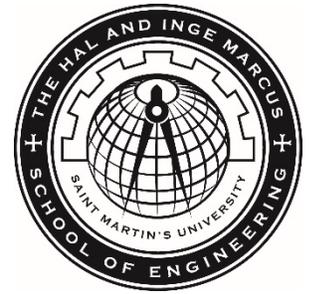




Saint Martin's
UNIVERSITY



CORNERSTONE

The Hal and Inge Marcus School of Engineering

Fall 2022- NOVEMBER



HOLIDAY SEASON UPON US!

The holiday season signals that we are nearing the end of a very busy fall semester! It's been wonderful seeing the students back again for face-to-face classes. Their energy and enthusiasm really set the tone in our facilities and helps amp up the faculty and staff too!

We are VERY pleased that we'll be hosting a LIVE Engineering Banquet on February 24, 2023 in the Norman Worthington Conference Center on campus! We've secured Robert Hodgman (MBA '03), Senior Aviation Planner for WSDOT, as our featured banquet speaker. As the WSDOT staffer closest to the next regional airport project, he'll be filling us in on what planning a project like this takes and all the latest regarding it. Should be well worth the price of admission! This event is also a great opportunity for our students to network and socialize with alumni, faculty, staff, abbey members, and our supportive outside community. Keep an eye on our webpage for additional information as it comes available and how to buy tickets for this premier annual event!

As always, everyone here wishes each of you – our Saint Martin's HIMSE community – the very best of everything in your personal, professional, and academic lives and a blessed holiday season!

FE EXAM PREP COURSES

Once again, we are offering Spring 2023 courses to prepare students to take the FE Exams in early summer/fall.

PART I-Session 10 GE495 ST: FE Exam Prep: General Engineering for CE and ME (Jan 9-Mar 3-- Mondays 4-4:50PM)

PART II-Session 11 (Mar 13-May 5) Take either CE 495 ST: FE Exam Prep: CE Specific (Mondays 4-4:50; Lacey Campus classroom TBD) **OR** ME 495 ST: FE Exam Prep: ME Specific (Mondays, 10-10:50; Lacey Campus classroom TBD)

We're offering these at no cost for students-- just make sure you enroll in **both** sessions for full benefit and best exam prep.

For those outside the university who may be interested in this exam prep, we are charging a fee of \$250 for each session that will go into the HIMSE scholarship fund. Please contact Tam Léger at tleger@stmartin.edu for more information or to enroll.

PI TAU SIGMA FALL INDUCTION

The Alpha Tau Chapter of Pi Tau Sigma inducted nine new members on November 10, 2022. Student inductees were **Steven Araki, Hollie Filyaw, Christian Gordon, Christopher Hatakenaka-Gibbs, Qinfu Hu, Riley Phelps, Kaeli Ploettner,** and **Kaylah Tibbits**. **Dr. Shahlaa Al Wakeel**, mechanical engineering assistant professor, was inducted as an honorary member. Pi Tau Sigma is the honors society for Mechanical Engineering students. Its members are chosen on the basis of sound engineering ability, scholarship (upper 35% for seniors, upper 25% for juniors), personality, and probable future success in their chosen field of Mechanical Engineering. Congratulations to our Fall 2022 Pi Tau Sigma inductees!



*(front row l-r) Hollie Filyaw, Kaeli Ploettner, Dr. Shahlaa Al Wakeel, Kaylah Tibbits, Christopher Hatakenaka-Gibbs, Qinfu Hu, Steven Araki
(back row l-r) Nathan Martinez, Francisca Anunobi, Marcus Lenker, Christian Gordon, Hunter Anderson, Riley Phelps*

UW CAREER FAIR TRIP

For the first time in several years, a small group of HIMSE students travelled to the UW Science & Engineering Career Fair in Seattle on October 18th. They were led by **Shelbie Wickett**, Lab Manager and Instructor. This annual recruiting event, hosted by the Science & Engineering Business Association (SEBA), was held virtually on Oct. 13th and in-person on Oct. 18th. Our students and hundreds of others had the opportunity to meet with close to 100 participating companies about job and internship options. Those attending, in the photo to the right, are (front l-r) **Nathan Martinez, Riley Phelps, Uriah Camacho, Raiana Webster, Qinfu Hu, Shelbie Wickett;** (back l-r) **Andrew Horton, Jake Stewart, Regan Vancleave, Christian Gordon, Finnley Butler.**



WIT OFF TO A GOOD START

Our newest student club, Women in Technology (WIT), is off to a great start. So far they've hosted two guest speakers this semester. On November 1st, **La'Vanda Harrison**, IT Project Manager for Accenture and former MSSA graduate '14, spoke to students. **Dr. Laurie White**, Google Software Engineer, spoke to attendees on November 29th. Those who are interested in joining WIT, sponsoring the club, mentoring our students, or guest speaking can contact either **Beth Gallatin** (club president) beth.gallatin@stmartin.edu or **Dr. Radana Dvorak** (faculty advisor) rdvorak@stmartin.edu. Great work so far!

CE MENTOR DAY – A GREAT SUCCESS!

(by **Dr. Floraliza Bornasal**) On November 16, 2022, 16 civil engineering (CE) senior design team members met with 19 professional mentors for the November CE Mentor Day. The hybrid meeting, held in person at Cebula Hall and remotely via Zoom meeting, launched the first of four mentor days to be held for CE seniors during the academic year. This event marked the first time the class of 2023 was able to introduce alumni and other professional mentors to their projects, gain feedback for next steps in their design process, and get insight on design issues to account for as they pursue preliminary design options and alternatives.

This year's senior design groups are working on four projects sponsored by City of Yelm, Thurston County Public Works, and Saint Martin's University. Projects include structural and hydraulic design for a water reservoir for the City of Yelm, the civil/site and geotechnical design for the noted water reservoir, a roundabout design for the Grand Mound area in Thurston County, and a mock civil/site design for placement of a new student union building on the SMU campus.



The active engagement of project sponsors and design mentors in these senior design projects reflects the values of community and service on which Saint Martin's University was founded. In fact, many of the mentors who participated this year are alumni of the civil engineering program here at Saint Martin's University themselves. These alumni, along with other professional members of the community who support the program, continue the tradition of giving back and mentoring future civil engineers. Noting this, we are grateful for the participation of the following individuals:

- Marcus Storvick and Brian Meier of Thurston County Public Works;
- Patrick Hughes and Cody Colt '15 of City of Yelm;
- German Chavez '21, Shawn McCann '21, and Jillian Leonard '21 of WSDOT;
- Isaac Couture and Amanda Goldie-Wells '21 of Atkinsons Construction;
- Jim Farley '06 of MC-Squared;
- Aubrey Collier '01 of City of Lacey;
- Jessica Soward '04 of Sargent Engineers;
- Luis Camacho '19 of Fickett Structural Solutions;
- Blake Lord '16, Jessica Martin '20, and Jason Fairhurst '21 of KPFF;
- Mallory Dobbs '16 of LDC, Inc.;
- Dennis Furby (retired);
- Sam Dunn '16, Sam Rowswell '17, and Sarah Howsden '19 of SCJ Alliance;
- Tim Horton '04 of Jacobs;
- Muraco Heinsohn of Skillings Inc.
- Joseph Brascher, Jr. '20 of Clear Creek Solutions;
- Doug Howie of Washington State Department of Ecology and Saint Martin's University faculty

Students will continue to work with mentors and project sponsors throughout the academic year. If you'd like to participate in future mentorship events or would like to sponsor future civil engineering design projects, please feel free to contact **Dr. Floraliza Bornasal** (fbornasal@stmartin.edu) and **Dr. Jill Walsh** (jwalsh@stmartin.edu). You can also fill out a mentorship interest form via this link: <https://www.surveymonkey.com/r/GBPQ3C>.

INVENTIST GUEST SPEAKER

(By **Leslie Washko**) On Tuesday, November 8th, ME instructor **Leslie Washko** welcomed inventor **Shane Chen** from Inventist (<https://inventist.com/>) to speak with the ME 318/MEM 511 New Product Development class. Mr. Chen shared some of his experiences and insight into what it takes to be a prolific inventor. Shane started inventing as a child in China simply tinkering with parts and found materials and making improvements to radios and television sets. He earned a degree in agricultural meteorology which was something that fascinated him, but there were few jobs to be had in that field, so he started his own company making scientific instruments for plant scientists and environmental researchers. He said it was a profitable niche market, but one in which he became bored. He wanted to invent something new.



We learned that his human-powered hydrofoil AquaSkipper was developed by making improvements on a self-propelled personal pontoon device, which made moving and exercising across water easier than the device it was predicated on. Mr. Chen noted that a lot of innovation is incremental, which is still making a product better than its predecessor. But he said that his passion is thinking and observing and coming up with something totally surprising “that fills the holes that people don’t notice at first.”



One of Shane’s most radical inventions is the Hoverboard (Hovertrax)- photo left- that evolved from his gyro-stabilized electric unicycle “Solowheel” - photo right- as “ideas started popping” when he watched his daughter doing tricks on two Solowheels. He was quick to point out that his patented design was copied by multiple knockoff companies that flooded the market with inferior products – the ones that caught fire – and cautioned us to protect ideas and designs with appropriate intellectual property. Even more importantly, he advised, “be actively involved in the entire product development process from the ideas one generates as a product concept to manufacturing and marketing that product.”



He jokingly stated that he is not much of a business person, and his brain works in a different direction, working on multiple projects at a time - inventing new things to solve the problems he observes around him.

IMECE 2022



Miguel De La Melena, Dr. Shawn Duan, and Alexander Benson (as pictured l-r) represented Saint Martin’s University at the 2022 International Mechanical Engineering Congress & Exposition (IMECE) held October 30-November 3 in Columbus, Ohio. This industry-leading event featured advanced research and technical content and expert speakers spanning a range of industries impacted by mechanical engineering, including energy production, energy sources, advanced manufacturing, and engineering sciences.

Dr. Duan and graduate students Benson and De La Melena presented papers titled “Simulating a Piezoelectric-Haptic MEMS Actuator in Low-Frequency Vibration” (Alexander Benson, Seth Carl, Shawn Duan), “New Design for Implementation of 2-Degree-of-Freedom Planar Parallel Robot for Use in Creating an Infinite 3d Printer” (Miguel De La Melena, Shawn Duan), and “Electrical Power Generation from Biogas Upgrading (Morgan Smith, Zachary Musgrove, Yuxin Song, Hao Hu, Shawn Duan). Thanks representing HIMSE’s mechanical engineering research and scholarship!

[READ MORE](#)



Claire Skaggs (l), Kaylah Tibbits (c), and Emme Brownell (r) arrive in Houston for the conference

SWE WE22

Dr. Floraliza Bornasal, Claire Skaggs, Kaylah Tibbits, and Emme Brownell attended the Society of Women Engineers (SWE) WE22 Conference held October 20-22 in Houston, Texas. In addition to the great conference experience, they were able to visit the Space Center in Houston. **Dr. Bornasal** said, "Thank you for your support with getting the students to Houston this year. The students and I were able to learn and experience a lot at the conference attending panels and speaker meetings, networking at the career fair, getting to see so many other women engineers in one place, and getting to explore Houston."



Kaylah Tibbits (l) and Dr. Bornasal (r) after the Boeing Awards Breakfast

Kaylah Tibbits was honored at the Boeing Awards Breakfast with the award of an internship at Boeing! Kaylah noted, "I had fun and an enriching time at the conference. I learned a lot through speaker events and the career fair, and I was even able to achieve a Boeing internship by the end!" Congratulations, Kaylah!

CLASS FIELD TRIP – A GREAT LEARNING EXPERIENCE!

On September 21, **Dr. Tapas Das** took his CE495/MEV584 Air Quality Management class on a field trip to the Centralia Power Plant. The students learned how the power plant operates and had a thorough tour of the facility. The power plant is a major coal-fired facility and the only commercial coal-fired plant in the Washington state. By requirement of the 2011 TransAlta Energy Transition Bill, the plant is required to stop burning coal by 2025. An interesting and informative trip before it transitions to cleaner fuels. Thanks, Dr. Das!



(left to right) Joseph Lee, Joel Tribaudini, Kaitlin Velazquez, Kelcie Hopkins, and Dr. Tapas Das at Centralia Power Plant



TRUNK OR TREAT FUN

In support of the Veterans Club, Saint Martin's staff and students attended the Camp Murray Trunk or Treat event for military families on October 29th. The theme was Alice in Wonderland. Pictured left to right: **Andrew Horton** and son Jameson, **Kimber Cohn, Justin Rendon, Jorge Castillon-Sierra, Beatriz Lias Lopes De Siqueira, Tam Léger, Jonathan Wiens, and Danielle Sweeney**. There were about 20 groups handing out candy and/or other small treats. Everyone had a great time!



FACULTY NOTES – NOTED FACULTY

Dr. Isaac Jung was honored at the SMU Board Dinner on November 3, 2022 with the award of Professor Emeritus, Mechanical Engineering. Though he officially retired in

2021, after having taught for more than 30 years at Saint Martin's University, he continued to teach as an adjunct through October 2022. He was the first tenure track faculty member in Mechanical Engineering at Saint Martin's.

Dr. Jung served on the faculty senate twice and other university and faculty committees. He founded three of the student engineering clubs and advised them, including the Alpha Tau Chapter of Pi Tau Sigma—the honor society for mechanical engineering. He served as department chair on multiple occasions, and was active in hospitality shown to visiting faculty who later joined the department. He was a leader in ABET accreditation activities for the department for over 20 years.

Dr. Jung was also recipient of an NSF grant. His scholarship of application involved multiple water-related projects for the Rotary and Engineers Without Borders. Dr. Jung has been a great colleague and community member. He has cheerfully persisted through three decades of changes at Saint Martin's University and has been extremely cooperative in undertaking the many tasks he was asked to perform over those decades. His strong work ethic, love of students, and humility are recognized by all his colleagues and will be greatly missed. We hope he will enjoy retirement and continue to mentor and share his expertise with our students in the future! Thank you, Dr. Jung!



Dr. Isaac Jung (left) with his Professor Emeritus award, pictured with Dr. David Olwell, Dean of the School of Engineering

Dr. Radana Dvorak, Dr. Xuguang Chen, and Dr. Razvan Mezei participated in the CCSC (Consortium for Computing Sciences in Colleges)-NW Regional Conference in Portland, Oregon, November 4-5. The conference is designed to promote quality computer-oriented curricula, as well as effective use of computing in small institutions of higher learning, which are typically non-research in orientation. Dr. Mezei served as the conference Papers Chair and Webmaster and delivered a tutorial/workshop on “Teaching Web Development Using ASP.Net Core MVC”. Dr. Chen's tutorial/workshop was titled “An Introduction to MPI Parallel Programming with MPJ Express Library.” Dr. Dvorak presented a paper with colleague Ben Tribelhorn (University of Portland) titled “A Course Model for Enhancing Applied Non-Technical Skills of Computer Science Students”. Many thanks to these three for representing Saint Martin's! [READ MORE](#)



Dr. Das presenting at AIShE Annual Meeting

Dr. Tapas Das attended and presented three papers at the 2022 AIChE (American Institute of Chemical Engineers) Annual Meeting November 13-18 in Phoenix, AZ. AIChE is the world's leading organization for chemical engineering professionals. Titles of the papers were: “Advanced Wastewater Treatment and Management for Water Circularity, Reuse and Recycling”; “Finding Strategic Solutions to Waste Plastics, Recycling, and Beneficial Reuse Toward Circular Economy”; and “Sustainable Waste Management Strategies and Technologies Moving Toward a Circular Economy”. [READ MORE](#) Dr. Das also visited Kolkata, India, between Nov. 21-Dec. 3. He delivered a lecture at the Jadavpur University Department of Chemistry (his alma mater) on Nov. 23 and a paper at an international conference held Nov. 30-Dec. 3. A busy man indeed!

Dr. Dintie Mahamah was recently selected to join the Board of the Puget Sound Salmon Enhancement Group (SPSSEG). The SPSSEG was formed by the Washington State legislature in 1190 as a means of involving communities, citizen volunteers, and landowners in salmon recovery efforts with a six-member staff, administered by a nine-member Board of Directors. Congratulations, Dr. Mahamah!

Dr. Farzin Bahadori, Computer Science instructor, represented Saint Martin's University on November 9th at the Eastern Washington CS Fair. The fair was attended by over 800 high school students (and their teachers) to discover and explore career paths in technology and computer science fields. One student attending the fair had this to say, "The most in-depth and interesting booth I checked out was the Saint Martin's University booth on cybersecurity. Talking with Mr. Bahadori was enlightening, and he went into great detail about the field and showed me examples of what someone might deal with in cybersecurity. After I talked with him, I decided to attend the presentation on cybersecurity with four professionals, and it further confirmed my interest in the field." Wow, Farzin, thanks for inspiring this student, and let's hope he becomes a Saint!

OUR ALUMNI AND WHAT THEY'RE UP TO



Abdullah Ghurab '19 (left) was chosen to be the MC for Saudi Aramco's HR&CS 35+ Years of Safety and Service Awards Ceremony 2022 held on Well-deserved achievement!

Catherine Tran '18 just started a new position as Civil Engineer-In-Training at David Evans and Associates, Inc. in Woodinville. Congrats, Catherine!

Fahad Busbait '18 was recently promoted to Offshore Drilling Foreman at Aramco. Congratulation, Fahad!

Emily Crawford MSME '22 is now the Fabrication and Educational Coordinator at the Lacey MakerSpace! Wish you all the best, Emily!

Last week **Christian Merrikin '20** (right) led his team through capacitor safety training at their monthly company-wide lunch and learn meeting. With a presentation and demonstration, the team has a deeper understanding of the high energies they work with and their responsibility to keep everyone safe. According to Christian, "With great power comes great responsibility. That's especially true when working with high energy pulsed power banks." Great job, Christian!



CONTACT US

If you are one of our alumni and have anything to share (position/company changes, professional achievements, or personal life accomplishments—wedding, children, anniversaries, etc.), please send your input to engineering@stmartin.edu. We love hearing from our alumni and featuring them in our newsletter. Please keep in touch! Once a Saint – Always a Saint!

CALENDAR AND EVENTS

- ❖ Dec 5-8 Study Week -Last week of classes
- ❖ Dec 9 Saint Thomas Aquinas Study Day (no classes)
- ❖ Dec 12-16 Finals week
- ❖ Dec 17 Conferral date for fall graduates AND last day of classes for Sessions 09/11
- ❖ Dec 20 Sessions 09/11 – final grades due
- ❖ Dec 17-Jan 8, 2023 Winter Break
- ❖ Dec 31 New Year's Eve
- ❖ Jan 1 HOLIDAY-New Year's Day
- ❖ Jan 7 Residence Halls Open
- ❖ Jan 9 Classes Begin (Main-00/08/10)
- ❖ Jan 13 Add deadline (Main-00)
- ❖ Jan 16 HOLIDAY-Martin Luther King Jr Day
- ❖ Jan 17 Add/drop deadline (01/08/10)
- ❖ Jan 20 Drop deadline (Main-00)
- ❖ Feb 6 Mid-term grades (01/08/10)
- ❖ Feb 17 Last day for withdrawal (W grade) (01/08/10)
- ❖ Feb 20 HOLIDAY-Presidents Day
- ❖ Feb 22 Engineering Awareness Day
- ❖ Feb 24 Engineering Banquet



DEAN'S CORNER

As I write this, we are experiencing our first snow of the season. The campus looks beautiful, quiet and pure. Students are looking forward to the end of the semester in two weeks and their Christmas break. Faculty are grinding through the end of semester tasks of grading and also are very eager for the break.

This has been another good year for the Hal and Inge Marcus School of Engineering. We continue to attract motivated and talented students to the engineering and computer science programs. Now that almost all of our regular faculty are tenured, we benefit from their maturation as scholars and teachers. The ME and CE programs received clean bills of health from ABET. ME is proposing a new program in industrial design and manufacturing. CS is developing an online BS in information technology program. Our student clubs are reconstituting after the pandemic and getting to work. There is both a feeling of serenity and a buzz of energy in Cebula Hall and the Panowicz Foundry. You will see from the other articles in the newsletter that we are staying busy!

The university is making progress on some important searches for our administration, including the CFO, VP of Institutional Advancement, and Provost. I am very impressed with the quality of candidates we have seen for the Advancement position. President Bonds-Raacke appears to attract talented applicants, and that is encouraging.

I have picked up oversight of our JBLM educational programs. Dr. Will Stadler and I are reimagining and strengthening our academic offerings there, both to better support servicemembers and to increase our return on investment. I am lucky to be able to draw on the talents of other members of the HIMSE team to help in this oversight.

Many on campus are involved with our Advent preparation. For the 8th year, students placed a nativity scene on the western side of Old Main to remind their peers of the "reason for the season!" We look forward to celebrating the Feasts of the Immaculate Conception and of Our Lady of Guadalupe as well. It is a blessing to be able to support this spiritual activity by students, as well as the other seasonal religious observations of other faith traditions.

We had a very successful Gala in November. Over \$3,000,000 was raised to support student scholarships and education. I am grateful to the many engineering and computer science alumni and supporters who attended and made such generous donations. Your generosity makes such a difference in the lives of our students.



To my mind, there are two major points of distinction for our programs. As a university, we support the development in all our students of a well-formed conscience informed by the Benedictine values. The importance of this cannot be over-emphasized. And secondly, our community of alumni is so devoted to the success of our students and so welcoming to them. It truly distinguishes us. I am grateful for both!

On behalf of the whole faculty and staff of HIMSE, Karen and I send our best wishes to you and your families for a joyful Christmas and blessed New Year.

Best wishes,

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



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