



SOUTH DAKOTA MINES®

An engineering, science and technology university

Department of Mechanical Engineering

Fall 2022

A Message from the Department Head



The Fall 2022 semester is off to a fantastic start! In August, we welcomed to campus one of the largest mechanical engineering freshmen classes ever! This year's first-year class was 20 students larger than last year's, and last year's was 30 students larger than the preceding year. We're growing! We currently have more than 561 undergraduates in our mechanical engineering program. Our growth is exceptional at this time and is going against the national trends. Nationwide college enrollment is down, and mechanical engineering enrollment is down—but not at South Dakota Mines! We continue to make progress with respect to gender diversity. Currently, we have the largest number of female students ever in the mechanical engineering program (56). In the past year, we awarded 91 BS degrees in mechanical engineering, the third most ever. In the past two years, we have tripled the enrollment in our master's degree program, and the enrollment in our doctoral program is up 50%.

A few weeks ago, we had our ABET accreditation visit to campus. I'm happy to report that the review went exceptionally well. The ABET reviewer had very positive things to say about our project-based learning, hands-on labs and facilities, and our open-use project and teaming spaces such as The Zoo, Aquarium, Reef, and Forest. If you'd like to know more about these innovative spaces, read on for descriptions and photos.

We're in the final stages of [our capital campaign to raise funds for our E.R. Stensaas Laboratory Endowment](#). Our goal is to raise the Stensaas Lab Endowment by \$1M. The family of Elden Stensaas is matching gifts 1-for-1, so we need to raise \$500k to reach our goal. Thus far, we're 70% of the way toward our goal (\$349,834). This endowment is critical to enable us to continue providing the hands-on, project-based learning experiences that prepare our graduates to be successful in the workplace. Inflation is impacting us just like it is every family. Our costs are increasing, yet at the same time budgets are decreasing

because tuition and fees haven't been raised. Something has to give, or things will break. We're sincerely hoping each and every person that has benefited from their high-quality education will give. Small gifts, medium gifts, large gifts, \$5, \$10, \$100, \$10k—whatever you can give will help us. Remember, every gift is matched 1-for-1, so a gift of \$5 yields a \$10 deposit into the endowment. By the way, if you're not familiar with an endowment and how it works, the funds are deposited and invested in perpetuity. Each fiscal year, we are provided with 4% earnings from the investments. Therefore, your gift will benefit the mechanical engineering students at South Dakota Mines forever!

In the following sections, you'll see that our students and faculty continue to amaze us with their accomplishments and awards. We're graduating more students, we're publishing more papers, we're winning more awards, and we're receiving more grants... it's a great time to be a Mechanical Engineering Hardrock!

Dr. Pierre Larochelle, P.E.

Department Head, Department of Mechanical Engineering

Stensaas Lab Endowment

E.R. Stensaas served as the founding department head from 1947-1974. During those 27 years, he had a profound impact on the culture of the Department of Mechanical Engineering. He led the effort to establish our tradition of hands-on project-based learning, which is still a hallmark of the curriculum at South Dakota Mines. To honor that legacy and support this tradition, an endowment was created in 1997 to address the constant challenge of keeping the labs up to date with the latest technology and equipment. That challenge is even more present today, as the ME field continues to evolve at a fast rate.

The Stensaas family wants to strengthen the endowment by \$1 million, and as a result, they've **challenged mechanical engineering alumni to raise \$500,000 - which they will match dollar for dollar**. Our current total raised is just over \$350,000, leaving us \$150,000 left to raise to meet the challenge by December 31!

When completed, the endowment will almost double the available funds for lab improvements and equipment each year. This will allow the department to add new equipment and create special lab areas to address new areas of interest like mechatronics.

This project is supported by alumni across the decades – from those who knew Mr. Stensaas as students, to those who simply want to support the students of tomorrow and continue the legacy of the department.

"I support the Stensaas Laboratory Endowment for several reasons. First, because the work and education accomplished in this lab are vitally important to the training of South Dakota Mines students. Second, because I knew and admired Professor Stensaas. Along with two other students, I attended the 1958 ASME student conference in Milwaukee. We went with Stensaas in his car to and from, trading off driving with him. From conversations during that trip, I learned more about his philosophy of engineering, life, and education that went beyond topics covered in class. I hope that it "rubbed off." Last, but definitely not least, he gave me wise counsel regarding an ethical matter in the first year after my graduation. He had wisdom and was a role model to several generations of South Dakota Mines students. His legacy is honored by this endowment." - *Donn Lobdell, Class of 1958*

"The small-school atmosphere and hands-on educational opportunities were the key differentiators that made South Dakota Mines a special school and education for me. The Stensaas lab endowment will help ensure future Hardrockers have the same or better opportunities for hands-on learning, which helps solidify understanding of applications of mechanical engineering. I am supporting the fundraising effort to solidify a strong future in hands-on mechanical engineering at South Dakota Mines." - *Matt Schulte, Class of 2008*

A special website - <https://cara.sdsmt.edu/stensaas> - has been set up for the project, which shares videos from several key faculty such as Chuck Schilling, sharing their thoughts on why this project is near to their hearts. The videos will take you back to your time in the labs, reminding you of the importance of this project. You can also use this website to share a memory of Mr. Stensaas, which we will share with the family when this project is complete.

To participate in this fundraising effort and have your gift doubled, you can [donate online](#) or make a check out to the Center for Alumni Relations & Advancement (CARA) with a note directing the donation to the Stensaas Lab Endowment #35760. CARA's mailing address is 330 East Kansas City St., Rapid City, SD 57701. Gifts of stock and other assets can also be made. Contact Amanda Barnes, Director of Development, at Amanda.Barnes@SDSMT.edu or 605.394.6659 with any questions about this project.

Please give today. The campaign is closing on December 31, 2022. We need your help to reach our goal to support project-based hands-on education for mechanical engineering students at South Dakota Mines.

Dr. Paul Gnirk, professor emeritus of the Department of Mechanical Engineering, was recently chosen as a member of the Class of 2022 South Dakota Hall of Fame. Between 1967 and 1973, Dr. Gnirk was an associate professor (subsequently promoted to full professor) in the mechanical engineering department. During that time, he also became a founding member of RESPEC where he served as president between 1969 to 1991. Dr. Gnirk currently serves as a member of the mechanical engineering department's advisory board.



Read more about Dr. Gnirk and the South Dakota Hall of Fame [here](#).



See the list of our recent [research awards and publications](#).



Click here to see a list of our [graduated students](#) from the 2021-22 academic year.

The ME Doctoral Fellowship Program was initiated in Fall 2019 from generous donations of ME alumni and faculty. This program offers up to \$25,000 in support to selected students. We are continuing our fundraising efforts and appreciate the support from alumni, industrial partners, and friends of the department.

[Donate Now](#)



Dr. Eirik Valseth, who graduated from South Dakota Mines in Fall 2019 with his PhD in mechanical engineering, recently was awarded the Marie Curie Fellowship of the European Union, which is among the most prestigious fellowships in Europe. As such, he has been a postdoctoral fellow at the Mathematics Department of the University of Oslo, since August of 2022. Concurrently, he is also a research associate at the Oden Institute of the University of Texas at Austin, where he has been employed since his graduation from South Dakota Mines. Recently, Dr. Valseth secured a position as an associate professor in Scientific Computing at the Department of Data Science, Faculty of Science and Technology, of the Norwegian University of Life Sciences in As, Norway. Read more about Dr. Valseth's research and the Marie Curie Fellowship [here](#).



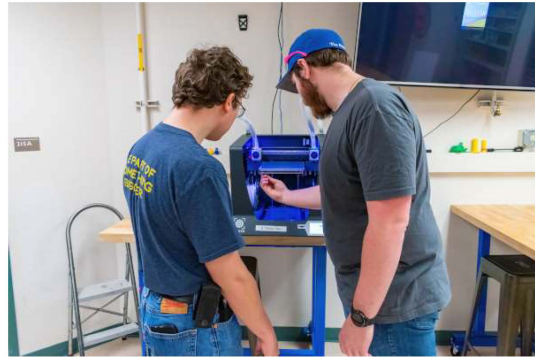
South Dakota Mines' mechanical engineering alumnus Chris Flack (right) stands with Austin Cindric, winner of this year's Daytona 500. Chris (BSME 08) helps build race engines for Ford teams competing in NASCAR's Cup Series, and he has multiple championship rings for his role in helping teams win the Great American Race. Read the full Rapid City Journal article [here](#).

Over the last few years, the Department of Mechanical Engineering has been working to create more spaces for student design activities. Recently coined The Zoo, Aquarium, Reef, and Forest, these spaces underscore the importance and vitality of our product design and project-based learning focus. Students can use each of these spaces as they travel their way through the ME curriculum.

The response and feedback to the spaces have been extremely positive. As [Dr. Aaron Lalley](#), lecturer in the ME department, states, “We have been increasing the available student project space for a few years now, and it is great to see them getting used as much as they have. The fact that the spaces are getting used so much tells me that we are doing the right thing.”

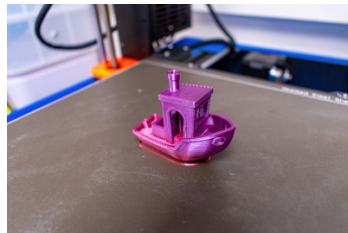


With the new spaces comes the added benefit of student mentors who help manage the areas and provide guidance to all students seeking to use the spaces. The level of professionalism displayed by our mentors is notable and has resulted in an exceptional layer of support for our students whether they seek academic direction or advice outside the classroom.



These student spaces have helped support the product-based curriculum unique to our department. As E.R. Stensaas Chair [Dr. Micah Lande](#) explains, “For our Intro to ME course, students design and fabricate small 3D-printed boats to explore buoyancy and hum with activity turning out student design iterations. It all helps to support their hands-on learning in and beyond the classroom.

“As the Reef comes online, championed by Dr. McKeon ... it's a welcome addition to help students in my sophomore ME 265 Product Design and Development course. It now allows for a specific space to find components, explore basic mechatronics, and fabricate systems-level functional prototypes. Most importantly, it formalizes another student design space where we have peer and near-peer student mentors helping to forge a strong student community of practice.”





The 2022 Senior Design Fair took place on Tuesday, April 12th. This was the first in-person design fair since Spring 2019, which was followed by virtual design fair presentations that went into more detail on the projects. Members of the Mechanical Engineering Department Advisory Board served as reviewers for both the in-person and virtual design fair teams. A total of 59 projects were on display at the design fair, 18 of which included mechanical engineering students.

Local media sources highlighted the exciting and impressive event. See the pictures and read more [here](#) and [here](#).

Awards from the 2022 Design Fair

Best Poster Presentation

**Street Writing Graffiti Apparatus
(StreetSmarts)**

Best Virtual Presentation

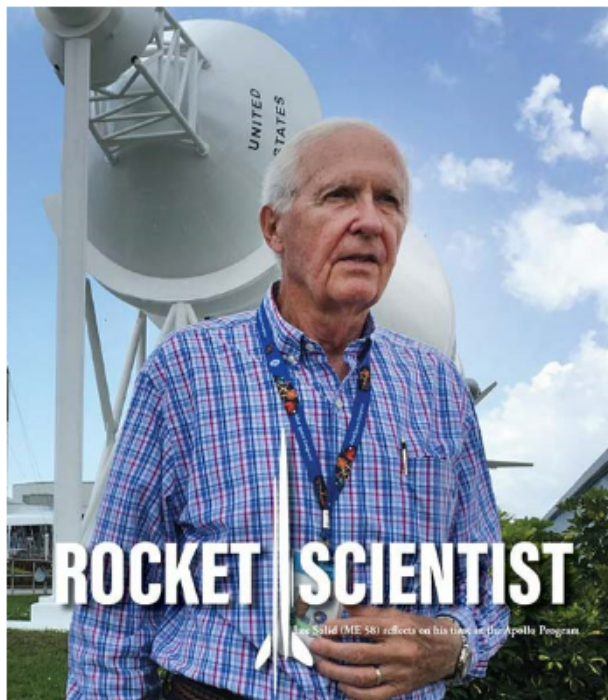
**Pitch-Catch Acoustic Pyrometer
(PCAP) Temperature Measurement**

Most Innovative

SAE Aero Design 2022

Best Prototype

Neck Rehabilitation Device (NRD)



Lee Solid, who obtained his degree in mechanical engineering from South Dakota Mines in 1959, received the Distinguished Alumni Award. Lee was honored at the first annual [Hardrock Heritage Gala](#) on September 23 (M-Day). Read more about Lee's outstanding service to the engineering field [here](#).



Creativity is a key skill for great engineering students. ME senior Taylor Muncie's artistic talent was recognized on the South Dakota School of Mines & Technology's [Facebook page](#) and is also displayed on the second floor of the Civil/Mechanical building.

Student Achievements

Inducted into the 2022 Leadership Hall of Fame, ME senior Armand Lannerd received the Caring, Helping, Aspiring, and Developing (C.H.A.D.) Award in Spring 2022. The C.H.A.D. Award recognizes a student, faculty, or staff member each semester who exemplifies Chad Nienhueser's life and aspirations. Armand also received the Jody Page Leadership Scholarship, a \$2,000 award, which recognizes a student in an engineering major program who is active within engineering societies and community organizations. Armand serves as president of South Dakota Mines' Pi Tau Sigma Honors Society.

Additionally, the following ME seniors were recognized as Outstanding Student Organization Members: Jack Douglas (Formula Hardrock Racing), Aren Jorgensen (Supermileage Team), Morgan Tatge (Society of Women Engineers), and Noel Utecht (American Society of Mechanical Engineers).



Our students continue to impress with their innovative nature. Kaytie Barkley, a master's student in the Department of Mechanical Engineering, won a 2021 SDSGC Research Stipend followed by a 2021 NASA Space Technology Graduate Research Opportunities grant to undertake research that could someday be used to build spacecraft. Out of 4,001 significant student awards, Kaytie's research activity was notably included in NASA's recent detailed budget. We also showcased her achievement in this throwback video on [TikTok](#), which is the university's most viral social media video ever.

ME undergraduate Bennet Outland was awarded the Department of Defense Science, Mathematics, and Research for Transformation (SMART) Scholarship. Bennet is currently finishing up his BS degree in mechanical engineering and is advancing his education through an accelerated master's program on campus. SMART Scholars receive numerous benefits that prepare them for a prestigious civilian position with the Department of Defense.

Read more [here](#).



Pi Tau Sigma is the International Honor Society for Mechanical Engineers. Members must be in the top 25% of their class, and their focus is on integrity, leadership, and service. South Dakota Mines' Phi Alpha chapter of Pi Tau Sigma is very active in outreach activities and community service. In the last year, this student group has hosted a booth at the South Dakota Mines Spring 2022 Student Organization Fair and managed a mechanical engineering station with ASME for Engineering and Science Day. Pi Tau Sigma members also participated in the MLK Day of Service canned food drive for Feeding South Dakota.



Kole Pickner, serving as acting president at the time, represented this chapter at the 2022 Pi Tau Sigma National Convention in March 2022.

Pi Alpha is notably one of seven other chapters (out of 179 total) of Pi Tau Sigma to be in "Good Standing." Section chapters must hold two initiations a year to remain in good standing.



Mechanical engineering undergraduate, Andrew Black, is the first recipient of the Climbing Higher Award, which recognizes high school seniors in the Colorado Springs, CO, area who intend to pursue a field related to motorsports. The Broadmoor Pikes Peak International Hill Climb (PPIHC) recognized Andrew for his academic pursuits. Andrew is pictured here with Bob Bodor, executive director of PPIHC. Read more about Andrew's accomplishments and the Climbing Higher Award [here](#).

The South Dakota Mines' [Moonrockers team](#) received special recognition for Consistently Sustained Improvement from [NASA Lunabotics 2022](#).



Recent ME undergraduate Kaleb Roth was one of two South Dakota Mines recipients of the 2022 Braun Student Inventor Award. Kaleb received this award for a new and innovative campfire-starting device he invented called the Forever Fire. This device uses a human-powered generator to power electronic parts, which can produce an electric arc in all weather conditions. Read more about this award [here](#). Kaleb also won first place at the [Dakota State University Business Competition](#) and second place at the [University of South Dakota Beacom School of Business annual Invent to Innovate \(i2i\) Business Model Competition](#) for the Forever Fire.

Mechanical engineering student Philip Litecky took second place at the [Dakota State University Business Competition](#) with his company Li-Tech Lure, which produces fishing lures engineered to target panfish.



Joshua Green has been selected as this year's [Outstanding Recent Mechanical Engineering Graduate](#). Joshua graduated with his BS in 2011 from South Dakota Mines. He has worked at Caterpillar Inc. since 2011, where he currently serves as a manufacturing engineer support. Joshua has had various internships with Caterpillar Inc. and John Deere both as a student at South Dakota Mines and after graduation.

Joshua has been heavily involved in recruiting for Caterpillar Inc. at South Dakota Mines and at Georgia Tech, specifically for the Leadership and Technical Development Program (LTDP). Since 2014, he has been the Steering Team Member for Caterpillar Inc. for their Seguin, TX, and Griffin, GA, facilities; in this role, he finds and creates roles for those in LTDP, while mentoring them.

Outside of work, Joshua is an active member of his church, volunteered to raise funds for Caterpillar's United Way Campaign, and attends outreach events at local grade and middle schools. Joshua is also Six Sigma Green Belt trained and certified. He currently resides in Jackson, GA.

Faculty Research Projects and Activities

SD-FIRST Supports First-Generation Students

The SD-FIRST program at South Dakota Mines is a support program geared towards first-generation students, and to creating an environment where they will thrive and find success – the first of its kind on the Mines campus. As the first in their families to attend college and complete a college degree, first-generation students and their support systems can lack firsthand experience navigating the higher education world, making the journey overwhelming. The SD-FIRST program aims to fill that void by removing some financial burden and giving students the academic and social tools they need to be successful, all while helping them navigate college.

On the Mines campus, nearly 1/3 of students in each incoming freshmen class are first-generation students. Moreover, of the Mines students who classify as low socioeconomic status (42% of campus population), 80% of those are first-generation students. By comparison to “generational” students who have familial experience with college, first-generation students graduate at a much lower rate (at South Dakota Mines, the 5-year graduation rate is 24% for first-generation students vs. 49% for generational students). While Mines has many resources available for all students, first-generation students can face the challenges of not knowing where or who to turn to for help on campus.



SD-FIRST students try their hand at blacksmithing

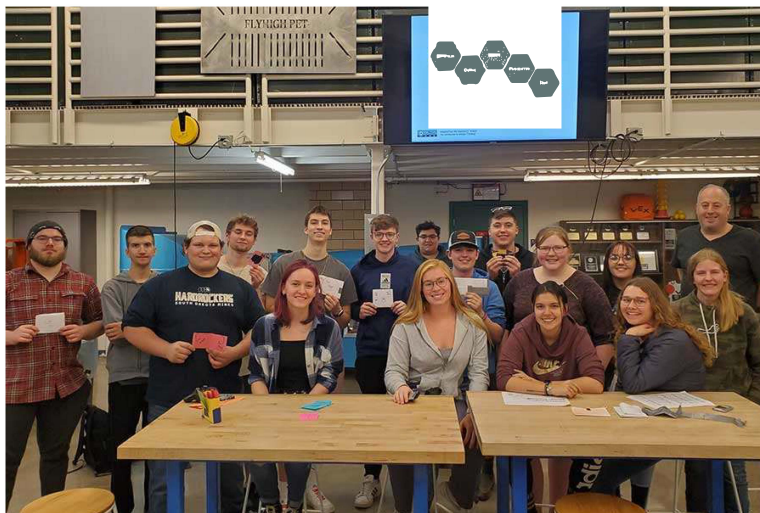
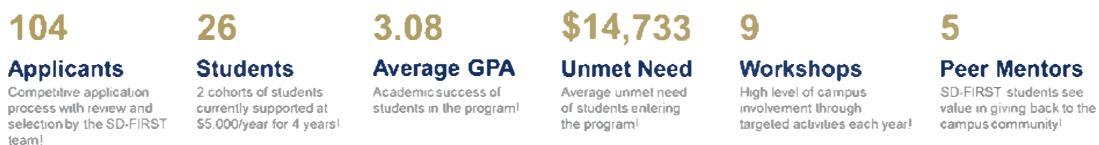


SD-FIRST students participate in Friday STEAM events and learn to throw pottery

The goals of the SD-FIRST program are to increase recruitment, retention, and success of first-generation students by providing a robust, evidence-based support system that awards scholarships to students and connects them with other financial-aid opportunities to help alleviate financial burden and help scholars to remain focused on academics. The program also provides academic and social support to first-generation students, by raising

awareness of important campus resources, helping them negotiate faculty/staff interactions, sharing opportunities for involvement in clubs and teams, providing a personal connection for overall support, and much more.

In Fall 2021, the program supported 16 incoming freshmen students, and another 10 incoming freshmen students in Fall 2022. Each student selected for the program is awarded a \$5,000 scholarship each year for 4 years as long as the required GPA and program participation are maintained, and financial need is demonstrated. With plans to support another cohort for Fall 2023, SD-FIRST will provide academic, social, and financial support to a total of more than 35 students over 6 years! SD-FIRST scholars participate in one workshop or event each month throughout the year, meet with peer mentors and academic advisors, and maintain a close relationship with the program coordinator. The program values emotional intelligence – one predictor of student success – which is evaluated and monitored for the program participants, with a goal of increasing student emotional intelligence through specifically designed programmatic elements. Other success measures of the program can be seen in the figure below through a wide applicant pool, average GPA of the scholars, high level of need of the scholars, and campus involvement.



SD-FIRST students participating in a design thinking activity

If you'd like to be involved or learn more about the program, please visit sdsmt.edu/SD-FIRST or contact [Dr. Cassandra Birrenkott](mailto:cassandra.birrenkott@sdsmt.edu) (cassandra.birrenkott@sdsmt.edu).

Recent press on this program:

- <https://www.sdsmt.edu/News/SD-FIRST-Program--2022/#.Y2GGTmnMJPZ>
- <https://www.newscenter1.tv/sd-first-provides-first-generation-students-support-to-get-their-diplomas/>

Dr. Xing's Research as Pearson Chair

[Dr. Weibing Xing](#) joined the Department of Mechanical Engineering at South Dakota Mines as the Pearson Endowed Chair in 2020, where he leads the research activities of the Energy Storage Lab (ESL). His research interests in electrochemical energy storage include primarily lithium batteries, rechargeable Li-ion batteries, next-generation Li-ion batteries (Li metal anode, all-solid-state), beyond Li-ion battery chemistries (Li-sulfur, Li-air), and supercapacitors (symmetric, asymmetric). The scope of the research includes fundamental, material-level studies (electrodes, electrolytes, separators) and integrated, cell-level investigations and optimizations.

Dr. Xing has a number of ongoing projects, one of which is the *Next-Generation Energy Storage Research and Development*. This is under an ADA Technologies, Inc. (ADA) and South Dakota Mines contract, with total funding of \$70,000, effective from July 1, 2020, through December 31, 2022, with a possibility of renewal.

Another project is *Multi-Dimensional Networked Antiperovskite Electrolytes for All-Solid-State Batteries for Electric Aircraft*. This is a project funded by the NASA EPSCoR Rapid Response Research (3R) program, from Oct 1, 2021, to Sept 30, 2022, with total funding of \$100,000. This is a collaboration with SDSU where Dr. Xing served as a Co-PI. The research under this project is in concert with the Lynntech/Navy project.



Dr. Xing and some of his research team.

Pictured left to right: Christopher Poches (ME Undergrad), Strauss Langrud (MSME 22), Dr. Weibing Xing, Regan Ogilvie (ME Undergraduate)

High-Performance Solid-State Lithium-Sulfur Batteries is a research project supported by the Governor's Research Center – South Dakota Center for Electrochemical Energy Storage (CEES), which started in Fall 2021 and runs through Fall 2026. Dr. Xing serves as a director of the CEES. The ESL is allocated funding for the entire program period with the full support of ~\$42,000 for Year 1, increased for each following year, and ~\$47,500 for Year 5.

Next-Generation Lithium Battery Enabled by Holey Graphene-based Electrodes is a research project funded by the Navy STTR program where the ESL serves as a subcontractor to the industrial collaborator, Lynntech. During this review period, the program is at Phase I Base for 6 months with a total of \$80,000 (South Dakota Mines \$40,000). This successful Phase I Base project won recognition of the Navy sponsor with an award of a continuing Phase I Option program with a total of \$70,000 (South Dakota Mines \$29,000) for 6 months, followed by a Phase II program with a total of \$1,300,000 (South Dakota Mines \$364,487) for three years. The ESL team developed a high-voltage electrolyte that stabilized Li/Ni-rich battery cycle life.



Energy Storage Lab (ESL)

Dr. Xing also works on a project titled *Material Engineering of Flexible High Energy Density Lithium-Sulfur Batteries*. This is a research project awarded from the Nelson Research Grants of SDSMT, an award of \$3,750 from July 1, 2022, to June 30, 2023. The ESL team is developing a 3D nanostructured sulfur cathode for high energy density, high power density, and long-life Li-S batteries.

As a participating faculty researcher for *IUCRC Center for Green Solid-State Electric Power Generation and Storage (CEPS)*, Dr. Xing has been attending regular center meetings, making contacts with battery companies, and discussing possible collaborations with other faculty researchers from South Dakota universities.

In addition to his current activities, Dr. Xing intends to submit a full proposal for the NASA EPSCoR Major Research program: “High Energy Density, Long-Lasting Cycle Life and Scalable Lithium-Sulfur Batteries for NASA Space Missions.” Dr. Xing was selected as the only proposer from South Dakota to submit a full proposal, where he leads the proposal activity as the Science-PI, in collaboration with three Co-PIs who are from South Dakota Mines and the University of South Dakota. The full proposal will be submitted to NASA by Nov 17th, 2022.

Stress-Annealing System Design

[Dr. Nickolaus Bruno](#) serves as Sc-PI for the NASA EPSCoR project, Advanced Soft-Magnetic Materials for Electrified Propulsion Systems (ASM-EPS), which is organized into four intertwined initiatives that coordinate activities to achieve the central goal, i.e., manufacture high-efficiency high-power inductor cores from Fe-based metal-amorphous nanocomposites (MANCs). The proposed initiatives include (1) alloy synthesis to develop novel MANCs, (2) stress-annealing (SA) and processing to tune their magnetic and mechanical behaviors, (3) materials and core characterization to understand MANC behaviors, and (4) packaging to improve thermal transfer between energized cores and their surroundings. High-efficiency (HE) high-power inductor cores will be manufactured from “ground-up” technology through the synergy between initiatives (1)-(4).

At least 50 inductor cores were manufactured from Fe-based MANCs during the first year of the project. These were used for core characterization and to understand the effect of SA parameters on core/ribbon behavior. The interdependence between the central goal and initiatives has led to accomplishments during the first year as listed below.

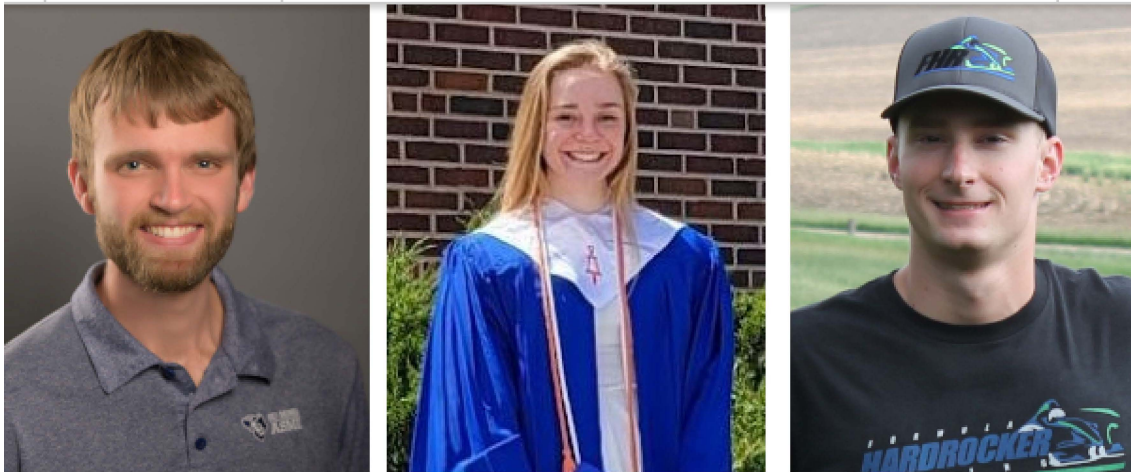


Dr. Bruno operates the in-line stress-annealing system at South Dakota Mines to tune the magnetic properties of Fe-1.5Nb-1.5W-1Cu-15.5Si-7B at.% planar-flow-cast ribbon.

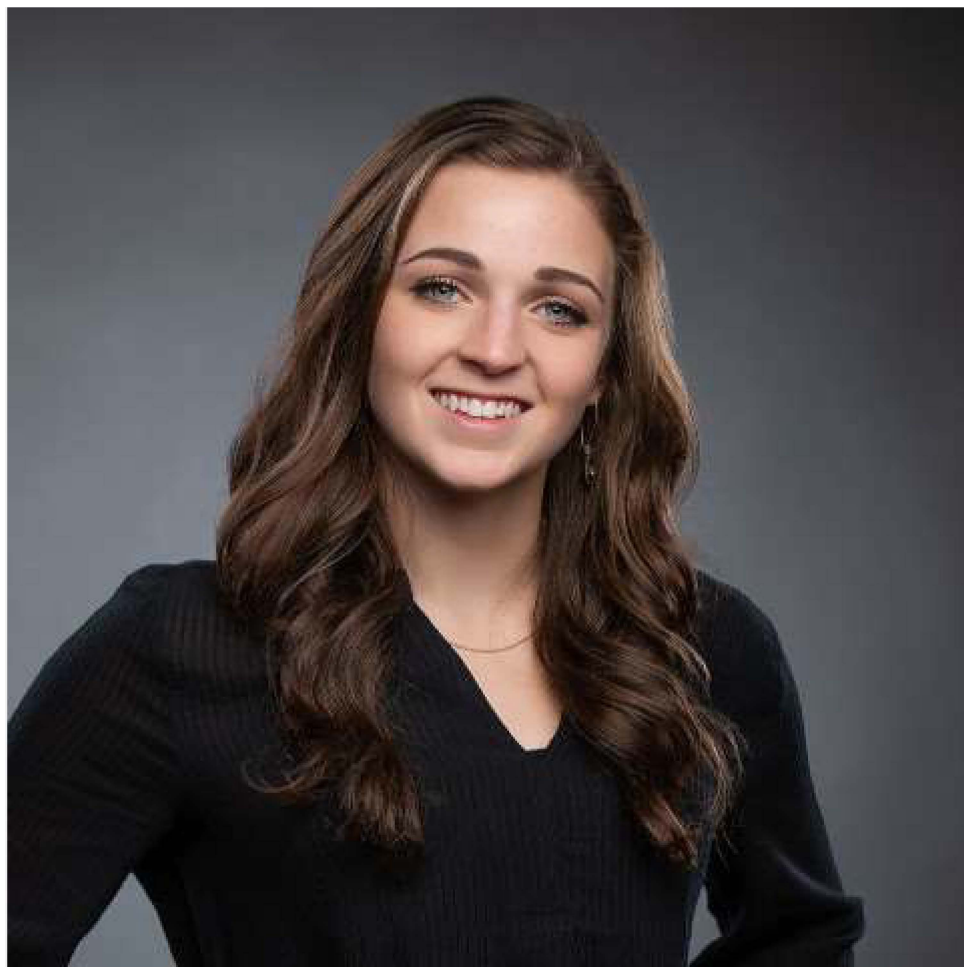
An improved stress-annealing (SA) system (pictured) was designed, built, and implemented at the South Dakota School of Mines and Technology by a group of six senior mechanical engineering (ME) students. The students employed design principles learned from Dr. Bruno's Machine Design class and first-hand discussions with NASA staff during a visit to NASA Glenn Research Center. The custom SA system is useful for processing planar-flow-cast metal-amorphous nanocomposite ribbons to tune their magnetic characteristics for use in filter inductors, transformers, and motor cores. For instance, filter core losses are reduced when the ribbon is annealed at optimum temperatures above 520°C and magnetic permeability along the length of the ribbon can be reduced by pulling the ribbon in tension during annealing. The SA system can apply 50 pounds of tension and heat ribbon to 800°C while continuously spooling from the input mandrel to the takeoff spool.



The [South Dakota Mines' Formula SAE team](#) participated in the Formula SAE Michigan 2022 competition and surpassed their goals of passing each of the four inspections and competing in all events. The team placed in the top 10 (no ranking posted) out of 105 teams in the business presentation and fared well with the other results. Faculty advisor, Dr. Daniel Rederth, noted that the “team competed against other schools that had 5 times the budget and 3 times the manpower.” The team performed well and is looking forward to competing again. As Dr. Rederth states, “Not only did the car make it to competition, but it is also not damaged after the competition. Everything was designed to survive, and it did.”

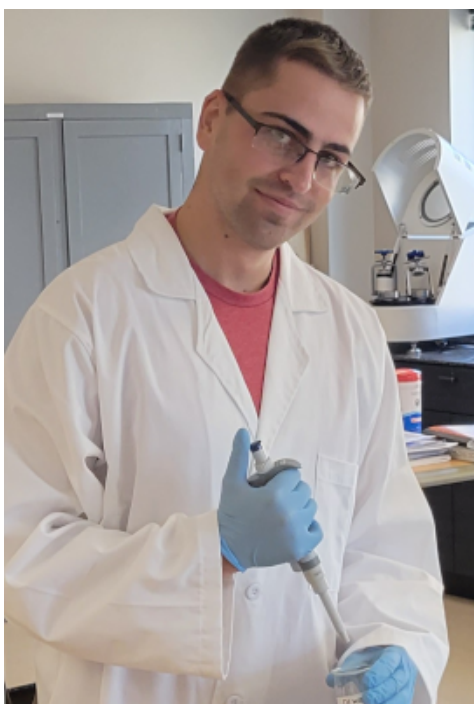


Congratulations to our 2021-22 Outstanding Mechanical Engineering Seniors!
Samuel Ryckman, Sommer Scott, and Bryce Ulrich



Congratulations to our 2021-22 Outstanding Graduate Student!
Kaytie Barkley

Kaytie also received the Ivanhoe Excellence Fellowship for Academic Year 2022-23. The fellowship is awarded each academic year to deserving master's students.



Congratulations to the recipients of the 2021-22 Outstanding Undergraduate and Graduate Student Service to the ME Department awards!

Regan Ogilvie (undergraduate) and Thomas Machamer (graduate)

Help us stay connected with you! [Update your information](#) with the South Dakota Mines Center for Alumni Relations and Advancement (formerly SDSM&T Alumni Association and Foundation, which merged in July 2020).

ME at a Glance

97%

South Dakota Mines ME graduate placement rate

\$66,781

Average starting salary for BS ME graduates

77%

Internship rate for South Dakota Mines students

\$20/hour

Average internship or co-op salary

555

Undergraduate Students – FA 2022

24

Graduate Students – FA 2022

14

Full-time Faculty

91

BS ME graduates in AY 2021-22*

14

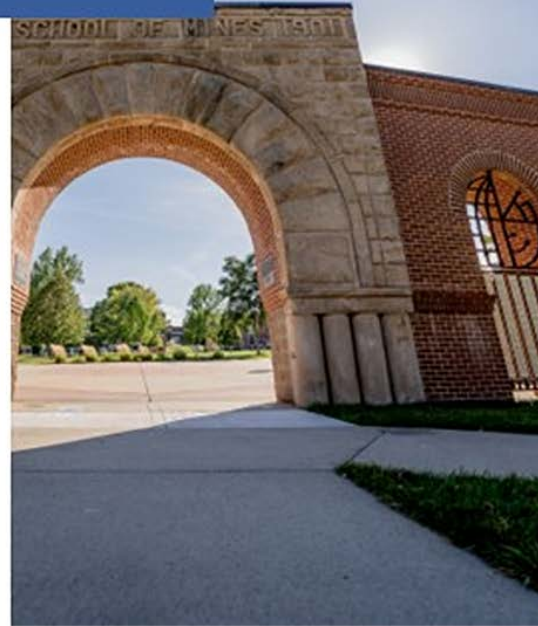
MS ME graduates in AY 2021-22*

35

Total number of faculty publications and presentations in AY 2021-22

\$12.7M

Total amount of new research funding obtained in AY 2021-22



Faculty

Professors

Dr. Pierre Larochelle (department head)

Associate Professors

Dr. Jason Ash

Dr. Cassandra Birrenkott

Dr. Albert Romkes

Dr. Khosro Shahbazi

Dr. Weibing Xing (Pearson Endowed Chair)

Assistant Professors

Dr. Nickolaus Bruno

Dr. Prasoon Diwakar

Dr. Joseph John Thalakkottor

Dr. Micah Lande (E.R. Stensaas Chair for Engineering Education)

Instructor

Ardell Knudson

Lecturer

Dr. Aaron Lalley

Dr. Peter McKeon

Dr. Daniel Rederth

Research Scientist IV

Dr. Andrea Surovek

Staff

Brittany Brzozowski – Secretary

Leslee Moore – Program Assistant I

Vasilii Tseptsura – Machinist (Equipment Technician)

*Summer 2021, Fall 2021, and Spring 2022

Spring 2022 Career Fair

109 companies recruited (in person)

72 recruited ME students

67 companies recruited (virtually)

37 recruited ME students

Fall 2022 Career Fair

219 companies recruited (in person)

142 recruited ME students

FOR MORE INFORMATION

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