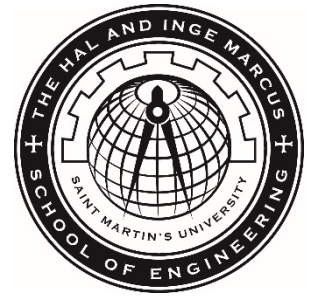




Saint Martin's
UNIVERSITY



CORNERSTONE

The Hal and Inge Marcus School of Engineering

Spring 2024- MARCH

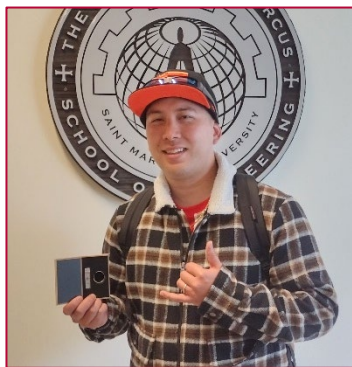


WELCOME SPRING!

Finally --Spring has sprung – the weather improves – blossoms are finally bursting forth – and everything goes into high gear moving into the second half of Spring semester and the May culmination event for many of our students' journeys here at Saint Martin's -- COMMENCEMENT!

Our Engineering Awareness event on February 21st for our visiting high school students was a great success with about 85 students and their chaperones participating at four stations: CE-Structures (**Dr. Jill Walsh**), Senior Design Projects (**Dr. Liza Bornasal**), ME-Robotics (**Dr. Cameron Devine**), and Computer Science (**Farzin Bahadori**). We had a host of HIMSE student volunteers who assisted at the stations and were great ambassadors of our university and HIMSE programs. Many thanks to our amazing Admissions staff for coordinating with us too!

Now it's all about senior design project completion and EAB reviews, and selection of the best Civil Engineering, Computer Science, and Mechanical Engineering capstones of the year. We will also select our CE, CS, IT, and ME students of the year, HIMSE International Student of the Year, HIMSE Graduate Student of the Year, and the recipient of the Hal and Inge Marcus Service & Community award. All will be recognized at both Honors Convocation on April 23rd and at our HIMSE event on May 3rd. The May 3rd event also inducts graduating seniors into the Order of the Engineer (for both CE and ME -commonly referred to as the Ring Ceremony) and The Pledge of the Computing Professional (for CS and IT, where pins are issued). We're looking forward to these events where we get to congratulate and honor all of our HIMSE graduating seniors and graduate students. Then the next day, it's Commencement, when we proudly watch our students graduate with all the pomp and circumstance they have earned! It's a wonderful time of year, and we hope you'll celebrate it with us! If you aren't part of the event, it's live-streamed (info on SMU website and a link to the stream later in April).



CONTEST – WIN A PRIZE!

This question was asked in the Spring-January newsletter: What is the longest bridge in the world? (not a specific type-just the longest)

The answer was: The Danyang-Kunshan Grand bridge, which is a 102.4 mile (164.8 km)-long viaduct on the Beijing-Shanghai Speed Railway. Wow!

The first correct answer was sent in to us by Civil Engineering student, **Steven Araki** (shown at left). He got a 1TB thumb drive (all metal and comes with a metal keyring). That's a lot of storage space for this future engineer!

Here's the next question for some astute newsletter reader. Again, send all answers to engineering@stmartin.edu. First correct answer wins something different, but equally useful!

Question: What United States East Coast private research university has a beaver for a mascot because it's "nature's engineer"? Good luck – answer in May's newsletter!

HONORED ATHLETES

The Saints named five basketball players to the All-Academic team, including HIMSE's **Marcus Lenker** (only the fifth ever four-time honoree in conference men's basketball history) and **Cory Schramm** (who led the conference with a 4.0 GPA), along with **Tyke Thompson**, **Kyle Greeley**, and **Nathaniel Stokes**.

At the Mar. 23-24 Oregon Preview and Peyton-Shotwell Invite our SMU Track & Field athletes competed in a multitude of events. In the 3000-meter steeple, **Kainalu Pagente**, BSCE junior, ran the #7 best time in NCAA DII just missing his lifetime best by 1 second, he placed 8th with a time of 9:29.52. The meet was capped off with an exciting men's 4x400m relay race. Matt Cooper started the team off strong with his fastest relay split of his life in 51.56, then Timmy Higgins kept the team in the race, **handing off to Kainalu Pagente who seized the lead for SMU by running a new personal best 400m split in 50.15!** Noe Ortega held the lead for 100m, but was overtaken by the 400m NCAA DIII National Champion from UPS and the Saints finished in second place.

And we apologize for missing this amazing athlete's achievement from last November. Volleyball athlete **Karla Soto**, BSCS senior, was the first ever Saint to be named to First Team All-GNAC. Great going, Karla!

INTERNSHIP SECURED

Civil Engineering student **Danielle Miller** recently told us that she will be doing an internship with Pierce County this summer! She says, "I will be working with the Floodplains and Watershed Services. The section is part of the Planning and Public Works Department.

I will be working with an award-winning division, that is recognized nationally for its floodplain management, habitat restoration, flood protection, and water quality. I will assist in collecting and managing GIS data. In both field, office and remote settings with opportunities to work directly with experts in an array of fields, including watershed modeling, GIS asset management water quality, and stormwater management. The cohort of other interns will work with me to finish a summer project our supervisors will give us. This will give me valuable, hands-on experience with industry-standard GIS tools, while surrounded by experienced staff invested in growing my technical proficiencies. I'll SEE first-hand how stormwater and surface waters are managed at the local scale while gaining a deeper understanding of environmental policies and regulations overall."

She also told us that her core responsibilities include:

- Assisting with field GIS data collection using mobile applications and equipment,
- Assisting with stormwater asset data validation, maintenance and updates,
- Assisting senior staff in delineating watershed boundaries using established methods,
- Analyzing GIS data using Esri ArcGIS Pro and ArcGIS Online,
- Developing maps and GIS data visualizations to support water quality improvement planning.

Danielle is looking for carpooling from Olympia to Tacoma and back during the summer, so let her know if you have any suggestions. Congratulations on the internship, Danielle!

PI TAU SIGMA SPRING INDUCTION

The Spring 2024 Induction Ceremony for our Alpha Tau Chapter of Pi Tau Sigma was held on March 27, 2024. Pi Tau Sigma is the national honor society for mechanical engineering students. Congratulations to these new members of Pi Tau Sigma: **Macy Ball, Vanessa Bledsoe, Ester Cabotage, Charles Ganu, Darran Lum, Ethan Myers, Karis Sanders, Claire Skaggs, Joseph Wentz.**



Front row: (L to R) Steven Araki (Chapter Secretary), Vanessa Bledsoe, Claire Skaggs, Karis Sanders, Ester Cabotage, Hunter Anderson (Chapter Treasurer). Back row: (L to R) Dr. David Olwell (Dean, Hal & Inge Marcus School of Engineering), Ethan Myers, Joseph Wentz, Kaylah Tibbits (Chapter President), Macy Ball, Darran Lum, Dr. Daniel Einstein (Chapter Faculty Advisor), Charles Ganu.

ENGINEERING BANQUET A GREAT SUCCESS!

The 72nd Annual Engineering Banquet held on February 23rd was very successful! We had over 85 guests. Everyone started with appetizers, drinks, and socializing. Then we moved to a welcoming address by our HIMSE Dean, **Dr. David Olwell**, followed by a delicious buffet dinner. Next on the agenda was a fascinating keynote address, “The Legacy of Olympia Bridge Engineering”, co-presented by **Chester Werts**, NW Major Bridge Lead, and **Michael Lamont**, Major Bridges Technical Director, of HDR, Inc. Both have decades of experience each in bridge design-build regionally, nationally, and in Canada. It was an interesting mix of history and the current bridge wonders we host and boast about here in Washington and others in the U.S. and Canada designed by Washington engineers. The evening ended with final socializing and networking of guests with our students. We want to thank all of those who sponsored student tickets. Through your generous donations totaling \$2,130, we were able to offer complementary tickets to 35 students and also support our students with senior design project costs. All in all, it was a very fun and illuminating event! **Next year, it's on February 21st**, so save the date now and look for more information in late 2024/early 2025!



EAB MEMBER SERVING ON NATIONAL BOARD

Engineering Advisory Board member **Sharon Zimmerman BSCE '94** proudly let us know that she is now serving on the National Society of Professional Engineers (NSPE) Board of Ethical Review (BER) for a three-year term (2023-2026). Congratulations on this appointment, Sharon!

WAV2T PROGRAM GETS SOME H.E.L.P

(contributed by WAV2T Career Development Manager **Jose R. Otero**)

The USA Homeownership Foundation, a nonprofit counseling agency approved by HUD, is dedicated to offering literacy assistance and education to active duty and veteran communities, helping them achieve the American dream of homeownership.

On February 9th, the foundation's H.E.L.P. (Homeownership Education & Literacy Program) team from the Veterans Association of Real Estate Professionals came to our campus to deliver a highly informative workshop, delving into the effective utilization of the VA Home Loan, along with valuable financial guidance covering aspects such as money management, budget creation, and understanding credit scores, among other topics.

All three WAV2T cohorts (Server and Cloud Administration, Cloud Application Development, and Cyber Security Administration) fully embraced this class, and the students expressed great satisfaction with the wealth of information provided. A heartfelt thank you to the H.E.L.P. staff for delivering such an excellent program to benefit the military community!



H.E.L.P. (Homeownership Education & Literacy Program) team from Veterans Association of Real Estate Professionals pictured above in the foreground with **Adam Takata**, WAV2T Director, at back on stage.

FACULTY NOTES – NOTED FACULTY



Dr. Corrie Walton-Macaulay and CE students **Edward Suppes** and **Austin Payne** attended an event on February 28th sponsored by SEAW, ASCE, and Basalite in Dupont. About 20 people attended the event, which included a tour of Basalite's Dupont facility, where they make specialty concrete masonry and bagged dry mix. Attendees were also treated to a great tri-tip lunch and a thought-provoking speech on low carbon impact concrete masonry. One of our HIMSE folks is **in the photo at left – Edward Suppes (far right)**.

Dr. Shanzhong 'Shawn' Duan received word recently that a research paper he co-authored with **Miguel de la Melena MSME '22** was

accepted for publication in the **ASME Journal of Mechanisms and Robotics**, the top research journal for mechanical engineering internationally. Dr. Duan was Miguel's thesis advisor. The paper is titled "New Design and Prototype of 2-degree-of-freedom Planar Parallel Manipulator for Use In Creating an Infinite 3D Printer". Dr. Duan noted, "I am happy that one of our ME graduate students could get their research work published in such a high-quality journal, which is an excellent showcase to demonstrate the excellent quality of our engineering programs at Saint Martin's University." Congratulations to you both!

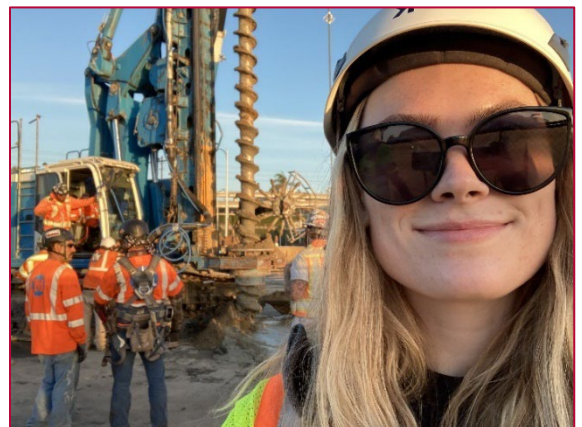
READ MORE: <https://doi.org/10.1115/1.4065082>

Dr. Radana Dvorak reported that the Computer Science department has had two papers accepted to the American Society for Engineering Education (ASEE) Annual Conference which takes place June 24-26 In Portland, Oregon.

1. Integrating Cybersecurity in BSCS/IT Senior Design Capstone Projects: A Case Study; **John Whiteman, MS**, and **Radana Dvorak, Ph.D.**
2. Leveraging Open Source Tools to Teach Quantum Computing Foundations: Bridging the Future Workforce Gap in the Quantum Era; **Farzin Bahadori, MS**, and **Radana Dvorak, Ph.D.**

ALUMNI NEWS

Annika Briggs BSCE '23 checked in and reports this – "I've been living it up in San Diego since July, and I love my job. I love it! I'm part of the geotechnical group at Kleinfelder, and they have me doing new things every week. I'm consistently at the airport, observing the foundations being drilled. I've worked on piles for new bridge extensions, two art sculptures, and a new building relocation. I've also helped with the redesign of a new retaining wall for the airport! I had some spare time at the site so I figured I'd send a quick little update to you guys with some photos. Thanks for teaching and believing in me, I wouldn't be out here today without you all! I'm still learning every day, but you guys helped me lay a great foundation!" Thanks for checking in, Annika!



Saint Martin's alumni and members of the Fickett Structural Solutions team, **Michael Beglin '09, Luis Camacho '19, and Andy Packard '01** stopped by during the February job fair on campus to share career opportunities within structural engineering and exciting engineering activities they've engaged in as part of the Fickett team. They shared a few photos showcasing some of their exciting work, which can be seen below. For more info on Fickett Structural Solutions, please visit their website: <https://fickettinc.com/> Shown in photo: **Andy Packard**, current Fickett VP and SMU BSCE alum, working on the Skamania Bridge.



CALENDAR AND EVENTS

- ❖ March 29 HOLIDAY Good Friday
- ❖ April 1 HOLIDAY Easter Monday
- ❖ April 2 Priority Registration starts for Sum/Fall '24
- ❖ April 5 Last day for withdrawal for Spring Main-00
- ❖ April 8 Mid-term grades due for Spr 09/11 terms
- ❖ April 19 Last day for withdrawal for Spr 09/11 terms
- ❖ April 22-25 Study Week
- ❖ April 23 Scholars Day and Honors Convocation
- ❖ April 25 Senior Commencement Fair
- ❖ April 26 Saint Thomas Aquinas Study Day (no LACEY courses meet)
- ❖ Apr 29-May 3 Final exams for Spring Main-00
- ❖ May 3 WAV2T Graduation (11A-1P/ Worthington)
HIMSE Awards/Order of the Engineer/Pledge of the Computing Professional (1-2P / Worthington)
Chancellor's Baccalaureate Mass (430-6P / Marcus Pavilion)
- ❖ May 4 Commencement (Fall 2023, Spring 2024, Summer 2024 candidates) and Graduate Program Hooding (10A-1P / Marcus Pavilion)
- ❖ May 6 Summer 08 term begins
- ❖ May 7 Final grades due for Spring Main-00 and 09/11 terms
- ❖ May 13 Summer 2024 Main-00, 01, 05, 07 begins
Add/drop deadline for Summer 08 term
- ❖ May 14 Add/drop deadline for Summer 01



DEAN'S CORNER

You may have seen something in the news about faculty members in Old Main receiving notices of potential termination. Fourteen faculty were affected, mostly in the College of Arts and Sciences. What's going on?

For years SMU has operated on razor thin margins. We have made college affordable by discounting our tuition an average of about 60% across the student body, but that has restricted our ability to pay competitive salaries to staff and faculty. Our Fall FTE student headcount across the university was 1,277 in 21-22, 1,169 in 22-23, and is 1,079 in this school year. That is a drop of about 15.5% over two years, with corresponding decreases in tuition revenue and auxiliary income (dorms, e.g.). HIMSE has been similarly affected.

At the same time, we implemented salary increases at the beginning of this year that were offered by the previous president. These addressed long standing underpayment of faculty. However, they also increased faculty labor costs by \$1.05M at the same time revenue was dropping. We also hired about a dozen new faculty last year. This obviously does not add up to a balanced budget. Our student-to-faculty ratio has gotten very low, is uneven across campus, and is economically unsupportable.

The total number of dollars available for faculty compensation has gone down as enrollment has dropped. To honor the commitment to keep these pay increases, SMU has no choice but to reduce the number of faculty and reduce other compensation elements, notably retirement contributions.

Across campus, our faculty composition by discipline lags our student enrollment patterns. Similar to other regional universities, we have seen a marked shift towards degrees that offer secure employment at a good wage. This includes the professional programs, computer science, nursing, and others. The humanities majors have steadily dropped enrollment over time, but still have high numbers of tenured faculty in those departments. Newer majors, such as exercise science, have very large numbers of students, but almost no tenure track faculty.

We still teach a significant amount of humanities in the core curriculum. That instruction is very important. Those core classes tend to be full and economically viable. But the small enrollment majors must offer upper division courses to meet their degree requirements, and those are highly inefficient. Worse, the best faculty end up teaching the small number of majors in those upper division courses, and are less available for the core curriculum, which affects all majors and which contains most of the content that supports our Catholic and Benedictine mission.

In addition, there is a looming demographic cliff coming in a year or two, with about 15% fewer college students due to declining birthrates after the 2008 recession. The competition for students will increase. We may see further declines.

We are working our way through this as a university, trying to decide what to do. The broad outlines of what must be done are obvious (increase revenues, decrease expenses, particularly labor), but we are working on how to do it well. However, to implement labor changes in the 25-26 school year, we need to put faculty on notice that they may be cut, as required by our faculty handbook. That is what these one-

year terminal appointments do. They contain wording that the terminations may not be implemented. We will see as this plays out.

We are also trying to do much of this painful work before the new president, Dr. William Brownsberger, arrives, so that he can lead us beyond this.

This is wrenching work. Many of those notified are long-time faculty members, beloved by colleagues and alumni alike, who have given their professional careers to SMU. But we must balance the budget for accreditation and to maintain our bond covenants.

As to engineering and computer science, we are losing 1.75 FTEs of non-tenure track faculty, and are not filling any additional tenure track slots this year in engineering, even though we have had two tenure track departures. We hopefully will fill one in computer science. HIMSE is not disproportionately affected by this budget challenge.

We have had severe reductions in our non-labor budgets, of course. Due to the generous support of alumni such as you over the years, I had squirreled away a fairly decent rainy-day fund in our gift accounts. We are spending that down this year to preserve the quality of the student experiences in HIMSE. Student travel has continued this year, including the ASCE competitions, NSBE conference, the Cast in Steel competition, and additional field trip opportunities for our students, to name a few, and funded by past donations. Thanks to an especially generous contribution by Ms. Inge Marcus, outstanding student awards at graduation will continue this year, with an increase in the amount of the awards. Your continued support is preserving the student experience for engineering and computer science students.

We are not standing by idly in HIMSE. The faculty have been aggressively countering the enrollment challenge of UW-T with an expansive outreach program to the high schools and community colleges that are our sources of students. We are also moving to expand our high revenue WAV2T veteran program to North Carolina, which should greatly increase the marginal contribution of HIMSE to the campus budget beginning in spring 2025. We are moving to increase average tuition by recruiting more full-pay or near full-pay students, particularly veterans.

So, yes, these are tough times for the University, which as you know has seen tough times before. They are not death throes – we will survive and then, once again on sounder footing, we will flourish. We will do the painful work to get our labor costs balanced against our student revenues. It WILL be painful, but it must be done. Through it, we will continue to form our students into Saints.

Thank you for your continued and vital support!

Best wishes,
David H. Olwell, Ph.D., Dean
Hal & Inge Marcus School of Engineering

To unsubscribe from this list or to update your contact information, please email engineering@stmartin.edu