**Dean’s Office: College News**

**PROMOTION CONGRATULATIONS:**

To Full Professor:
Katie Kuder, Civil & Environmental Engineering
Joe Langenhan, Chemistry

Tenure and Promotion to Associate Professor:
J. Paul Smith, Civil & Environmental Engineering

To Senior Instructor:
Brenda Bourns, Biology
Lyn Gualtieri, Civil & Environmental Engineering
Sally McLaughlin, Biology
Susan Reeder, Computer Science & Software Engineering

Mike Quinn and Jean Jacoby co-authored “STEM: Students and Teachers Embracing Mission” in the January 2016 issue of Connections, the national publication of the Association of Jesuit Colleges and Universities (http://www.ajcunet.edu/january-2016-connections/2016/1/6/seattle-university-themed).

**WELCOME!**

Rachael Brown became the new College Corporate Relations Manager for the Project Center in January. Rachael is a native Texan who has been in Seattle since 2001. She holds a BA in Psychology and an MS Interdisciplinary degree with a focus on business cultures - both from the University of North Texas. She comes to us from Puget Sound Energy and is a volunteer for the Society of Hispanic Engineers.

Mike Quinn has been invited to participate in an Albers Ethics Week keynote panel on “Ethics in an Age of Data” on May 10th. Additional panelists include Kirsten Martin (George Washington University) and Ryan Calo (UW School of Law). The panel will examine the ethical and legal dimensions of information age technology, privacy and the emergence of “big data”.

In November Jean Jacoby attended the “Women in STEM Leadership: Clare Boothe Luce 25th Anniversary Professors Conference” at Fordham. The conference featured some of today’s most accomplished women in the sciences, including a former Presidential science advisor and the first woman to become a full professor of chemistry at Harvard. Jean participated in the poster presentation and attended several breakout sessions including those on teaching female students to be leaders in science, mentoring non-science students, innovations in science and technology, and incorporating assessment into student learning.

On February 23rd, Ray Conner, CEO and President of Boeing Commercial Airplanes, visited the College to meet with the Dean, faculty members and students, including students in the campus chapter of the Society of Women Engineers. After touring the engineering labs, he met with the concrete canoe and steel bridge teams. He was enthusiastic about student accomplishments and in continuing the long-standing relationship with the College.

Associate Dean Jean Jacoby (back row) joined the 25th anniversary celebration of the Clare Boothe Luce “Women in STEM” Program at the Professors Conference in November.


**Biology Department**

Kristin Hultgren's Biol 3500 (Evolution) class conducted a genetic barcoding project over several laboratories and used genetic techniques to detect three undescribed and potentially new species in the *Synalpheus stimpsonii* species complex, a group of Indo-West Pacific snapping shrimp that live symbiotically with tropical echinoderms.

In February, Mark Jordan attended the Joint Partners meeting of the Washington and Idaho chapters of the Wildlife Society in Coeur d'Alene, Idaho, where he gave a research talk titled "Occupancy and Interspecific Interactions of Raccoon and Virginia Opossum in Seattle." Mark also presented a poster of his lab's research on urban carnivores at the Green-Duwamish Watershed Symposium in Tukwila in February. In March, Mark gave a talk describing his research to the "Friends of Green Lake".

Emeritus Professor Dan Matlock has periodically joined Kristin Hultgren and Mark Jordan in teaching about salmon conservation efforts in Puget Sound. Since retirement, Matlock has served on the Island County Marine Resources Committee (3 years) and, most recently, the Whidbey Camano Land Trust in efforts to preserve forage fish spawning areas. He continues to do presentations on these and related topics in classrooms and for citizen volunteers in conservation.

Becky Hartley's paper titled "Please exit safely: maternal and twin pair neonatal outcomes according to delivery mode when twin A is vertex" recently appeared in the *Journal of Maternal-Fetal & Neonatal Medicine*.

**Chemistry Department**

Joe Langenan and Ryan McLaughlin, with support from PJ Alaimo, published a paper in the Journal of Carbohydrate Chemistry entitled, “Using density functional theory to calculate the anomeric effect in hydroxylamine and hydradize derivatives of tetrahydropyran.” Three SU undergraduates (Steve Loskot, Leo Rozal, and Mac Clay) were co-authors on the article.

Jenny Loertscher was part of a delegation from SU who visited Saint Joseph's College in Bangalore, India, during spring break. While there, she met with colleagues in the sciences and throughout the College to discuss shared elements of Jesuit higher education.

The SU delegation also experienced a cultural immersion, visiting sites around Bangalore to learn about India’s diverse faith traditions, to view service projects undertaken by students and to experience village life in rural India. The group was graciously hosted by the Arrupe Nivas Jesuit community on campus, whose hospitality made for a warm, welcoming experience.

In May, Jenny will join a panel discussion with several campus participants in the visit. The discussion is entitled "Jesuit Education and Global Engagement: Exploring Connections for SU in India" and is sponsored by the Office of Jesuit Mission and Identity.

In February, Eric Watson joined several fellow Jesuits from around the globe in a month-long silent retreat, part of his Jesuit Tertianship near Adelaide, Australia. Eric spent time in Melbourne, Sydney and Gerroa prior to Adelaide, visiting Jesuit apostolates - parishes, schools, social service facilities, immigration agencies – along the way. His tour included a visit to a non-profit restaurant staffed by volunteers.

Jenny Loertscher was invited to present a talk at the national meeting of the American Society for Biochemistry and Molecular Biology in San Diego, CA. The talk was entitled “Using threshold concepts to make changes in BMB instruction – an evidence-based approach.”

Vicky Minderhout presented an invited talk in the George Pimentel Award Symposium at the American Chemical Society national meeting in San Diego in March. The title of her talk was, "Promoting faculty development: coaching use of threshold concepts and active learning".
In April, Jenny Loertscher worked with Catherine Punsalan-Manilimos, Director of the SU Institute for Catholic Thought and Culture, to welcome Fr. Jose Ramon Villarin, SJ, to campus for his Catholic Heritage Speakers presentation on "Tilling the Earth, Caring for the Poor: Musings on Stewardship and Sustainability". Fr. Jett, President of the Ateneo de Manila University and head of the Climate Studies Division of the Manila Observatory, is a scientist, physics teacher, climate justice scholar and active member of several international environment and climate committees. Jenny set up a luncheon opportunity for College colleagues to meet informally with Fr. Jett to discuss issues of global climate concern and justice issues.

**Computer Science & Software Engineering**

Roshanak Roshandel became the new chair of the Department of Computer Science and Software Engineering at the beginning of spring quarter.

**Electrical & Computer Engineering**

Agnieszka Miguel was elected Chair of the Professional Interest Council I of the American Society of Engineering Education, with a seat on the ASEE Board of Directors. PIC I includes the areas of aerospace, architectural engineering, biological and agricultural engineering, chemical engineering, civil engineering, construction engineering, electrical and computer engineering, engineering economy, engineering management, industrial engineering, manufacturing, and mechanical engineering. Her two-year term will begin in July 2016. Agnieszka will continue to serve as Chair of the ASEE Pacific Northwest Section until July 2017.

Sr. administrative assistant, Teresa Beery, displayed some of her design work in a curated exhibit, “MUSE” the Digital Design Exhibition 2016, in the Vachon Gallery. The student exhibit will continue through May 11th.

Xusheng Chen has been granted the honorary title of “Professor Emeritus”. Xusheng will retire at the end of this academic year after many years of service to both the College and the University.

Agnieszka Miguel was one of the primary organizers of the 2016 American Society of Engineering Educators (ASEE) Pacific Northwest (PNW) Section Conference. The conference "Focusing on Student Success", was held in Boise from Mar. 31 – Apr. 2 and included 28 paper presentations, a poster session, 3 workshops, 3 keynote presentations, and time to network.

**Henry Louie** published:


**Environmental Sciences**

Winter quarter saw Lyn Gualtieri in the mountains with students in an “Engineering our Future Learning Center” overnight followed by a “Snow Play Day” sponsored by Environmental Sciences. Invitations were sent to environmental science and civil engineering majors with environmental engineering specializations.

**Mathematics**

Allison Henrich has been travelling! In late March, she gave the plenary talk in Arkansas at the MAA section meeting. In mid- April, she joined a PhD thesis defense committee at Dartmouth and, on April 29, she travelled to Banff for the Cascade Topology Seminar.

Mark MacLean published "On the Terwilliger algebra of bipartite distance-regular graphs with $\Delta_2 = 0$ and $c_2 = 1"$, published in Linear Algebra and its Applications.
In January, the **Math Department** hosted the second annual “MATH + ART” event, a collaboration with the Math Department, the College of Science & Engineering, the Across the Academy Learning Community, and the Creative Arts Learning Community. On January 11th, Bob Bosch, Professor of Mathematics at Oberlin College, gave a presentation entitled "Opt Art" on the use of mathematical optimization in art.

The Math Department’s **SUMmER REU** program received 474 applicants for the 10 available spots!

**J. McLean Sloughter** was an invited panel speaker at the Puget Sound chapter of the American Statistical Association's discussion on "Directions in Statistical Education" on April 6th.

In winter quarter, **John Carter** taught “Mathematical Models of Near-Shore Phenomena” (cross-listed in Math, MEGR and ECE). Students studied models of water waves, tsunamis, wave-energy extraction devices, the associated mathematics and engineering, and the Chilean culture. After ten weeks of scientific and cultural preparation, the class travelled to Chile to learn from Chilean (and French) experts. They visited the Dept. of Hydraulic and Environmental Engineering at the Pontific Catholic University of Chile (PUC) in Santiago and the Dept. of Civil Engineering at the Federico Santa Maria Technical University (UTFSM) in Valparaiso. The Chile portion ran from Mar. 20th- 26th and was packed with mathematics, engineering, and Chilean culture.

**AJ Stewart** was accepted to participate in the American Mathematical Society's Algebraic Statistics Math Research Community. AJ was also selected as a faculty participant/supervisor for “KiloWatts for Humanity's” upcoming energy kiosk installation project in Chalokwa, Zambia.

On February 26th, Seattle University launched KXSU 102.1FM, the first student-run FM radio station in the history of the University. **John Carter** labored steadily to make this a reality, the biggest move of its kind since Fr. John Foster first brought a student-run radio station (AM) to campus in 1994!

In February, the **Math Department** launched the Student Mathematical Application and Research Talk Fridays (or S.M.A.R.T. Fridays), an informal discussion series in which students talk with one another about their math-related research.

In February, **Dylan Helliwell** took students Vanessa Lam, Annie Goodrich, Kendra Jozwiak, and Kaley Westby to the Washington Teachers of Teachers of Mathematics meeting, an annual conference on mathematics education in Washington State.

**Brian Fisher** published:


A previous paper of Brian's, with an SU undergraduate, received a research highlight on the website of the Council on Undergraduate Research: [http://www.cur.org/highlights/highlight_category/?cod e=Mathematics/Computer%20Sciences](http://www.cur.org/highlights/highlight_category/?code=Mathematics/Computer%20Sciences).

**Mechanical Engineering**

**Theodora Shuman** and **Greg Mason** co-published:


**Shuman, Mason** and **Mike Marsolek** (CEE) co-published:

and:

Grants and Awards (to date)

Donna Sylvester’s REUF research group, which is working to develop an epidemiological model for Onchocerciasis, was awarded a $6,000 travel grant from the American Institute of Mathematics. These four mathematicians will meet in June and spend a week devoted to making progress on this project.

Matt Shields (MEGR) (PI) and Henry Louie (ECE) (Co-PI) received a $56,323 grant from General Electric to install two new microgrids next year in Zambia.

Faculty receiving support for the 2016 Undergraduate Summer Research Program include Shiny Abraham, David Boness, Allison Henrich, Joanne Hughes, Steven Klee, Lin Li, Steve Luckey, and Dan Smith.

The Center for Environmental Justice and Sustainability announced the 2016-2017 CEJS Fellowship recipients which included Shiny Abraham (ECE) and Aditya Mishra (CEES). The fellowships support the scholarly activities and collegiality of students and faculty.

Shiny Abraham (abbreviated) - Title: Remote Environmental Monitoring using Internet of Things (IoT)
This project will focus on using Internet of Things (IoT) technology to build and deploy smart, connected sensors that provide continuous monitoring of air, water, and soil quality. Acquired data may be used to define current conditions of the area being monitored, and also to establish trends or detect any abnormalities.

Aditya Mishra (abbreviated) - Title: GreenPeaks: Employing renewables to cut load in electric grids
This project will investigate how renewable energy integration in electric grids can cut electricity demand—especially peak demands—on the grids. We will devise GreenPeaks, an online algorithm for integrating renewable energy sources with energy storage devices at homes to cut their electricity bills, cut their power draw (especially peak draw) from the grid, and make their electricity consumption profile grid friendly.

Emerita Professor Sue Jackels received a “Dreyfus Senior Scientist Mentor Program” grant for emerita/us faculty members who maintain active research programs with undergraduates in the chemical sciences. The program provides funding for two years in undergraduate stipends and modest research support.

Student/Graduate News:

Biology

Biology major Destiny Mims has received a National Science Foundation “Research Experience for Undergraduates” position at Fordham University. She will spend the summer in the Munshi-South lab using genetic tools to study dispersal behavior of wild brown rats in New York City.

In December, Holly Callahan (MCON) attended the 21st Biennial Conference on the Biology of Marine Mammals in San Francisco as a follow-up to her REU in summer 2015 at Duke Marine Lab.

Dylan Gnatz (junior, MCON) earned an “Honorable Mention” from the Goldwater Scholarship Program. (Note: In the fall 2015 issue we also reported Dylan’s receipt of a NOAA Hollings Scholar Fellowship which included an $8000/yr. scholarship and a paid research internship at NOAA in summer 2016.)

Nathan McLaughlin, General Science, and Sherilyn Soo, Biology, presented a poster at the 2016 Experimental Biology Conference in San Diego, CA. The research was conducted with Stephen Luckey and the project was titled, “Exercise and Isoproterenol-Induced Cardiac Hypertrophy in Young and Aged Mice.” Nathan and Sherilyn received a travel award from the College of Science and Engineering to attend this conference.
Alumna Jazmine Richter Hallinan (CMOL) ‘14 " was recently published for my first time as a second author in a Nature paper for December 2015! The paper was a computationally designed protein of unnatural geometry that we biochemically characterized and confirmed the designed shape via x-ray crystallography.” Hallinan “did the protein characterization and solved 2 of the structures in the paper.”

Chemistry

Congratulations to Langenhan Research Group student Calvin Leonen on notification that he has been accepted into the PhD program in Chemistry at the University of Washington.

In March, Sam Freese, (BCHEM) mentored by Vicky Minderhout and Jenny Loertscher, presented a poster at the national meeting of the American Society for Biochemistry and Molecular Biology in San Diego. The poster was entitled “Improving Undergraduate Biochemistry Curriculum Using Threshold Concepts: An Analysis of Student Understanding”. As Sam wrote, “Beyond presenting, I had an exceptional experience attending the seminars and interacting with other scientists. I cannot underestimate how inspiring and exciting it was to hear about a wide variety of research presented. As a student it was encouraging to be able to process and understand both the mechanics and results of research of which I had no prior knowledge. My time spent at this meeting was transformative. I now recognize the breadth and depth of the knowledge and skills I acquired from my education at SU. This meeting was perhaps the highlight of my undergraduate career and I am very grateful that I was able to attend.”

Civil and Environmental Engineering

CEE sophomore, Raghad Ashoor, received a “Second Place” in the international division of the SU “Imagining the World” Photo Competition for her photo 'Trombone Tunnel'. Raghad receives both recognition and a monetary prize. Her photo will be on exhibit with other winners in May in the Kinsey Gallery (ADAL). An additional entry of Raghad’s, 'Taking on the Troll', has also earned an “Honorable Mention” and will join the exhibit. Judging was done by a panel of professional photographers. Notification was sent by Associate Dean La Voy, College of Arts & Sciences.

Computer Science and Software Engineering

Nancy Castro Mariano has received the 2016 inaugural Edwin W. Brotherton Scholarship in Computer Science. The scholarship was established by the Brotherton family to honor their father, Edwin W. Brotherton, the first of eleven children to attend college. He attended SU, and credited the Jesuits with a defining influence on his life. During World War II, Mr. Brotherton served on an elite code-breaking team whose success helped to shorten the war and launch modern data processing. Brotherton continued his love for his technology throughout his career, fostering this interest in his children. The award is accompanied by an invitation for Nancy to meet the benefactors at the annual Scholarship luncheon in May.

Students Win Iasa IT Architecture Competition

In January, a team of undergraduate and graduate students took First Place and a $5000 award at the first Iasa IT Architecture Competition. The competition was organized by Iasa and the Puget Sound Association of IT Architects and geared to full-time under-grad and graduate students. Student teams were challenged to solve a (provided) business problem by developing an end-to-end architecture design solution complete with documentation. The event was sponsored by IASA, the Puget Sound Association of IT Architects, Costco, F5 Networks, Microsoft Corporation, and REI. For more than 3 months the “Seattle Boffins” met regularly on campus to design and develop their entry project, benefitting from the mentorship of Chris Wildt and Costco IT. The event included competitors from both the Seattle and Tacoma campuses of UW.

The “Seattle Boffins”: (l-r): Hunter Hammond (senior, Comp. Sci.), Sukhman Ghumman (MSE), Nanya Ugwuh (MSE), Chris Wildt (Costco mentor), Conor Leeds (junior, Comp. Sci.), and Jordan Callero (junior, Comp. Sci.)
Iswanton Kaur, MS.CS, completed her Master’s project in Winter ‘16. Her goal was to find a project that would solve a real-world problem through development of a software product addressing a need in the community. With support from the Center for Community Engagement and Roshanak Roshandel, she was able to identify a project with “Global to Local”, a 501(c)3 organization started in 2010 as a partnership with Seattle-King County Public Health, HealthPoint, the Washington Global Health Alliance, and Swedish Medical Group. “G2L” works to take successful global health interventions and apply them locally to address health disparities. The G2L Local Mobile Health Program uses mHealth technologies coupled with remote case managing to challenge conventional diabetes management. As an ancillary service to the care plan, MHP bridges the patient/provider gap while working within communities to facilitate long-term changes. Ishwant identified an open-source iOS application (Diabetik) that offered basic logging functionality for food, exercise, and medication, extending it to provide capability to share logs with G2L case workers. She also developed a web-based application that serves as a portal for G2L caseworkers, offering them the ability to view logs, receive patient messages, and create reports - all in a HIPAA-Compliant manner. Dr. Fareeha Siddiqui (G2L), the Center for Community Engagement, and Shinobi Controls jointly contributed to the success of this project.

Timothy Linscott received an “Honorable Mention” from NSF-GRFP. He was also accepted into the Ph.D. programs at University of Pennsylvania and University of Michigan, opting for Michigan. As a senior, Timothy has already been asked to be a reviewer for one of the technical journals. He has an Erdös number of 4.

Electrical and Computer Engineering

In honor of February’s Engineers Week, Boeing’s SPEEA “Spotlite” magazine of The Society of Professional Engineers, highlighted alumna Ayesha Pirbhai as the “Member volunteer”. The article quoted Ayesha extensively, as she spoke of her life-changing SU humanitarian engineering experiences installing a wind turbine for bringing electricity to Muhuru Bay and Chikuni in Africa. As she states in the article, “It’s a blessing to have an education that can be of benefit to the professional community (Boeing) as well as the under-served community.” Pirbhai is currently pursuing a master’s degree in systems engineering.

Senior double major (ECE and math) Sara Beery, was awarded a National Science Foundation Graduate Research Fellowship in robotics and computer vision. This prestigious annual award is given to 2,000 students with the potential to make significant contributions to research, teaching and industrial applications in science, mathematics and engineering each year, and provides three years of tuition and a living stipend. Sara will begin her doctoral study in Computing and Mathematical Sciences at the California Institute of Technology in the fall, where she plans to develop applications of computer vision for environmental sustainability.

ECE alumnus, Derek Gowrylow ’14, was highlighted in the Geli newsletter, Geli Roll. Derek is a systems engineer at SF-based Geli (Growing Energy Labs, Inc.), having come to them after a post-graduation stint with the FAA. When he felt an urge to pursue options in microgrids and/or the renewable energy sector (“a big shout-out to Dr. Louie”), he received the offer from Geli. Derek states, “GELI builds software for the interaction between renewable energy generation and energy storage by doing things like demand charge management, demand response, time of use, and microgrid applications. We are essentially driving the construction of the smart grid.” The company newsletter states, “When OEM customers come to us with a pile of various components, in just a few hours Derek can turn out a polished energy storage system that rivals the best fully-integrated units on the market.” Derek credits SU with his success!

Mathematics

In late January, two three-student teams competed in the 2016 Mathematical Contest in Modeling. The international competition challenges teams to use mathematical modeling to solve real-world problems – all within a 96 hour period. One team composed of Mason Brewer, Hunter Lehman and Andrew Park, received a "Meritorious Winner" designation and the
other, with Sara Beery, Tim Linscott and Louis Ash-Kaufman received a "Successful Participant" notice.

Hunter Lehman has been accepted into a Mathematics PhD program at the University of Kentucky.

Andrew Park and Hunter Lehman have had two papers accepted for publication based on their work last summer in the Math Department’s SUMmER REU program: "Prime labeling of families of trees with the Gaussian integers," (co-authored with Steven Klee) to appear in AKCE Journal of Graphs and Combinatorics, and "Prime labeling of small trees with the Gaussian integers," to appear in Rose-Hulman Undergraduate Math Journal.

Math students Louis Ash-Kaufmann, Mason Brewer, Justin Bryant, Andrew Park, Phae Vaughn and David Ferguson participated in the Putnam Competition with two of them earning 1 point (most participants earn no points). The event was organized by Jeff Boersema.

Math students Daniel Ferguson, Louis Ash-Kaufmann and Andrew Torres competed as a team for the Kryptos mathematical cryptography competition. The students successfully solved two of the three challenges in the competition, earning them the "Babbage level of achievement" award.

Mechanical Engineering

Seniors Zu Pong (Brian) Wu and Elias Baker were notified in a letter from the President of the University of Washington of their award in the “Alaska Airlines Environmental Innovation Challenge”. They received a $1000 prize and recognition in the “Judges Also Really Liked” category for their business, Tape-It-Easy. The letter commended their business as “a brilliant, sustainable innovation that will have a tremendous impact on the world. This is a well-deserved honor, one that speaks not only to your exceptional level of talent and dedication, but also your incredible story and far-reaching impact of your work.” The competition was sponsored by Puget Sound Energy.

Physics

In March, SU physics major Grace Jesensky won an “Outstanding Presentation” award for her talk on research she did jointly with SU physics majors Dominic Dams and Oleksiy Khomenko, and SU Associate Professor Woo-Joong (Andy) Kim, at the American Physical Society Meeting in Baltimore. The title of the talk was, “A simple table-top experiment demonstrating mechanical oscillation of a macroscopic object driven by radiation pressure.”

In Campus News:

- Wes Lauer (CEE) “SRI Task Force Forums Revive Sustainability Conversation” (Spectator, Feb 10) RE: reviving the conversation about divestment of University endowment funds from fossil fuels.
- Joe Archibald and Wes Lauer (CEE) “The Age of Not Giving a Dam” (Spectator Feb. 24) RE: removal and restoration of the ecology of the Elwha Dam.
- Jeff Brown (Physics) “Gravitational Fields Making Waves on Earth and in Physics” (Spectator, Feb. 24) RE: the significant discovery proving gravitational waves and the effect on teaching at SU.

Upcoming College Events

May 10

- Healthcare Career/Professional School EXPO
  11:00 am – 3:00 pm
  Multiple locations, first floor, STCN

May 13

- SUURA Conference
  Multiple locations on campus

June 3

- Projects Day
  12:30 – 6:00 pm, Law School, Sullivan Hall

June 10

- 2016 College Graduation Celebration
  4:00 – 6:00 pm, Law School, Sullivan Hall

GOT NEWS?
Please send stories and photos to Pat Whitney, whitneyp@seattleu.edu