

IME NEWSLETTER



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Dates to Remember for Spring Semester:

- January 13 – Spring Classes begin at 4 PM
- February 5 – Spring Career Expo
- March 10-14 – Spring Break Week
- May 1 – Capstone Presentations
- May 8 – CoE Senior Expo
- May 9 – IME Advisory Board Meeting
- May 17— Commencement

Cover Story: Harun Pirim - Transforming Diabetes Prevention

Breaking Ground in Health Tech: Innovative Approach to Diabetes Prevention

Dr. Harun Pirim, assistant professor in the Department of Industrial and Manufacturing Engineering at NDSU, is leading groundbreaking research aimed at preventing age-related diabetes. Collaborating with Dr. Jen Li, professor of computer science, their project, "**A Holistic Approach to Personalized Prevention of Age-Related Diabetes**," employs cutting-edge digital twin technology to revolutionize healthcare outcomes.

The research is part of NDSU's **Sparkling Big Ideas Research Initiative** workshop titled "Hacking Aging: Bridging Disciplines for a More Inclusive Future." The project is funded by the Economic Diversification Research Fund (EDRF), established in 2023 to promote innovation, healthcare improvements, and economic development in North Dakota.

For Dr. Pirim, the journey to exploring digital twin technology began at the workshop itself. "It all started with NDSU researchers brainstorming ideas to address aging-related problems," he said. "We decided to examine metabolic syndrome from multiple perspectives. Reviewers later suggested focusing on a specific disease, which led us to diabetes."

The team's innovative use of digital twins—virtual models that simulate real-world patient health scenarios—allows for personalized treatment plans and better predictive outcomes. By integrating insights from genomics, behavioral science, environmental health, and computational biology, the project offers a holistic approach to managing diabetes in aging populations.

"Diabetes in aging populations is influenced by a complex interplay of genetic, environmental, and lifestyle factors," Dr. Pirim explained. "By using digital twins, we can simulate and predict how patients might respond to different treatments, enabling tailored interventions that improve outcomes and reduce healthcare costs."

Dr. Pirim acknowledges challenges ahead, particularly in integrating real patient data. "Since collecting new data requires hospital collaboration and IRB protocols, we're using existing datasets to support our predictive models," he shared.

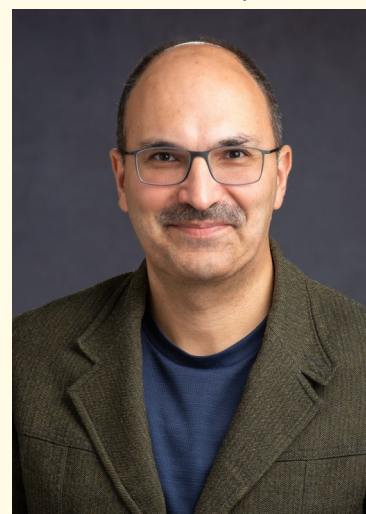
The project also offers valuable hands-on learning opportunities for students. "One of our IME Ph.D. students is supported by this grant," Dr. Pirim said. "They're working on data analytics and machine learning tasks, from collecting and organizing data to building a machine learning pipeline for inference."

Looking ahead, Dr. Pirim sees immense potential for this technology beyond diabetes prevention. "In 5-10 years, we'll likely see healthcare applications using artificial general intelligence (AGI), with digital twins standing out for personalized medicine across various diseases," he predicted.

The impact of this work could extend beyond healthcare, transforming North Dakota's economy. "AGI already has a \$3 billion market value, comparable to Oil & Gas," Dr. Pirim said. "This research could lead to new businesses, employment opportunities, and an upskilled workforce in the state."

Dr. Pirim expressed gratitude for the support and collaboration behind this project. "I thank the NDSU community, including the RCA team and my colleagues, for providing the funding and expertise needed to make this possible," he said.

This one-year project, running through May 2025, demonstrates how NDSU's interdisciplinary research continues to address critical challenges and serve the evolving needs of North Dakota.



Fall Welcome Back Picnic: A Great Start to the Semester!

This September, the IME department kicked off the fall semester with our annual Welcome Back Picnic, and it was a huge success! The event brought together undergraduate and graduate students for an afternoon of food, fun games, and prizes.

We couldn't have asked for better weather or a better turnout—the picnic was a wonderful opportunity to reconnect with old friends, meet new ones, and celebrate the start of a great academic year. Thank you to everyone who joined us and helped make the event so memorable.



Introducing the Master of Engineering Program in IME

This fall, the IME department launched an exciting new graduate program tailored to the needs of both working professionals and ambitious undergraduate students. The **Master of Engineering (M.Eng.) in Industrial and Manufacturing Engineering** offers a flexible option for those looking to expand their education without committing to a traditional research-based degree.

Designed with industry professionals in mind, the M.Eng. program eliminates the need for a thesis, focusing instead on coursework that can be tailored to specific career goals. With just 30 credits required, students can complete the program while continuing to work full-time. The curriculum allows for a variety of emphasis areas, ensuring that each student's experience is relevant and impactful.

For current IME undergraduates, the program provides a unique 4+1 pathway to graduate success. This option allows students to integrate graduate-level coursework into their senior year, enabling them to earn both a bachelor's and a master's degree with just one additional year of study.

"The M.Eng. program is a great fit for students and professionals alike," said an IME faculty member. "It provides the advanced education and skills needed to meet today's industry challenges, all while maintaining a practical and flexible structure."

Whether you're a working professional or a current undergraduate, the M.Eng. program opens the door to new possibilities in industrial and manufacturing engineering. For more information about this exciting opportunity, contact the IME department.

Dennis Steinman Honored with IME Recognition of Excellence Award



The NDSU Department of Industrial and Manufacturing Engineering is proud to announce that Dennis Steinman has been awarded the prestigious IME Recognition of Excellence Award. This honor celebrates his remarkable career achievements, dedication to the IME department, and contributions to the broader community.

A 1984 graduate of NDSU's IME program, Steinman has made an indelible mark in the field of industrial engineering. Currently serving as General Manager at Super-Valu in Fargo, his career spans nearly four decades of leadership roles across diverse industries. Beyond his professional success, Steinman has devoted over a decade as an instructor for the IME Capstone course, sharing his expertise and inspiring the next generation of engineers.

Steinman's commitment to the IME department extends further, as he has volunteered on the NDSU Industrial Engineering Advisory Board and offered invaluable guidance during transitional periods within the department. Known for his generosity and caring spirit, Steinman exemplifies the values of the IME community.

Congratulations to Dennis Steinman on this well-deserved recognition!



Advisory Board Chair, Bob Heller &
Dennis Steinman



Dr. Canan Bilen-Green Honored with Professor Emeritus Status

The IME Department is proud to announce that Dr. Canan Bilen-Green has been awarded Professor Emeritus status. This honor reflects her decades of dedicated service to NDSU, her significant contributions to the field of industrial and manufacturing engineering, and her commitment to mentoring students and advancing academic excellence.

Dr. Bilen-Green's leadership and research have left a lasting impact on the IME Department, and we are thrilled to see her legacy recognized in this way. Congratulations, Dr. Bilen-Green, on this well-deserved achievement!

Expanding Research Horizons: Summer REU Experiences at NDSU IME

Last summer, the NDSU Industrial and Manufacturing Engineering (IME) Department hosted two exceptional international students as part of the Research Experiences for Undergraduates (REU) program: Maria Terreros Lozano and Julian Calixto Mahecha. Both Maria and Julian conducted their research under the guidance of IME Assistant Professor, Dr. Diana Lopez-Soto.

Maria, an undergraduate Industrial Engineering student from Universidad Panamericana, Campus Guadalajara, Mexico, worked on the project titled “Predicting Postpartum Depression in Maternal Health Using Machine Learning.” Her research combined her engineering background with her interest in healthcare, using advanced algorithms to identify risks of postpartum depression.

Reflecting on her time at NDSU, Maria said, *“It was a completely new experience for me. What caught my attention was knowing that I was going to be able to combine my career in industrial engineering with health issues, which interests me a lot.”*

Maria’s work culminated in a poster presentation at the REU poster session and a conference paper submitted to the 14th International Conference on Operations Research and Enterprise Systems (ICORES 2025). She will present her findings in February 2025 in Porto, Portugal.

Beyond the technical learning, Maria noted the impact of working with IME faculty and students: *“The team was very helpful; everyone helped me in some way. It opened a new panorama for me, and thanks to this program, I am now interested in continuing to work on future research.”*

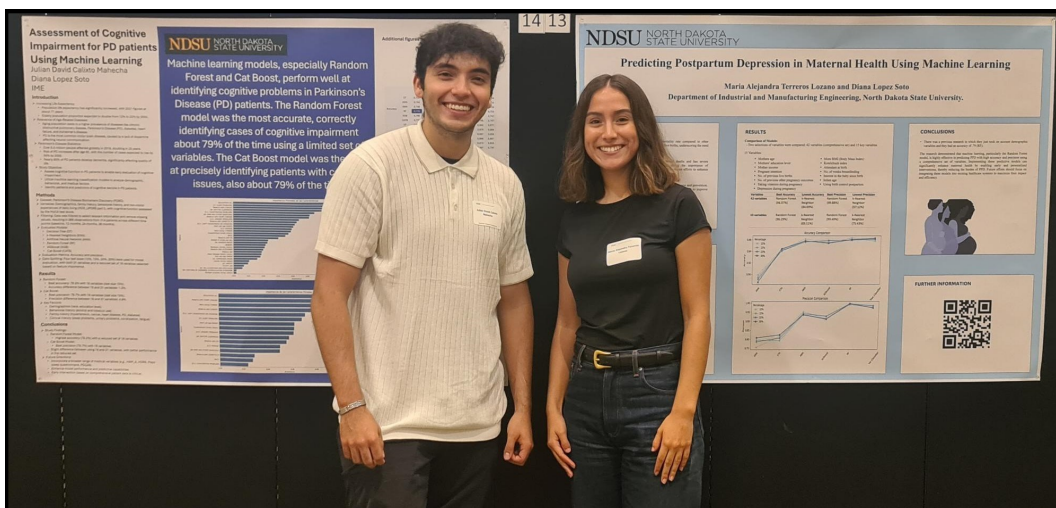
Maria also described the personal growth she experienced as an international student: *“It was difficult to adapt to another culture and lifestyle, but the support of the people in the IME faculty was very helpful. They invited me to various activities, such as gardening, which I really enjoyed.”*

Joining Maria in the program, Julian Calixto Mahecha, an Industrial Engineering student from Universidad Militar Nueva Granada in Bogotá, Colombia, conducted research on “Assessment of Cognitive Impairment for Parkinson’s Disease Patients Using Machine Learning.” Julian’s work focused on applying machine learning to assess cognitive decline in Parkinson’s patients.

Julian presented his research during the REU poster session and submitted a conference paper to the Institute of Industrial and Systems Engineers (IISE) Annual Conference and Expo 2025. He will present his findings in May 2025 in Atlanta, Georgia.

Maria summed up her experience: *“This program helps you develop both personal and professional skills. If you have the opportunity to grow through experiences like this, you can’t miss it!”*

The REU program at NDSU highlights the IME department’s commitment to fostering international collaboration and innovation. Through projects like Maria’s and Julian’s, students gain hands-on experience solving real-world challenges while contributing to advancements in healthcare technology.



IME Researchers Develop Sustainable E-Commerce Packaging from Local Byproducts

Dr. Lokesh Karthik Narayanan, an IME assistant professor, is leading an innovative project to create sustainable packaging using byproducts from North Dakota's flax and hemp production—materials often discarded or burned. Graduate student and research assistant Raihan Quader is collaborating on the project, which aims to provide eco-friendly, cost-efficient packaging that supports local farmers and communities.

Thanks to a \$300,000 grant from the National Institute of Food and Agriculture, Dr. Narayanan and his team are beginning the development process, focusing on making the packaging water-resistant using natural resources. This effort highlights NDSU's commitment to sustainability and collaboration across disciplines.

[Click here to read more about Dr. Narayanan's research in an article courtesy of *The Forum of Fargo-Moorhead*.](#)



Lokesh Karthik Narayanan presenting his e-commerce packaging prototypes made from flax, treated flax, coconut and hemp products. Contributed / North Dakota State University

Photo courtesy of The Forum of Fargo-Moorhead

Congratulations, Caryn!

We're proud to share that Caryn Marty, one of our talented IME students, was honored as a member of the 2024 NDSU Homecoming Court this fall. Caryn exemplifies the spirit and leadership that make our department and university shine. Way to represent IME, Caryn!



Caryn Marty

Industrial engineering and management

Chokio, MN

SPONSORING ORG

Saddle and Sirloin

NDSU Giving Day 2024

NDSU's Giving Day 2024 proved to be an outstanding success, raising over **\$1.5 million** from more than **2,000 generous gifts**. This annual event highlighted the incredible support and dedication of alumni, students, faculty, staff, and friends of NDSU.

The **College of Engineering** played a significant role in this achievement, raising over **\$163,000** to support its programs, students, and future initiatives. These contributions will directly impact the educational experiences of engineering students, helping to ensure they have the resources to succeed and innovate.

Thank you to everyone who contributed and showed their Bison pride! Your generosity helps NDSU continue its mission of providing excellence in education and research.



IME Student Among Third-Place Winners at NSF FARMS Engine Hackathon

Ayman Sajjad Akash (IME), together with Abbeah Navasca (Plant Science), Jithin Mathew (ABEN), and Maria Villamil (ABEN), secured third place at the NSF FARMS Engine Hackathon, held November 1–3, 2024, at the NDSU Peltier Complex in Fargo, ND. Sponsored by the NSF Engines: North Dakota Advanced Agriculture Technology Engine, in collaboration with Bayer, NDSU, the North Dakota Tribal College System, and the Center for Computationally Assisted Science and Technology, the event invited participants to devise cutting-edge solutions to agricultural challenges.

This hackathon, hosted by North Dakota State University, drew students from across North Dakota’s eight regions, including rural and tribal communities, to work with an extensive dataset provided by Bayer. It was a unique platform to address real-world issues in agriculture while fostering interdisciplinary collaboration and skill-building.

The team’s project, *"A Simple Approach: Using Exploratory Analysis for Improved Maize Selection,"* employed exploratory data analysis to preprocess datasets, model selection, and fine-tune a Convolutional Neural Network (CNN) to optimize maize variety selection. With access to over 1,000 genotypic and phenotypic datasets, participants honed technical skills, engaged with industry professionals, and networked with leading experts in academia and business.

Through innovation, teamwork, and technical expertise, the project showcased how data-driven approaches can significantly enhance agricultural practices and outcomes. This achievement highlights the potential of interdisciplinary collaboration in addressing pressing global challenges.

Congratulations to Ayman Sajjad Akash and his team for their outstanding accomplishment!



IME Students Take the Pledge in the Order of the Engineer Ceremony

On a chilly evening with snow and blustery winds, seven IME students braved the weather to participate in the College of Engineering’s annual Ring and Pin Ceremony. Held on Thursday, December 20, the event celebrated the induction of engineering students into the prestigious *Order of the Engineer*, an organization dedicated to fostering a spirit of professionalism and ethical responsibility among engineers.

The following IME students took the *Pledge of the Obligation of an Engineer* and proudly donned their engineer’s ring as a symbol of their commitment to uphold the highest standards of integrity and service in their profession:

- | | |
|-----------------|------------------|
| • Chloe Aase | • Noah Nadeau |
| • Talia Frahm | • Zoey Schlanser |
| • Mason Heimkes | • Lily Zemke |
| • Alyssa Müller | |



Zoey Schlanser



Talia Frahm

The ceremony represents a meaningful milestone for these students as they prepare to transition from their academic studies to their professional careers. Congratulations to our IME students for this significant achievement, and welcome to the *Order of the Engineer*!

PhD Student Spotlight: Challey Institute Scholarship Recipient

Abimbola Oladoyin, a second-year PhD student in Industrial and Manufacturing Engineering (IME) at North Dakota State University (NDSU), has been recognized with the prestigious Mancur Olson Graduate Fellowship from the Challey Institute for the past two years. This fellowship, which provides \$3,000 annually and is renewable for up to four years, has been instrumental in easing the financial challenges of pursuing advanced studies.

The Challey Institute at NDSU is committed to supporting exceptional students who demonstrate academic excellence and a dedication to advancing knowledge in their fields. This funding opportunity reflects NDSU's mission to create an environment where students can thrive academically and personally.

"I am incredibly grateful for the financial support from the Challey Institute," said Oladoyin, who is also known as Bibi. "This scholarship has allowed me to focus more on my research and academic goals. I encourage other graduate students to explore similar opportunities."



IME Students Join Minn-Dak Manufacturers Association

This year, four of our IME students have taken a big step toward their professional development by joining the **Minn-Dak Manufacturers Association (MDMA)**. Congratulations to **Makayla Lagerwall, Yusuf Akbulut, Ayman Akash, and Asef Abir** on becoming members of this organization!

The Minn-Dak Manufacturers Association brings together manufacturing professionals, industry leaders, and students to collaborate, network, and explore the latest innovations in the field. By joining MDMA, these students gain access to resources, including mentorship opportunities, industry events, and hands-on learning experiences.

We're proud of these students for taking the initiative to connect with industry professionals and expand their horizons. Their involvement reflects the IME department's commitment to promoting professional growth and engagement beyond the classroom.

For more information about the Minn-Dak Manufacturers Association and how to get involved, reach out to the IME department or visit the MDMA website.

Minn-Dak Manufactures Association



Noteworthy Happenings

IME Graduate Student Raihan Quader Achieves Prestigious Milestones

The Department of Industrial and Manufacturing Engineering is proud to share the recent accomplishments of Raihan Quader, a graduate student in our program.

Raihan's latest journal paper, titled "*Effect of in-situ layer scanning ultrasonic vibration on mechanical and morphological properties of fused deposition modeled poly(lactic) acid specimens*," was recently published in the highly regarded *Journal of Manufacturing Processes* (Impact Factor: 6.1). This marks Raihan's third journal publication this year, an impressive testament to his dedication to advancing research in manufacturing processes. You can read the full article [here](#).

In addition to his publication success, Raihan was also honored with a travel award from the National Science Foundation (NSF). This award supported his participation in the *35th Annual International Solid Freeform Fabrication Symposium (SFF2024)*, held from August 11–14 in Austin, Texas, where he presented his research.

Congratulations to Raihan on these remarkable achievements! His work continues to bring recognition to the IME department.



The [Center for Bioplastics and Biocomposites](#) (CB²) held its fall meeting November 13-14 at Washington State University in Pullman, WA. A welcome reception was held first on November 12th to gear up for the two-day meeting. There were a total of 60 attendees, 40 in person and 20 virtually.



The first day of the conference involved listening to PIs (Principal Investigator) present their proposals to the IAB (Industry Advisory Board) members. During the second day, the IAB members had another chance to hear PIs speak briefly about their proposals. The proposals were then voted on to choose which of those would be awarded money for their 2025 projects. In total, there were 17 proposed presentations. Of those 17, 11 were awarded a total of \$638,621.

Project Title	PI Names(s)	Institution
Disintegration Behavior Spectrum	Branson Rit chie	UGA
Microbial & Enzymatic Deconstruction of Lignin to Produce Scalable High Purity Reactive Building Blocks	Xiao Zhang	WSU
Developing Vegan Leather Alternatives with Persimmon and NFC-Chitosan Hydrogel Coatings: A Natural and Innovative Approach	Suraj Sharma	UGA
The role of bioplastics in the pharmaceutical industry	Jason Locklin	UGA
Compatibilization of PLA and PHA blends for Improved Properties	Grant Crane	UGA
Optimization of thermoplastic bio-composites with natural fibers - SC06	Ali Amiri/Chad Ulven/ Breanna Urbannowicz	NDSU/UGA
Cellulose-reinforced polyamide composites - SC13	Hui Li	WSU
Scoring Card for Environmental Performance of Bio-based Materials - SC11	Ke Li	UGA
Understanding and Enhancing Biodegradation of PLA Blends in Various Environments - SC02	Kenan Song	UGA
Development of Coating Materials from Biopolyester and Nanofibrillated Cellulose with Improved Water Vapor and Oxygen Barrier Properties - SC09,12	Suraj Sharma	UGA
Going Bananins: High Performance Waterborne Hard Bio-based Building Blocks - SC04	Eric Cochran	ISU

Fall 2024 Graduate Spotlight: Talia Frahm's Path to NASA

Talia Frahm's journey toward a career with NASA exemplifies determination, hard work, and a passion for space exploration. As a first-generation student graduating this fall with a degree in Industrial Engineering and Management, Talia has maximized her undergraduate experience and achieved extraordinary milestones.

Throughout her academic career, Talia completed three research positions at NDSU, three internships with Collins Aerospace, and two prestigious NASA internships, where she contributed to the NASA Space Operations and Management Division. Her achievements don't stop there—Talia plans to continue her education at NDSU and is already preparing for her third NASA internship in Spring 2025, taking another significant step toward her goal of becoming a leader in aerospace and space exploration.



Talia credits her success to the unwavering support of her parents, Janet and Ed Charpentier, her sisters, the North Dakota Space Grant Consortium (NDSGC), and her NASA mentors, all of whom played a vital role in her journey. She hopes her story will inspire others to pursue their dreams with the same determination and resilience that have defined her path.

Congratulations to Talia on her remarkable accomplishments and the bright future ahead as she continues to reach for the stars!



Studying Abroad: IME Student Victor Forsberg's Experience at NDSU

Victor Forsberg, a senior Industrial and Manufacturing Engineering (IME) student from Sweden, is spending the fall semester studying abroad at North Dakota State University (NDSU). He decided to study at NDSU because he had never been to the U.S. before and wanted to seize the opportunity to experience a semester here. When asked why he chose Fargo, Victor shares, "I wanted to spend my semester abroad in the United States, and NDSU was accepting exchange students from my university in Sweden."

Initially, Victor chose the IME program because he wasn't certain what career path he wanted to pursue. He explains, "I wanted to keep as many doors open as possible, and the IME program offered the most opportunities." Looking back, he's happy with his choice. The program's blend of engineering fundamentals and business insights has allowed him to develop the skills needed to tackle complex challenges. "It provides a solid engineering foundation alongside valuable business insight, enabling you to approach business challenges with an engineer's problem-solving mindset," Victor notes.

Life in Fargo has presented some surprises, especially the weather. "One of the biggest surprises has definitely been how windy Fargo is," Victor says, having never anticipated the gusty conditions. He also noticed the welcoming nature of people in Fargo. "At first, I found it a bit strange, but I quickly came to appreciate it. It made me feel very welcome during my first days here."

The highlight of his time at NDSU has been the people. Victor's favorite part of his experience has been meeting individuals from diverse backgrounds and cultures, something that has made a lasting impact on him. "It's truly been a great experience," he reflects.



Student Spotlight

Forsburg cont'd

Being far from his family and friends has been one of the biggest challenges Victor has faced, but he has managed it by staying in touch with loved ones and keeping busy with new friends. "What helped the most was keeping myself busy and spending time with the friends I made here."

Looking to the future, Victor plans to pursue a master's degree in logistics and supply chain management. He believes his experience at NDSU has broadened his perspective. "It's given me a more global view and a deeper understanding of different cultures, which will be invaluable in my future career," he shares.

Victor has some advice for other international students considering studying at NDSU: "Embrace the opportunity to engage with different cultures. Don't hesitate to ask questions or seek help when needed. NDSU offers excellent resources for international students, so make sure to take advantage of them."

Victor's time at NDSU has been transformative. As he moves forward with his academic and professional journey, his experience abroad will continue to shape his path toward a successful career in logistics and supply chain management.

Student Organization News

IISE Chapter Highlights

The NDSU IISE (Institute of Industrial and Systems Engineers) chapter has been actively creating opportunities for its members to learn, network, and grow!

The chapter recently hosted a presentation by Conor Herron, Quality Manager at Marvin and an NDSU Industrial Engineering graduate. Conor shared valuable insights about his career journey and the quality management field.

Looking ahead, IISE is exploring even more exciting events for the next semester, including:

- ◆ A tour of a machine shop in Horace.
- ◆ A guided facility tour at Marvin, offering members a closer look at innovative manufacturing processes.

These events are fantastic opportunities for members to gain firsthand experience and connect with professionals in the field.

Interested in joining IISE or attending these events? Click [here](#) for more information or contact any of the IISE Officers below:

- ◆ President: Alyssa Miller, Alyssa.miiller@ndsu.edu
- ◆ Vice President: Lauren Berg, Lauren.a.berg@ndsu.edu
- ◆ Treasurer/Secretary: Ethan Blesie, Ethan.blesie@ndsu.edu
- ◆ Advisor: Dr. Lokesh Narayanan, Lokesh.narayanan@ndsu.edu



Conor Herron, IE Alumni & Quality Manager at Marvin,
presenting to IISE Members

Student Organization News

SWE Updates: A Fall to Remember and Exciting Spring Plans

This fall, the Society of Women Engineers (SWE) hosted a range of exciting events that brought members together for fun, networking, and professional development. Highlights included Game Night, Tech Kids, a Spikeball Tournament, a White Elephant gift exchange, and a cozy pancake breakfast. SWE also facilitated valuable connections with representatives from Lowry Engineering, John Deere, Bobcat, and Marvin, who attended monthly meetings and generously provided refreshments.

A major milestone of the season was traveling to Chicago for the SWE National Conference, where over 20,000 attendees gathered. The experience was made even more special by reconnecting with alumnae over a classic Chicago-style pizza dinner.

Looking ahead, SWE has an exciting lineup of meetings and events this spring. Monthly meetings will take place on January 16, February 13, March 6, April 3, and May 1. Additionally, members are encouraged to mark their calendars for the upcoming Resume Event on February 4th, a fantastic opportunity to polish professional profiles and prepare for career advancement.

Whether you're a seasoned member or new to SWE, we can't wait to see you this spring!



Industrial Engineering Career Spotlight: Operations Research

A High-Paying Career Path in Industrial Engineering

A recent CBS News article highlights operations research as one of the highest-paying college majors. As a core area of Industrial Engineering, operations research focuses on optimizing processes and solving complex challenges in fields like logistics, manufacturing, and resource management.

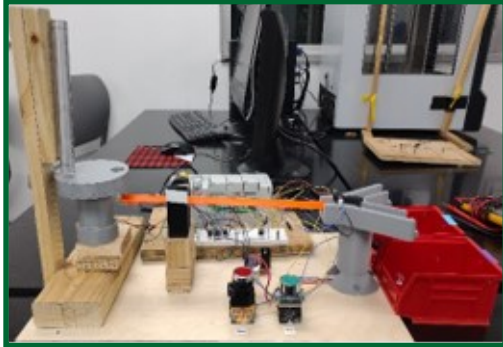
At NDSU's Department of Industrial and Manufacturing Engineering (IME), students develop the skills to excel in this field—learning to analyze systems, streamline operations, and create efficient solutions. These in-demand skills lead to rewarding careers with strong earning potential.

Want to learn more about the impact of operations research on careers? Check out the CBS News article here: [Operations Research Tops Earnings](#).

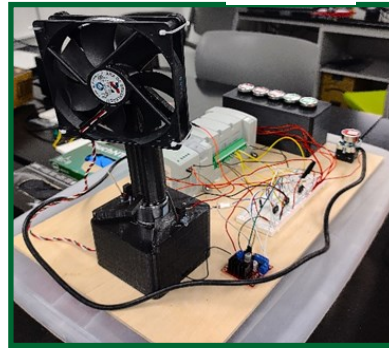
Automation Projects

In IME 482 (Automated Manufacturing Systems), students develop essential skills in automation through hands-on experience with automation software such as Fusion 360, tools, and equipment like programmable logic controllers (PLCs). Instructed by Dr. Lokesh Narayanan, this course is designed to provide a comprehensive understanding of automated manufacturing processes. The final group project challenges students to design a practical automation system. The following designs are from the fall semester.

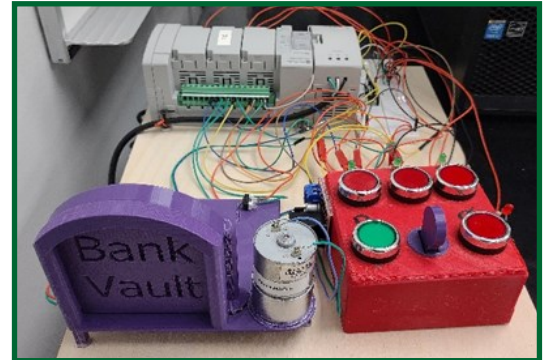
AUTOMATION LAB



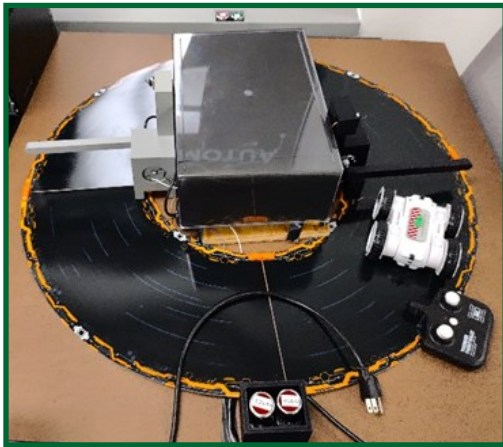
Marble Sorter



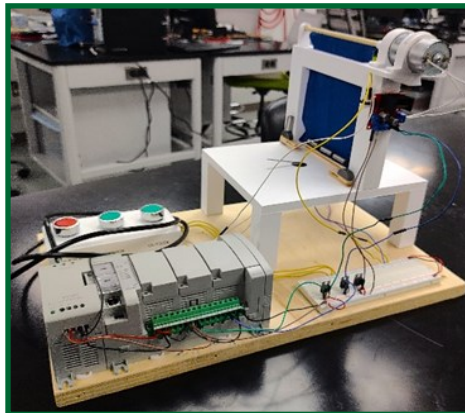
Oscillating Fan



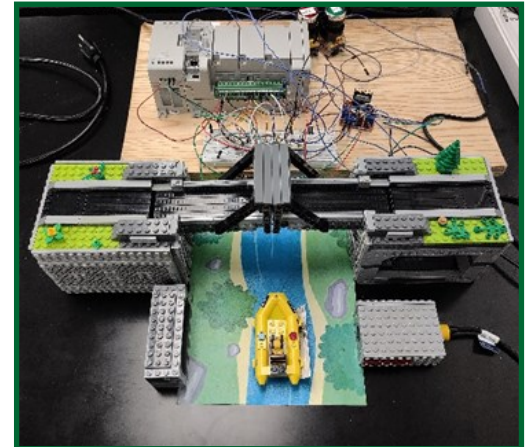
Bank Vault



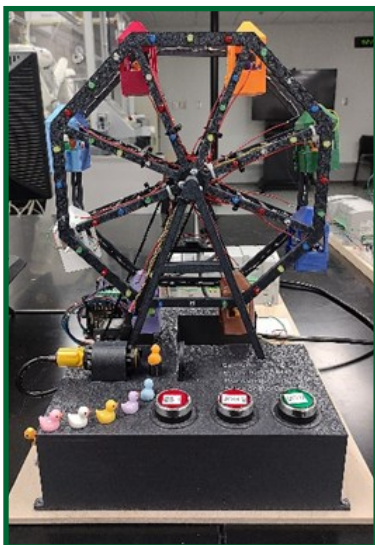
Traffic Barrier Arm System



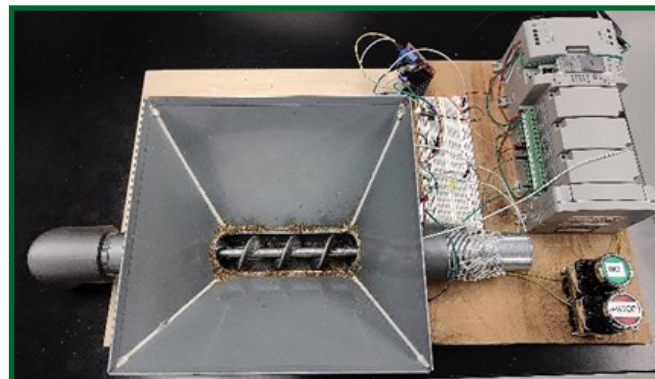
Garage Door



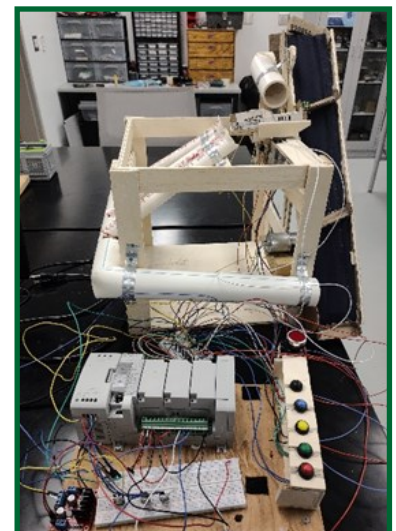
Draw Bridge



Ferris Wheel



Cat Feeder



Marble Selector



Industrial Engineering & Management

*Emily Bjertness
Joseph Eisenberg
Talia Frahm
Mason Heimkes
***Brett Hertz
**Alyssa Miiller
Rylie Ringer
*Zoey Schlanser
*Benjamin Snyder

Watch the Ceremony

Commencement Ceremony Program

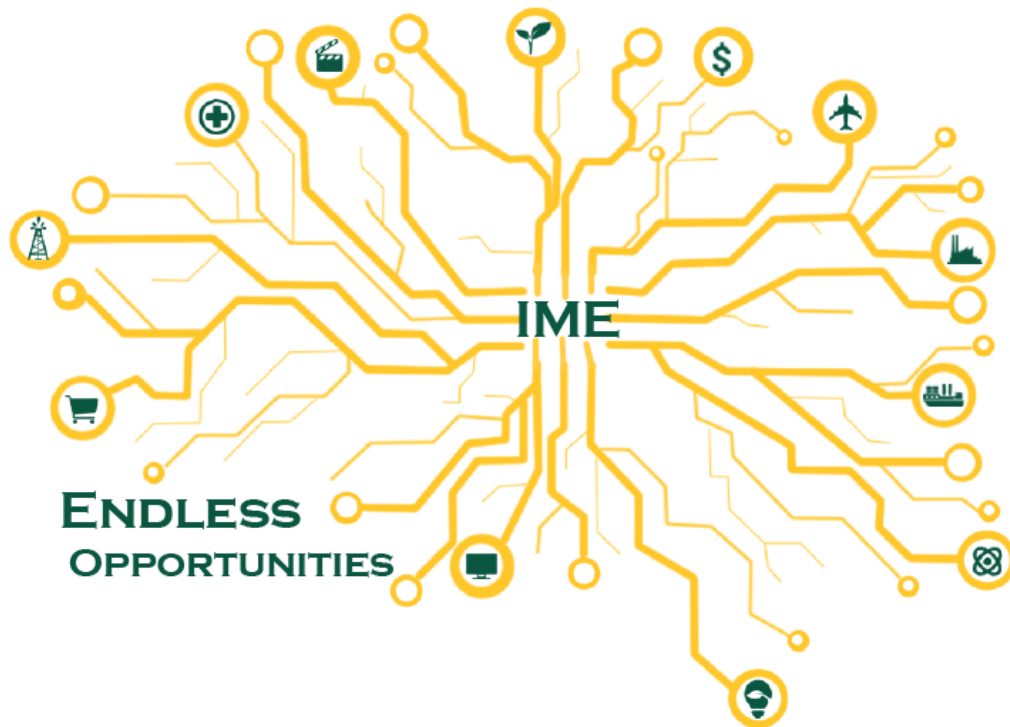
Manufacturing Engineering

Chloe Aase
Alexander Gobran
Noah Nadeau
**Lily Zemke



*We are so
proud of you*





Looking for more information about the IME department
or past newsletters?

Check us out on our website at: [NDSU.edu/ime](https://www.ndsu.edu/ime)
Or follow us on Instagram!



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