20) and April 15 in the Lewis and Clark rooms of the Union. Soon after, I will schedule a college town hall meeting to address questions. I will continue to update as we approach April. Please let your department head and me know if you have suggestions for how to further enhance recruitment, retention and efficiency.

Some challenges, but a bright future. Thank you for your support of our college's mission.



Search Updates

There are two ongoing searches for Department Head positions in CNS:

1. **Department Head of Biology & Microbiology**

After 10 years of outstanding service, Dr. Volker Brözel is stepping back from his administrative role as Department Head of Biology & Microbiology to focus on teaching and research. The College of Natural Sciences is greatly appreciative of his dedication, work, and leadership over the years.

Four interviews have concluded; the search committee is preparing a report for the Dean.

- o Heike Bücking
- o Charles Fenster
- o Radhey Kaushik
- o Madhav Nepal

2. **Assistant Department Head of**

Physics Interviews will begin soon.

- o Geoffrey Bonvallet
- o Robert Matson
- o Robert McTaggart



**SOUTH DAKOTA
STATE UNIVERSITY**

College of Natural Sciences

Awards & Recognition

The College of Natural Sciences has a lot to brag about. In addition to cleaning up at the annual Celebration of Faculty Excellence in February, our faculty, staff, and students regularly go above and beyond to accomplish great things! It would be impossible to list everything from the last 18+ months in a simple newsletter, but we still want to celebrate successes, so read on to learn about a few recent highlights.

NACADA – Award for Excellence in Advising (Region 6)

Nicole Grove

Chemistry & Biochemistry

SPS National Office – Outstanding Chapter Award

Nicholas Carlson (President)

Jace Waybright (Vice President)

Abdullah Maruf (Secretary)

Zachary Lehmann (Treasurer)

And many more active members!

Society of Physics Students

AOCS Biotechnology Division – Student Best Paper Award

Andrea Zavadil

Biology & Microbiology

American Chemical Society – Honorable Mention

Camille Massmann (President)

Ellie Haeska (Vice President)

Shea Wilson (Secretary)

Jerrod Fedorchik (Treasurer)

And many more active members!

2018 – 2019 Chemistry Club

SDSU Campus-wide “Pack the Pantry” – 2019 Food Drive Champion

Thank you to all faculty, staff, and students who donated! CNS gave a combined total of 2,408 items to beat out all the other colleges. Compared to 2018, we had a 238% increase!

CELEBRATION OF FACULTY EXCELLENCE

*A recognition event for the faculty of
South Dakota State University*

Timothy J. Nichols Award for Excellence in Undergraduate Advising

Nicole Grove, Lecturer, Chemistry & Biochemistry

Excellence in Graduate Student Mentoring Award

Brian Logue, Professor, Chemistry & Biochemistry

College of Natural Sciences Outstanding Researcher

Wanlong Li, Associate Professor, Biology & Microbiology

College of Natural Sciences Teacher of the Year

Mark Messerli, Assistant Professor, Biology & Microbiology

F.O. Butler Award for Excellence in Research

Brian Logue, Professor, Chemistry & Biochemistry

Faculty Award for Global Engagement

Greg Heiberger, Assistant Professor, Biology & Microbiology

Award for Faculty Engagement in International Research

Xiuqing Wang, Professor, Biology & Microbiology

Dr. Sherwood and Elizabeth Berg Young Faculty Award

Nicholas Butzin, Assistant Professor, Biology & Microbiology

**College of Natural Sciences faculty
received over 35% of all awards**

Sanford – internship with Chief Medical Physicist

Nicholas Carlson

Physics

Beyond Benign – Faculty Fellowship of Toxicology in Chemical Education

Doug Raynie

Chemistry & Biochemistry

South Dakota State University – Emeritus Status

Darrell Napton

Geography & Geospatial Sciences

IT'S ALL ABOUT Science

2020 FESTIVAL

Upcoming Events

How can you get involved?

Event:	51 st Annual Geography Convention
When:	March 5 – 6
Where:	Volstorff Ballroom, Student Union
Host:	SDSU Geography Club and Department of Geography & Geospatial Sciences
Notes:	All are invited to attend the student poster session (1 – 3pm on 3/5) and the invited speaker seminars (9am – 4pm on 3/6); click here to see more details and contact Bob Watrel with questions

Event:	UBOC Budget Hearing
When:	April 7, 10:50 – 11:20am
Where:	Lewis & Clark rooms, Student Union
Notes:	All faculty and staff are invited to attend the annual CNS budget hearing

Event:	Grant Writing Workshop
When:	May, TBD
Where:	SDSU Campus
Notes:	A grant writing workshop is being planned in conjunction with the Division of Research Economic Development; details will be shared as they are finalized

Event:	Science & Engineering Fair
When:	March 24, 9am – 12pm
Where:	Club 71, Football Stadium
Notes:	Volunteers are needed! Click here to sign up as a judge and contact Brad Blaha with questions

Event:	It's All About Science Festival
When:	April 4, 9am – 3pm
Where:	Augustana University, Sioux Falls
Host:	Sanford Health
Attendees:	2,500+ pre-K thru high school students
Notes:	12 – 16 volunteers needed to lead and/or assist with hands-on activities at CNS booths; contact Ian Charnley to learn more

Event:	STEM Day @SDState
When:	May 14, 9:30am – 2:30pm
Where:	SDSU Campus
Host:	CNS & College of Engineering
Attendees:	200 8 th grade students
Notes:	Volunteers are needed to lead and/or assist with hands-on activities; contact Ian Charnley to learn more

“Coffee with the Dean” Update

Dean Wolf-Hall has been meeting with stakeholder groups in the college to answer questions and to hear thoughts, concerns, and ideas. Here's a recap – your date may still be coming up!

- Associate Professors – Nov. 18
- Instructors – Dec. 16
- Assistant Professors – Feb. 7
- Full Professors – Feb. 24
- NFE – March TBD
- CSA – April TBD

In the future, there will be more “Coffee with the Dean” sessions that are focused around themes / topics.

InsideState

The CNS page on InsideState is slowly but surely being updated! Visit the page to see contact information, college-level committee membership, and graduate fellowship opportunities. Click here to visit the page, and be sure to check back.

Research Spotlight – Dr. Yajun Wu

Yajun Wu recently had a breakthrough paper accepted in *New Phytologist* on the topic of hydrotropism. Little work has been done in this area, so the results are a door-opener in this field of study!

What is “hydrotropism”?
the growth or turning of plant roots toward or away from moisture

The question (how do roots “figure out” how to grow toward water?) is a key mechanism contributing to growth.

Results:

- “The very tip of the root is most sensitive to a hydrostimulant”
- “Hydrotropic bending involves a coordinated adjustment in spatial cell expansion”
- “A differential distribution of IAA (Indole-3-acetic acid) precedes hydrotropic bending”
- “Transcriptomic analysis identified IAA response and lignin synthesis among the key processes affected during hydrotropic response”

Congratulations to Dr. Wu and team!

Welcome!

Marissa Marshall joined the SDSU Foundation as the Development Director for the College of Natural Sciences in late 2019. If you have not met her already, please say "hi" and introduce yourself when you see her around campus!



Recent Fundraising Updates

- **Two new endowed scholarships**

- + Robert Pengra Scholarship in Microbiology
- + Jerry Tunheim Scholarship in Physics

- **Additional Summer Research Fellowships**

Mary and Jack East have endowed two additional summer research fellowships for Chemistry

- **Anatomy Lab Renovation progress**

Progress continues to be made concerning the New Anatomy Lab with over \$320,000 in verbal and actualized commitments from various parties since November 1st

- **We need your help!**

In 2020 our fundraising efforts are centered around three major areas: scholarships, faculty support, and the NEW anatomy lab. To reach our College goal of \$1.6 million we will need your help. Recently, Sally Krueger in Physics reached out to a former student of the Physics Department, connecting her with Marissa Marshall. This introduction led to the re-engagement of an avid supporter of the Physics Department and is a prime example of how a relationship with a faculty and/or staff member can lead to donations that come from the heart. We encourage each of you to be active participants in the fundraising process by continuing to build relationships with students and industry and to connect those individuals with Marissa as an invitation to give back to those people and places they care about - all of you.

Celebrating the Lives of Those Who Touched the College

Noelle Umback passed away at her home on February 15, 2020. Noelle was an alumna of the department and worked as a forensic scientist for the City of New York. She recorded recruiting videos several years ago during the "You can go anywhere from here" campaign. She last visited the department in October. During this visit, she spoke with the Chem Club, consulted with the Curriculum Committee on design of a forensic degree, and established an award for SDSU graduates entering the field of forensic science. She was a member of the Department's Advisory Committee. Her obituary can be found [here](#).

Dr. David Hilderbrand passed away on February 24, 2020. David built his career at South Dakota State University from 1974 to 2015, working in various capacities, including as Professor and Department Head of Chemistry, Director of International Programs, Director of SDSU programs at the University Center in Sioux Falls, Dean of the Graduate School, Interim Dean of Education and Human Sciences, Interim Dean of Arts and Sciences, and Department Head of Economics. There is a visitation on February 28 and a memorial service on February 29, both in Sioux Falls. [Click here for the details.](#)



Student Job / Internship Opportunities

• Hands-on STEM Educator Internship

- Pierre, SD
- \$10-14 / hour
- 20-30 hours / week
- Negotiable start / end dates; min. 10 week commitment preferred
- This position will help plan and lead hands-on STEM programming for pre-school through middle school youth in central South Dakota, both in the SD Discovery Center and at schools and afterschool programs. It will also include assisting with events and preparing educational materials. Education or STEM majors are preferred. High school students, college students or recent college graduates are eligible to apply. Good communication skills, experience working with children, reliability, and ability to work independently are important. There is potential for this internship to lead to a permanent position. To learn more and apply, visit the SD Discovery Center page here!

• Biological Science Aid - entomology

- Brookings, SD
- \$12.21 / hour
- 1 full-time summer, possibly part-time into school year
- Start date: May 10 or 24, 2020
- Assist with experiments and insect research in the laboratory, environmental chambers, greenhouses, and the field. Insects studied include soybean pests and beneficial insects, such as lady beetles and bees. Lab duties will include sorting / pinning / labeling and counting insects. Greenhouse / growth chamber work will include rearing plants, aphids, and lady beetles. Field work will consist of sampling for aphids, lady beetles, bees and potentially other insects; and maintenance of crop plots. Questions about the position can be directed to Louis.Hesler@usda.gov, 605-693-5228.
- To apply, submit resumé, referencing [Hesler](#) to: Susan.Coombes@usda.gov

• Biological Science Aid - agronomy

- Brookings, SD
- \$10.86 – 12.21 / hour
- Full-time summer, part-time during school year
- Start date: May 10, 2020
- 1) prepare routine solutions by weighing and measuring constituents according to established methods; 2) use common laboratory equipment and apparatus such as pH and EC meters; 3) maintain work area in a neat and orderly manner and may wash or clean other laboratory equipment; 4) assist in plot preparation and maintenance, plant, harvest, and sample preparation; 5) processing of soil and plant samples. Questions about the position can be directed to Shannon.Osborne@usda.gov, 605-693-5234.
- To apply, submit resumé, referencing [Osborne](#) to: Susan.Coombes@usda.gov

• Biological Science Aid - microbiology

- Brookings, SD
- \$12.21 / hour
- Full-time summer, part-time during school year
- Start date: May 10, 2020
- Assist with processing soils, including grinding, sieving, weighing. Use laboratory protocols to measure soil properties on soil samples from field studies. Lab work involves making solutions, pipetting, filtering, and the use of analytical equipment, e.g., spectrophotometer, thermocycler, gel electrophoreses. Training in techniques, use of equipment, and proper safety procedures will be provided. Must carefully record and enter data. Occasional field work, e.g., collecting soil or plant samples, may be required. Questions about the position can be directed to Michael.Lehman@usda.gov, 605-693-5205.
- To apply, submit resumé, referencing [Lehman](#) to: Susan.Coombes@usda.gov

• Biological Science Aid - entomology

- Brookings, SD
- \$12.21 / hour
- Full-time summer, part-time during school year
- Start date: April 26, 2020 at earliest; flexible
- Maintenance of a continuous Western and Northern Corn rootworm colony to include: beetle collection and manipulation, larval rearing container planting, data collection, cage cleaning, food preparation, soil handling, and general housekeeping. Personnel will work in a team environment to handle daily duties and will learn to recognize what is normal for the colony and make the supervisor aware of any discrepancies that may jeopardize the colony. The employees will, when necessary, help establish field plots and traps to collect corn rootworms, as well as assist in the collecting of specimens and the maintenance of traps. Data will be computerized and verified for accuracy. Questions about the position can be directed to Chad.Nielson@usda.gov, 605-693-5206.
- To apply, submit resumé, referencing [Nielson](#) to: Susan.Coombes@usda.gov

Student Job / Internship Opportunities, cont.

- **Biological Science Aid - agronomy**

- Brookings, SD
- \$13.32 / hour
- Full-time summer, part-time during school year
- Start date: May 10, 2020
- Provide support at Eastern South Dakota Soil and Water Research Farm and North Central Agricultural Research Laboratory facilities. Mainly to include mowing field alleys using a 100 hp tractor and pull-behind bat wing mower; mowing lawn using a Grasshopper mower; other miscellaneous duties as assigned. Questions about the position can be directed to Sharon.Papiernik@usda.gov, 605-693-5201.
- To apply, submit resumé, referencing [Papiernik](#) to: Susan.Coombes@usda.gov

- **Student Trainee (Physical Science)**

- Sioux Falls, SD
- \$20.72-26.94 / hour
- Full-time summer
- The USGS Earth Resources Observation and Science (EROS) Center is seeking undergraduate, graduate level student working towards a degree in Physical Science or Engineering to gain practical experience in researching, collecting, organizing, calculating, and analyzing scientific data. As a Student Trainee Physical Science you will serve in a trainee capacity, performing routine and recurring development assignments to acquire knowledge and understanding of functions, principles, practices, and methods used in the area of Physical Sciences. Duties include:
 - Utilizes remotely sensed data to quantify estimates of post-wildfire burn severity.
 - Assists with data processing and analysis of post-fire vegetation structure data from multiple sources such as situ, lidar, and motion structure.
 - Conducts geostatistical/remote sensing analysis and validate maps.
 - Communicates methods, results, and impacts of study through written documentation and presentations.
 - Operates a government motor vehicle as an incidental driver.
 - Field work requires considerable physical exertion including walking and climbing over rough or mountainous terrain in a potentially adverse or hazardous conditions.
- Visit their webpage to learn more and to apply.

Keep an eye on our website to see future opportunities!

<https://www.sdstate.edu/natural-sciences/student-jobs-internships-workshops>



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