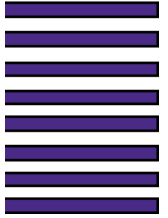




# SCHOOL OF ENGINEERING AND COMPUTER SCIENCE



## Bits & BYTES

ISSUE 5 | FEBRUARY 2024 | VOLUME 1



### National Engineers' Week February 18-24

Engineers' Week 2024 will run from February 18 to 24. This year's theme "Welcome to the Future" is about celebrating today's achievements and paving the way for a brighter and more diverse future in engineering. Engineering is at the forefront of innovation and is instrumental in designing and creating the solutions that are shaping the world of tomorrow. Through their creativity, expertise, and dedication, engineering teams are addressing global challenges, driving technological advancements, and making a positive impact on society's future.

This Engineers' Week we hope that you'll take a moment to recognize and celebrate the work of engineers and engage students in engineering. We invite you to be a part of our Engineers' Week celebrations by participating in our Engineers Week events:

- **Engineering, Computer Science, & Construction Management Career Forum** on February 21, 6:30-8:30pm, Eykamp Hall
- **Engineers' Week Speakers:** Presentation by **Timothy Gray, PE, PMP**, Associate Vice President, Salas O'Brien and **Thomas Noah, PE**, Refinery Manager, CountryMark on February 22, 12:20 – 1:10 pm, KC100
- **SECS Sponsored Event:** STEMfest at New Tech High School, February 23-24. Details can be found on their website: <https://www.newtechstemfest.com/>

### SAA EMPLOYEE OF THE MONTH

We are pleased to recognize Tonya Albright, Administrative Assistant for the School of Engineering and Computer Science. Tonya was awarded Employee of the Month for the month of January from the Staff and Administrators Assembly. Her hard work and dedication shines through in her interactions with students, staff and faculty. We are very lucky to have Tonya on our team, helping to make UE a stronger community.

Congratulations Tonya!



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### RESEARCH OPPORTUNITY

Center for Advanced Turbomachinery and Energy Research

NSF RESEARCH EXPERIENCES FOR UNDERGRADUATES  
HYPER: Advanced Technologies for Hypersonic, Propulsive, Energetic and Reusable Platforms

May 21 - July 29 | UCF Main Campus | Orlando, Florida

REQUIREMENTS	ELIGIBILITY	STIPEND
U.S. citizen or permanent resident	U.S. citizen or permanent resident	\$4,000
Undergraduate student in good academic standing	U.S. citizen or permanent resident	\$4,000
U.S. citizen or permanent resident	U.S. citizen or permanent resident	\$4,000

To learn more, visit [hyper.ucf.edu](https://hyper.ucf.edu) or contact the program director, Dr. Connor Jeffrey, [jeffrey@hyper.ucf.edu](mailto:jeffrey@hyper.ucf.edu)

### Proud Sponsor



February 23-24, 2024

## Associate Dean's Corner



Dear Members of the School of Engineering and Computer Science (SECS) Community,

As we are getting ready to celebrate Engineers' Week (February 18-24, 2024), it brings me great pleasure to welcome you to our February edition of our newsletter. As stated in the first page of this newsletter, this year's theme is "Welcome to the Future!", and it is about celebrating today's achievements and paving the way for a brighter and more diverse future in engineering. By choosing engineering as your current and future career, each of you play an integral role in advancing the field of engineering and society. Let us continue to inspire and empower one another as we work collaboratively towards a brighter, and sustainable future.

Throughout this special week, we have organized a few activities and events, such as the fun activity by our Society of Women Engineers (SWE) Student Chapter for our students (more details will be coming in an email from UE SWE Student Chapter), the Engineering, Computer Science, Construction Management Career Forum (February 21), and a special presentation (February 22) by a group of engineers from the Indiana Society of Professional Engineers Southwest Chapter. We will also have special cookies on Friday and Saturday to celebrate this special week with our current and future students.

Enjoy reading this newsletter and if you have any updates to share with the SECS community or feedback, please send them to [engineering@evansville.edu](mailto:engineering@evansville.edu). We would love to hear from you.

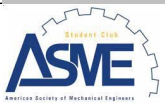
Sincerely,

Suresh Immanuel, Ph.D., P.E.

Associate Dean and Professor

School of Engineering and Computer Science

## Student Organizations



Since returning from break, the UE ASME section is attempting to get the ball rolling with some speaker events and other meetings. We plan to host a meeting in the last week of February. Alumni Soli Solaiman has agreed to speak and talk about his career as a Mechanical Engineer. There will be pizza and drinks available, and all Mechanical Engineering majors are welcome to join us. Further details about the date and time will be posted soon.



We are officially kicking off the semester with general meetings open to all students interested in attending! We will be discussing and gauging interest in attending our annual ASCE student symposium. This year's symposium is located at Purdue University Northwest and will be taking place April 11-13, 2024. Our student chapter is registered to compete in the ASCE UESI Surveying Competition and several smaller competitions including a concrete disc, a CAD competition, a transportation competition and a concrete cornhole board.

A group of ASCE members and university advisors are eager to attend the 2024 student Symposium. We also have plans of hosting several Civil Engineering companies to come and discuss with our chapter and introduce more information about the professional world.



For over 70 years, ACM has helped computing professionals to be their most creative, connect to peers, and see what's next. Joining ACM means you dare to be the best computing professional you can be. Student chapters worldwide serve as nodes of activity for ACM members and the computing community at large, offering seminars, lectures, and the opportunity to meet peers and experts in many fields of interest.

Students interested in being a part of ACM should speak to Dr. Mabis.



Congratulations to the new SWE leaders: Jillian Tretter, Ashlyn Koutsos, Astrid Miranda, and Baylee Essert! SWE hosted a workshop on February 2 to prepare for upcoming campus career events. Students updated their resumes and practiced elevator pitches to help their search for internships, coops, and full-time positions.



We were not able to garner enough interest in our ASHRAE (American Society of Heating, Refrigeration, and Air-Conditioning Engineers) chapter this year. We will continue to measure student interest to reboot the chapter in the near future..

## IMPORTANT DATES

### February

6

Career Day  
Eykamp Hall  
noon-6:00pm

10

SECS Hosts  
MATHCounts  
Eykamp Hall  
8:30am-4:00pm

12

Wellness Day  
no classes

18-24

Engineers Week

19

Advising begins  
(for Fall and Summer)

21

Engineering,  
Computer Science,  
& Construction  
Management  
Career Forum  
Eykamp Hall  
6:30-8:30 pm

23-24

Road Trip

26

Registration  
begins (for Fall &  
Summer)

### March

2-10

Spring Break

Proud Sponsor & Host



2024 SouthWestern Indiana  
Regional Competition

# 2023-24 Senior Design Projects

## CE 495 SENIOR DESIGN TEAM

The UE senior civil engineering design team has been working directly with the owner and contractors that will build the senior design project later this year. This has provided the team with real world and hands-on experiences that will benefit us as we enter the working environment.

The team has completed a preliminary site plan drawing using Civil 3D and a preliminary floor plan drawing using Revit. Currently the team is completing a parking lot and drainage design using HEC-HMS and a water service design for the House of Hope, Pavilion Bathrooms, and two irrigations systems. These utility designs are needed to meet building code and permit requirements.

The next steps are to design the sanitary sewer system, natural gas service, and two building foundations. The foundations will be designed by completing an analysis of the wind, earthquake, and snow loads on the building. These values will be used to determine the foundation shape, sizes, and reinforcing steel needed to support the buildings.

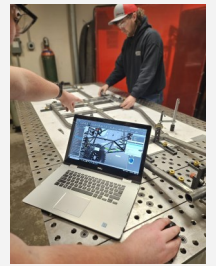
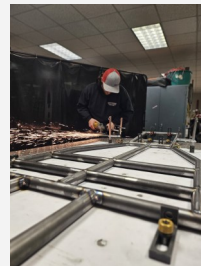
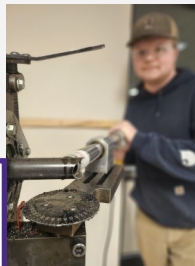
## UE RACING TEAM

The UE SAE Baja team is happy to announce that fabrication has begun for the 2023-2024 vehicle. Since early January, the team has built invaluable connections with both regional and local vendors to procure all of the required materials. Over the past few weeks, the team has been working meticulously to cut, cope, and bend all of the tubular members for both the space frame chassis and front suspension members.

As a result of the team's dedication, some sections of the vehicle are ahead of schedule and hope to easily meet the targeted goal of having a completed vehicle by March 25th. In the next coming weeks, the team hopes to complete the fabrication of all suspension members along with completing the main cockpit of the frame.

We would like to give thanks to our sponsors who have helped us get to this point: Wright Steel, NIX Companies, EBN, and Schmitt Metalworks.

Please follow for any updates as the team continues to forge ahead.



The School of Engineering and Computer Science is seeking Alumni to assist in various areas in support of the school:

**Attention Engineering Alumni**

- Guest Lectures
- Recruitment
- Adjunct Professors
- Serve on Advisory Councils

If you are interested in supporting SECS in any of the areas listed, please contact Dr. Suresh Immanuel via e-mail ([ss476@evansville.edu](mailto:ss476@evansville.edu)).

## THERMOSIPHON TEAM

The Thermosiphon team has completed two very promising sets of data investigating different hot leg heights at a constant angle. The team has finished up base case tests and has started research for this semester. Research is expected to finish around March. Afterwards, the system will be drained and the water will be replaced, and other modifications will be made to the data collection system.

The team is planning the trip to present the research and represent the University and the Mechanical Engineering Program at the National Conference for Undergraduate Research (NCUR) in Long Beach, California in April.

## SECS Fall 2023 Dean's List

We would like to congratulate the following SECS students for making the Dean's List:

- Omar Ashraf Abouelela
- Yousef Ashraf Abouelela
- Anna Ackerman
- Swarup Bhatta
- Preston Brinkman
- Bradan Bruce
- Kole Buechler
- Dakota Candler
- Steven Case
- Ethan Clark
- Grace Davidson
- Clay Dempsey
- Sebastian Diener
- Daniel Dwyer
- Anelise Fellers
- Wesley Fleischmann
- Ethan Floyd
- Ava Gerwe
- Daniil Goncharuk
- Nicholas Gushrowski
- Barak Hall
- Henry Hall
- Wyatt Hardin
- Sophie Howard
- Nathaniel Hurt
- Chongxiao Jiang
- Samuel Kluemper
- Ashlyn Koutsos
- Spencer Lenahan
- Alejandro Malla
- Christopher Martin
- Tiffany Martindale
- Jaxon McCullough
- Samuel Morgan
- Ghaya Mtimet
- Alejandro Navarrete
- Jakub Nowicki
- Shivam Patel
- Abhijan Poudel
- Michael Pruett
- Rakhmatillo Rayimjonov
- Lillian Roskind
- Kayla Simon
- Wendy Staat
- Noel Tafa
- Jingpeng Tang
- Andrew Thompson
- Jillian Tretter
- Aaron Tucker
- Gavin Wheeler
- Emily Wiebe
- Colton Watson
- Kaelan Wilson
- Connor Young
- Brendan Ulewicz
- Connor Vollmer

## SENIOR SPOTLIGHT



### Bradan Bruce

*Mechanical Engineering, Class of 2024*

**Hometown:** Troy, IL

**Why I Chose UE:** *It was a completely arbitrary decision*

**Clubs or Organizations Involved in At UE:** *I've participated in several Music Ensembles, including Wind Ensemble, Orchestra, Percussion Ensemble, Pep Band, and, briefly, Jazz Band.*

**Internships or Co-op Experience:** *None*

**Favorite UE memory:** *I will always remember my Harlaxton semester and all the fun trips across Europe.*

**Where do you go from here?**

*I plan to attend Graduate School*







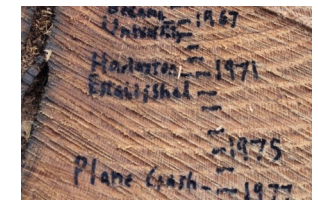
# HISTORIC TREE REMOVED OUTSIDE KOCH CENTER

The Grounds Crew at the University of Evansville (UE) recently removed a tree located near the Koch Center, for Engineering and Science sparking an unexpected chain of events.

Archaeology majors undertook a unique project following the removal of the tree. They were inspired by their newfound knowledge of dendrochronology, and took it upon themselves to uncover the tree's age and leave an indelible mark on the stump.

In a display of academic curiosity and in a testament to the caliber of students at UE, they meticulously examined the tree rings, determining its age, and inscribed significant dates in UE's history on the stump. This impromptu project not only showcases the students' enthusiasm for learning but also their ability to apply acquired skills in unconventional yet meaningful ways.

"This initiative exemplifies the kind of students we attract to UE and highlights our commitment to providing them with skills and knowledge that extend beyond the classroom," said Dr. Alan Kaiser, Professor of Archaeology. "We take pride in fostering an environment where students feel empowered to explore and apply their learning in innovative ways."



## TIPS FOR ACADEMIC SUCCESS

### Wellbeing 101

Did you know that according to a 2021-22 survey of over 130 college campuses, 44% of students reported experiencing symptoms of depression and anxiety (Mayo Clinic)? With gloomy weather, fewer moments spent outdoors and in the fresh air, and natural isolation and reduced interaction that occurs during winter, it is more important than ever to think of all the creative ways we care for our wellbeing.

If you're experiencing things like increased irritability, difficulty concentrating, changes in appetite, loss of creativity or interest, boredom of where you are or what you're doing, low energy, or decreased motivation, you may be on the fast track to burnout.

The chart below addresses the four areas of wellbeing: physical, mental/emotional, social, and spiritual. In addition to the ideas mentioned in each area, what are ways you care for your whole self each day?

<p><b>Physical</b></p> <ul style="list-style-type: none"> <li>Physical activity/exercise</li> <li>Healthy food choices</li> <li>Regular waking and bedtime hours</li> <li>Practicing good hygiene</li> <li>Avoid the use of nicotine/alcohol/drugs</li> </ul>	<p><b>Mental/Emotional</b></p> <ul style="list-style-type: none"> <li>Stress management techniques</li> <li>Writing to-do lists</li> <li>Positive self-talk</li> <li>Activities that produce positive emotions</li> </ul>
<p><b>Social</b></p> <ul style="list-style-type: none"> <li>Be with friends</li> <li>Invest in healthy relationships</li> <li>Address concerns when they come up</li> <li>Have time scheduled for just you</li> <li>Set aside time to call home</li> </ul>	<p><b>Spiritual</b></p> <ul style="list-style-type: none"> <li>Connect with something important to you</li> <li>Meditate/pray/read spiritual texts</li> <li>Reflect on your values/beliefs</li> <li>Explore the purpose in your work</li> <li>Ask for/give forgiveness for wrongdoing</li> <li>Volunteer</li> </ul>

Interested in learning how to customize a "Wellbeing 101" plan that's just right for you? Contact the Office of Counseling for a consultation today! Scheduling an appointment is as easy as stopping by or giving the office a call at 812-488-2663. Our services are confidential and available at no additional cost to UE students. See you soon!

## RESEARCH OPPORTUNITY

### UCF seeks applicants for NSF and DOD REU Program: Advanced Technologies for Hypersonic, Propulsive, Energetic, and Reusable Platforms (HYPER)

**UCF Main Campus, Orlando, FL, May 19-July 27, 2024:** The UCF REU site addresses challenges in next-generation modes of transportation and energy generation. Realizing planned platforms for advanced space travel and energy production can only be achieved through multidisciplinary research. This REU site will actively recruit and partner a diverse group of approximately eleven students each summer with leading faculty and graduate students at UCF. Together, these teams will advance the fundamental knowledge needed to overcome technical barriers limiting hypersonic flight.

**Benefits:**

- Engage in hands-on research guided directly by a faculty mentor and graduate student
- Interact with a diverse multidisciplinary team of researchers
- Visit the NASA Kennedy Space Center and aircraft manufacturers
- Participate in professional development workshops
- Gain in-depth training on numerical simulation software ANSYS
- Prepare for graduate school and a research-based career

**Support:**

- Summer stipend of \$6,000
- Meal per diem (approximately \$14/day allowance)\*
- On-campus housing\*
- Travel allowance to and from Orlando\*

\* Unfortunately, HYPHER can only provide relocation, housing, and meal per diem to participants whose universities are located greater than 75 miles from UCF's main

To learn more about the program, please visit our website at [cater.cecs.ucf.edu/hyper/](http://cater.cecs.ucf.edu/hyper/) or view the HYPHER REU flyer (pictured).

The application deadline for HYPHER is Wednesday, March 20th, 2024 at 11:59 PM ET. Prospective participants may apply at [cater.cecs.ucf.edu/hyper/apply/](http://cater.cecs.ucf.edu/hyper/apply/).

The organizers of the program are Drs. Ali P. Gordon and Jeffrey L. Kauffman ([hyper@ucf.edu](mailto:hyper@ucf.edu)).

