



**Celebrating Work Anniversaries**

for

**September 2020**

*Thank you for all your hard work & dedication!*

- Sue Schlinz – 31 years
- Radhey Kaushik – 17 years
- Volker Brözel – 17 years
- Marj Thompson – 14 years
- Rebecca Harms – 5 years
- Anne-Marie Hoskinson – 4
- Kevin Cope – 2 years

**Past Newsletters**

All the CNS newsletters have been uploaded for accessibility. You can view any past issue here: [www.bit.ly/CNS\\_Newsletters](http://www.bit.ly/CNS_Newsletters)

**Congratulations, Dr. Yajun Wu!**

Dr. Yajun Wu has been named the new Assistant Department Head of Biology & Microbiology! Dr. Wu has been with SDSU for 11 years and was promoted to Full Professor last year.



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**Updates from Dean Charlene Wolf-Hall**

I have had the song "See You in September" in my head all summer. It is a relief to have made it through the start of the semester as well as we have. Your hard work preparing for fall and getting through the first part of the semester has been very much appreciated.

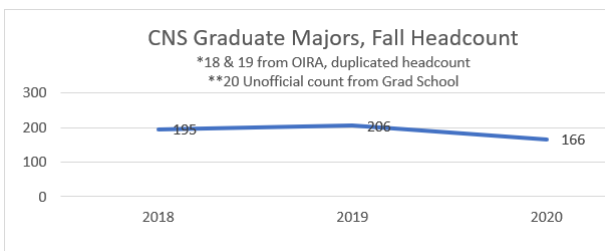
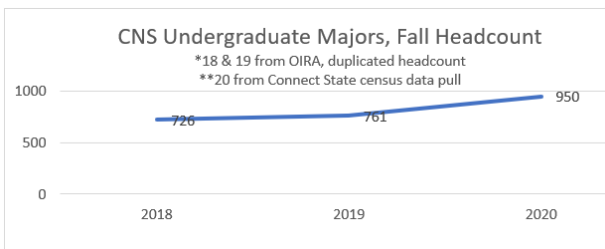
Thank you all for your efforts with One Day for State. It was truly a remarkable team effort and will make a big difference for our students now and into the future.

September is also the month in which we get the official enrolment counts known as census reports for fall semester. Below is some data to compare across falls for our college. Note the official data reports for Fall 20 are not out yet and may look slightly different. We are growing overall, and considering the challenges we have been facing, that is very remarkable. Well done Natural Sciences!

Also, of note for faculty and staff, the College of Natural Sciences data has been updated in Connect State. The

data available in that platform can be a helpful tool to guide approaches to student success for undergraduate students.

We have made it through September and onto October. The day light hours get shorter, the days seem to go by faster, and the to do lists grow. Keep your spirits up, enjoy the change of seasons, and use each day to absorb what you can from your university experience. Let others know if you are struggling. We are here for each other. Keep being awesome Natural Sciences!



**Fall 2020 Summary of Undergraduates Served by CNS Credentials and Advising**

Category	Freshmen	Sophomores	Juniors	Seniors	TOTAL
CNS Major	272	166	151	361	950
Pre-Professional, Non-CNS Major	100	33	33	60	226
CNS certificate, Non-CNS Major	0	1	0	3	4
<b>TOTAL</b>	<b>372</b>	<b>200</b>	<b>184</b>	<b>424</b>	<b>1180</b>

## Society of Physics Students (SPS) Chapter Awarded Twice

SDSU's local chapter won a national research competition funded by the SPS and the American Institute of Physics! This marks the first time SDSU won this award in recent years. Click to read more: [Abdullah Al Maruf, Ke Chen, Rajesh Pathak, Nicolas Carlson](#), "Partially Lithiophilic Non-Conductive Matrix as Lithium Host for Lithium Metal Battery" 2019-20 SPS Chapter Research Award, Society of Physics Students, AIP

This project is getting national attention and holds promise for the future of energy-efficient technology. It was recently mentioned on the "All About Circuits" website. [Click here](#) and scroll down to see the SDSU project supported in part by this SPS award.

Additionally, Dr. **Robert McTaggart** was awarded the "Outstanding Chapter Advisor Award" by the national SPS. One award is made each year, with the recipient receiving \$5000 to divide three ways: 60% to the chapter advisor, 20% to the chapter, and 20% to the department. McTaggart is the 2nd SDSU advisor to be awarded since the 80's.

# Awards & Recognition

## Spring 2020 Dean's List Released

The Dean's List for the Spring 2020 semester has been released! To earn this distinction, students must complete a minimum of 12 credits and earn at least a 3.5 grade point average on a 4.0 scale.

See the entire list of all 322 Natural Sciences Dean's List students and a message from Dean Wolf-Hall, on pages 6 - 7. Congratulations to all!

## Vivian Osei Poku

Vivian Osei Poku, current Biochemistry graduate student under the mentorship of Dr. Surtaj Iram, was recently selected to serve on The Honor Society of Phi Kappa Phi's 2020-2022 Council of Students! See the whole [story online](#).



## Andrea Zavadil

As mentioned in the June newsletter, Andrea Zavadil won an AOCS (American Oil Chemists Society) award in the student biotechnology division! The AOCS posted a feature story on her achievement. Read the interview [online here](#).



## *Grants Awarded within CNS, August 2020*

- **Xiaoyang Zhang, PI** | Geography & Geospatial Sciences | National Oceanic and Atmospheric Administration / US Department of Commerce | Global Biomass Burning Emissions Product – Maintenance and Refinement
- **Tanya Gupta, PI** | Chemistry & Biochemistry | National Science Foundation | Gamified Process Oriented Guided Inquiry Learning Activities (gPa) in a Large Enrollment Chemistry Course
- **Parashu Kharel, PI** | Physics | National Science Foundation | Collaborative Research: Spin-gapless semiconductivity and half-metallicity in Heusler alloys
- **Doug Raynie, PI** | Chemistry & Biochemistry | Institute of International Education | Search for SARS-CoV-2 solution from medicinal herbs: The case of Native American Sages
- **Adam Hoppe, PI** | Chemistry & Biochemistry | **Darci Fink / Natalie Thiex, co-PIs** | Chemistry & Biochemistry / Biology & Microbiology | South Dakota School of Mines & Technology / SD Board of Regents | IMAGEN: Biomaterials Research in South Dakota
- **Xiaoyang Zhang, PI / Hankui Zhang, co-PI** | Geography & Geospatial Sciences | National Aeronautics and Space Administration | Development of Near Real-Time Land Surface Phenology Product by Fusing Geostationary Satellite and VIRS Observation in Support Agriculture and Land Management
- **Brian Logue, PI** | Chemistry & Biochemistry | US Department of Defense | Analysis of DMTS, DMDS, Cyanide and Thiocyanate following Intranasal Administration of DMTS as a Cyanide Therapeutic
- **Natalie Thiex, PI** | Biology & Microbiology | National Institutes of Health | Determining the Role of the Mannose Receptor in Macrophage Macropinocytosis

Other recent media coverage links: **Dapeng Li**: [mapping GIS professionals](#)

**Adam Hoppe, Seuly Akter**: [cancer-fighting therapeutics](#)

**Parashu Kharel, Zachary Lehmann, Abdullah Al Maruf**: [semiconductor materials](#)

## Where did your interest in science begin?

**Andrew Ellis, M.S.**

*Department of Biology & Microbiology*

As a curious little boy who loved to be outdoors and questioning all things concerning how and why, science held my answers. As I reflect back to my childhood experiences there are many memories that made it crystal clear I needed science to allow me to understand the answers. I can clearly remember thoughts like, "how does that water-bug run across the surface without sinking?" Why do you need the sun at your back to see a rainbow? What's inside that fish's stomach?

Growing up Catholic, it was difficult to blindly follow what I was told (not just because I had a very short attention span) because I wasn't getting the answers I needed from only one book. In 3rd grade I remember learning my multiplication tables and questioning some of earth's timelines. It didn't make sense that dinosaurs died after a meteor hit our planet 65 million years ago but I was taught the earth was 6-7 thousand years old. Well, off to the principal's office I went when I wouldn't

let it go. Adam and Eve were the first two people on earth and we all come from them, I thought, nope. Off to the principal's office I went. Noah's ark, really, no inbreeding? Nope, just couldn't believe that, off I went again. Oh my parents had an inquisitive son on their hands but were open minded enough to let me explore the answers that made sense to me.

A few more visits to the principal's office and a few years down the road I found myself in high school accelerating in Biology. I was fortunate enough to intern in Advanced Biology (thanks Bob Dolan) after taking every Biology course that was offered. I used science to get the answers because it made sense. Ask questions, make plans to get your answers, analyze the methods, and evaluate your results. Science was for me.

College started and this eager young man started in Wildlife and Fisheries, but, Biology turned out to be a better fit. Biology was answering more and more of the questions I sought and was shaping me for the future. My last 3 semesters of

my undergraduate degree I interned in the Intro to Biology labs, helping the lab instructor teach the material to students. I learned quickly what worked and what didn't while teaching labs (thanks Dick Whalen). As graduate school started, I poured myself into my research and teaching for the Biology department's labs. I quickly found that I really enjoyed teaching. As a grad student I taught labs in Biology 101, 103, 151, 153, Vertebrate Zoology, Mammalogy, Mammalian Physiology and Human Anatomy. While finishing my Master's degree a Coordinator for Mammalian Physiology (325) and Human Anatomy (221) labs was created, so, I applied.

**Here I am 15 years later, still teaching students and doing what I love!**



**SOUTH DAKOTA  
STATE UNIVERSITY**

**College of Natural Sciences**

## Upcoming Faculty Award Nominations / Competitions

### CNS Teacher of the Year Award

Recipients receive a plaque, \$500, get their name added to the perpetual plaque in the CNS Dean's Office, are recognized at the annual Celebration of Faculty Excellence, and are featured during the annual Hobo Day parade with the recipients from other colleges. See the 9/15 email from [sdsu.naturalsciences@sdstate.edu](mailto:sdsu.naturalsciences@sdstate.edu) for more info on how to nominate yourself or others.

- Nominations are due by **November 2nd at 5pm**

### Innovation in Education Competition

The College of Natural Sciences will be initiating an Innovation in Education competition. The goal of the competition is to support faculty members in their efforts to develop innovative instructional approaches, curriculum redesigns, or programmatic changes. Faculty support will include one-month of summer salary to complete the proposed innovations. Through this support faculty will integrate new pedagogical and curricular ideas into programs and courses. The resulting innovations created will yield novel learning opportunities for students, enhancing their experiences at SDSU and preparing them for future careers.

- The official announcement for the CNS Innovation in Education Competition will come in **December**.

### University-Wide Awards

**F.O. Butler Awards:** (1) F.O. Butler Award for Excellence in Research or Creative Activity; (2) F.O. Butler Award for Excellence in Service in Extension/Outreach; (3) F.O. Butler Award for Excellence in Community Service; (4) F.O. Butler Award for Excellence in Teaching. Self-nominations are excluded, but please contact your department head if you want to nominate a colleague.

- Nominations are due **November 20th**

**Celebration of Faculty Excellence:** will be held on February 16, 2021. Nine additional awards will be distributed.

- Nominations are due **December 1st**

## Open PRAIRIE data for August 2020

- Data across the whole College of Natural Sciences:
  - 2,258 downloads at 323 institutions in 109 countries
  - 38 new works posted, for a total of 836
- *Monitoring Pollen Counts and Pollen Allergy Index Using Satellite Observations in East Coast of the United States* was the most frequently downloaded piece last month at 210 downloads. This thesis is by past M.S. student Murat Cagatay Kececi, who was an advisee of Dr. Xiaoyang Zhang.



A promotional banner for South Dakota State University's College of Natural Sciences. The banner features the mascot, a blue and yellow striped dog wearing a blue cap and a "One Day for STATE" badge, holding a large yellow foam finger that says "GO JACKS". The background is a collage of student photos. The text on the banner reads: "FINAL RESULTS" in large white letters, "318 DONORS" in yellow script, and "\$106,766 RAISED" in large white letters. The South Dakota State University logo and "College of Natural Sciences" are also present.

Here's a giant, heartfelt, **THANK YOU** to all the students, faculty, and staff who supported the College of Natural Sciences during this year's One Day for State! See the next page for a message and summary of the numbers over the years.

“Thank you all so very much for your role in making this year's One Day for State such a success! When we work together, anything is possible. This year we were led by Dean Charlene Wolf-Hall, whose \$5,000 Challenge Match kick-started the day when it was unlocked by the first 50 donors to the College of Natural Sciences. Her generous \$50,000 donation to the College of Natural Sciences Founder's Investment fund encouraged over 300 individuals to contribute by the end of the day. Each of your Departments had representation on the newly formed Alumni Engagement Team, that worked tirelessly to enhance our social media presence by posting engaging content in preparation for, and on the day of, this unifying event. The impact of this day and the unwavering support from our network of faculty, staff, alumni and beyond, during a pandemic none the less, had me moved to tears by the end of the day! I am so proud to serve this College, all of you, and all our students! Cheers to you all as we celebrate the impactful 24 hours!” --*Marissa Marshall, Development Director for the College of Natural Sciences*

2020 numbers are still being verified; in the meantime, here's an overall look at our ODFS data through the years, shown by # of donations / total \$ amount:

	Biology & Microbiology	Anatomy Lab Renovation	Chemistry & Biochemistry	Geography & Geospat. Sciences	Physics Department	CNS Excellence Fund	College Totals
2018	7 / \$171	282 / \$44.5k	2 / \$125	8 / \$450	4 / \$275	6 / \$183	309 / \$45.8k
2019	34 / \$1.5k	178 / \$43.9k	20 / \$5.2k	12 / \$51.3k	14 / \$1k	29 / \$2.5k	287 / \$106k
2020	59 / \$15.4k	110 / *TBD	19 / \$3.9 k	55 / \$7.5k	10 / \$686	65 / \$79.3k	318 / \$106.8k

\*coming out of the Bio-Micro 2020 total

## Research Spotlight – Dr. Jihong Cole-Dai

**Jihong Cole-Dai, Ph.D.**

*Department of Chemistry & Biochemistry*

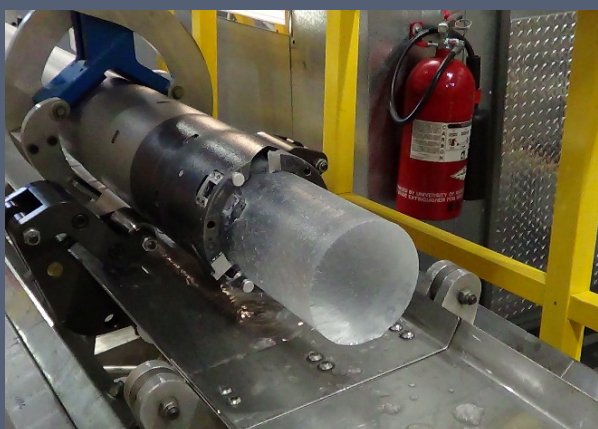
Winter is coming. One thing for sure is that it will snow in South Dakota during winter. Do you remember how much it snowed last year? Ever wonder what happened to the snow last winter?

The chemicals in last year's snow can tell what happened last year. That is the basic principle of ice core research. Our lab, Ice Core Environmental Chemistry Lab (ICECL), studies old snow collected from the poles, the Arctic and Antarctica, where snow does not melt and accumulates over hundreds and

thousands of years. We sample the accumulated snow with ice cores, cylinders of old snow and ice from the icesheets.

From chemical and other measurements of the snow and ice, we can determine the age of each snow layer in an ice core for thousands of years. The chemical composition of each year's snow, along with other measurements, can be used to infer the environmental conditions including climate status of that year. The environmental or climatic parameters of thousands of years (paleoenvironmental

or paleoclimate records) are examined, we gain a better understanding why and how the climate varies, and changes and how the natural environment evolves. This puts the current climate change and human-influenced environmental change in context and will, when properly studied, allow us to predict future changes and prepare us for such changes. Ice cores give us the ability to write or reconstruct climatic and environmental history so that, much like historians study human history to inform on the present and the future, we can understand what we are in now and be better prepared for the future.



← Pictured left  
Ice core in drill barrel

Pictured right →  
Ice core drilling at  
South Pole, Antarctica



# College of Natural Sciences Dean's List – Spring 2020

Cole	Adam
Javi	Adividya
Ashley	Aesoph
Aliza	Ahrendt
Caroline	Al-Azzeh
Karlee	Albert
Justin	Alderman
Noelle	Allerdings
Brenna	Anderson
Joshua	Anderson
Kuol	Arop
Alicia	Aseltine
Kaylee	Athey
Hailey	Axemaker
Ann	Babits
Logan	Backhaus
Donovan	Bain
Kailey	Bak
Lexi	Barbush
Arene	Barwari
Chiara	Bassi
Avori	Bastemeyer
Faith	Baumberger
Brady	Beck
Kelsey	Bender
Donovan	Bentz
Nicole	Berg
Tanner	Berg
Katelyn	Bettin
Sophie	Bisgard
Allison	Bjornstad
Camryn	Blackwell
Regan	Blackwell
Mary	Boksa
Peyton	Boll
Allison	Borge
Anna	Boyd
Bryn	Boyken
Elise	Braswell
Allison	Braun
Cassidy	Bridges
Sidney	Brower
Laney	Brown
McKenzie	Brown
William	Brown
Madison	Bruck
Kaila	Brudelie
Zachary	Budden
Logan	Burket

Abigail	Burkhart
Shawn	Busche
Brooke	Buthe
Alaire	Buyse
Andera	Cable
Courtney	Cameron
Jace	Canaan
Heather	Capps
Cassidy	Carda
Colton	Carlson
Delaney	Carlson
Jack	Carlson
Nicholas	Carlson
Regan	Carlson
Abigail	Carson
Kyerra	Carter
Alyssa	Casper
Andrew	Christiansen
Victoria	Christoffer
Kayla	Christopherson
Skylar	Close-Smith
Colton	Cogdill
Emme	Colhoff
Aspen	Comes
Cole	Conard
Mason	Crow
Hanna	Cummins
Joseph	Dembouski
Erin	Denevan
Megan	DeSmith
Jacob	Devine
Isabelle	DeWitt
Sam	Diemer
Dhalten	Dirks
Lindsey	Dockendorf
Joshua	Donahoe
Olivia	Douglas
Abigail	Dressen
Skylar	Drey
Marissa	Driesen
Chloe	Druskoff
Ty	Ducheneaux
Ty	Dunse
Kayla	Egenes
Evan	Ekstrum
Alexis	Elfstrand
Mia	Elliott
Garrett	Ellis
Sarah	Engels

Kasey	Erickson
Matias	Erickson
Sarah	Erickson
Hannah	Even
Jerrod	Fedorchik
Gage	Fenski
Alissa	Findley
Julie	Fischer
Moriah	Flanagan
Miranda	Foltz
Aubrie	Franken
Caleb	Freeman
Michael	Frick
Emily	Friesen
Spencer	Fritze
McKenzie	Gaspar
Tanner	Gauer
Taylor	Geffre
Wesley	Genant
Megan	Gilk
Elizabeth	Gillingham
Meghan	Glancey
Lucas	Goetz
Clara	Greenhagen
Tatum	Gregston
Raina	Grimsley
Brevin	Gustafson
Paige	Haakenson
Cooper	Haaland
Kaleb	Haas
Sarah	Haberman
Tseganesh	Hailemariam
Scot	Halko
Morgann	Hamilton
Mackenzie	Hanisch
Caleb	Harthoorn
Ian	Hastings
Maggie	Heezen
Mollie	Heinen
Thane	Henschel
Drew	Hicks
Kyra	Hintz
Nicole	Hintz
Clara	Hipp
Mason	Holmes
Justin	Hoogestraat
Brandon	Hoth
Samantha	Hunsecker
Morgan	Huntington

Rachel	Huseth
Thad	Indermuhle
Tylee	Irwin
Amanda	Jacobs
Riley	Jacobsen
Haley	Jahnke
Deann	Jelsma
Caden	Johnson
Kayla	Johnson
Mitchell	Johnson
Kara	Jueckstock
Alex	Kandolin
Mackenzie	Kasten
Abigail	Kastens
Caroline	Kincade
Carson	Klinkhammer
Connor	Klinkhammer
Riley	Klueber
Anne	Knoff
Luke	Knutson
Carter	Koons
James	Krall
Cameron	Krejci
Casey	Krejci
Molly	Kroeger
Sydney	Kubal
Lucas	Kubat
Peyton	Kuchenbecker
Emma	Kuitunen
Jackson	Kunz
Nicholas	Kurtenbach
Mitchell	Lack
Jacqueline	Laddusaw
Zachary	Lahr
Cassidy	Laidlaw
Austin	Lange
Maxwell	Larsen
Samantha	Lebert
Ella	Lee
Zachary	Lehmann
Tana	Lick
Joshua	Loecker
Morgan	Logue
Kristina	Long
Katherine	Lucas
Courtney	Lusk
Sienna	Mahan-Deitte
Abdullah	Maruf
Nicole	Matter

# College of Natural Sciences Dean's List – Spring 2020 *cont.*

Carson	Max
Caitlynn	McGregor
Sophie	McKee
Marie	McLaughlin
Carina	McLennan
Emory	McManimon
Karla	Meza
Anna	Milbauer
Sydney	Mincheff
Alana	Moe
Victoria	Moe
Joshua	Mohs
Melissa	Moisan
Hannah	Moran
Kahlen	Morris
Whitney	Muck
Abigale	Muller
Laura	Munger
Cassie	Munsterman
Nicholas	Nachreiner
Anna	Nerad
Ethan	Noble
Tarek	Nour
Christina	O'Bryan
Jaymie	O'Connor
Regan	Odegaard
Austin	Odland
Collin	Olevson
Brynn	Olson
Emily	Olson
Jacob	Olson
Insaf	Omar
Thomas	Ott
Hannah	Pannell
Keri	Pappas
Timothy	Paris
Jenna	Parliament
William	Parry
Allison	Pauley
Juliana	Pederson
Jady	Perry
Eliza	Peters
Briar	Peterson
Samuel	Peterson
Bailey	Pickering
Bronson	Pond
Cole	Pudwill
Megan	Radtke
Megan	Rambo

Logan	Ranschau
Anna	Rauber-Ramos
Jessica	Reinhardt
Samantha	Reuppel
Morgan	Ridley
Emily	Rief
Amanda	Roesler
Audrey	Ruml
Kennedy	Ruppert
Devindi	Samarasinghe
Andrew	Sandbulte
Nathan	Sangster
Cole	Sawatzke
Anastacia	Schake
Jessica	Scheer
Codi	Schmidt
Matthew	Schmit
Lauren	Schueler
Brandon	Schuldt
Megan	Schulte
Jacob	Schumacher
Elise	Schweer
Sarah	Schweitzer
Michael	Schwinghamer
Brayden	Selchert
Meg	Sheehan
Devon	Sievers
Zoey	Sjogren
Jessica	Skare
Sheridan	Skinner
Logan	Smith
Carly	Sparks
Althea	Spencer
Tristan	Stauffacher
Mason	Steffen
Quenton	Steffen
Lisa	Stein
Kristin	Stoltenberg
Eleanor	Stowell
Rylee	Stromer Iversen
Eric	Sundall
Jenna	Sutcliffe
Makayla	Swancutt
Jillissa	Taubel
McKayla	Tegethoff
Lucas	Tetrick
Conner	Thaler
Ellie	Thein
Rebecca	Thom

Brittany	Todd
Tommi	Toft
Cassandra	Townsend
Jordan	Traub-Jensen
Evan	Traxler
Eric	Tulowetzke
Kaylan	Untiedt
Sarah	Urevig
Brooklyn	VanDerWolde
Matthew	VanErdewyk
Samuel	Vanorman
Zachariah	Vargas
Madelyn	Walsh
Jace	Waybright
Brittney	Weber
Drew	Westerman
Andrew	White
Molly	White Bull
Emily	Wilde
Mary	Willrodt
Sydney	Wilson
Ethan	Wishon
Cole	Withrow
Breeanna	Wolkerstorfer
Tucker	Wookey
Lorna	Wright
Aaron	Yam
Jayda	Zemlicka

Message from Dean Wolf-Hall

Each semester, South Dakota State University announces the students who have been named to the Dean's List by achieving a semester grade point average of 3.5 or more. I am pleased to inform you that your academic performance has earned a place on the Spring 2020 College of Natural Sciences Dean's List. You did remarkably well considering the unique challenges of spring 2020. Your resilience is admirable. Please accept my personal congratulations on your achievement and on behalf of the faculty and staff in the College of Natural Sciences, I applaud your academic accomplishments.



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