



Sciences & Mathematics (SAM)

Newsletter

Fall 2014

Welcome back!

You'll notice lots of changes when you return, among them our new name, Sciences and Mathematics, which gives us room to grow. We've been busily working away on two new majors this summer, Mathematics and Biomedical Sciences, which will soon be ready to go to the IAS faculty for consideration. Meanwhile we're preparing to launch our new Masters of Science in Environmental Science, for which we'll be hiring two new tenured/tenure track faculty this year, one in Applied Math/Stats and one in Hydrology or Ecotoxicology. This fall we'll be welcoming Ed Kolodziej, Associate Professor in Freshwater/Environmental Chemistry, Tom Koontz, Associate Professor in Environmental Studies, Jeremy Davis, competitively hired lecturer in Biology, and David Hirschberg, who is a Research Scientist at the Center for Urban Waters but will have a lab and office here in the Science building. Also, welcome back John "Buck" Banks and Jenny Quinn from their sabbatical leaves. Some familiar faces will be in new positions, too, including Jutta Heller, Erik McDonald, Megan Schwartz, and Jack Vincent, who are now multi-year, competitively-hired lecturers in Biology, and Ingrid Horakova, who is now a full-time lecturer in Mathematics. There were also sweeping changes at the administrative level, with Cheryl Greengrove now serving as interim Dean of IAS, while Bill Kunz steps up to Vice Chancellor of Academic Affairs. There were quite a few changes in staff here in SAM as well, with Alyssa Boettger taking over for Jess, while Michelle McCartha joined us as lab staff lead. We will soon be searching for a replacement for Lia (although no one could truly replace Lia!). This year we're offering several new courses, including Environmental Remote Sensing this fall, Animal Behavior, Ecosystem Services, Natural Resource Policy, a two-quarter sequence for Precalculus starting in winter, Coding, a new capstone course this spring, TEST 495 Environmental Studies Experiences and Buck Banks will be leading an International programs field course in Costa Rica. Hold on for a wild ride as the adventure continues!





Congratulations On Your Achievements!

Publications

John Banks:

- Banks, J.E., Stark, J.D., Vargas, R.I., and A.S. Ackleh. 2014. Deconstructing the surrogate species concept: a life history approach to the protection of ecosystem services. *Ecological Applications* 24:770-778. <http://dx.doi.org.offcampus.lib.washington.edu/10.1890/13-0937.1>
- Banks, J.E., Hannon, L.M., Dietsch, T.V., and M. Chandler. 2014. Effects of seasonality and farm proximity to forest on Hymenoptera in Tarrazú coffee farms. *International Journal of Biodiversity Science, Ecosystem Services & Management*, 10(2): 128-132. Editor's Choice. <http://explore.tandfonline.com/page/est/tbsm-editor-choice>
- Macfadyen, S., Banks, J.E., Stark, J.D., Davies, A.P. 2014. Using semifield studies to examine the effect of pesticides on mobile terrestrial invertebrates. *Annual Review of Entomology* 59: 383-404. <http://www.annualreviews.org/eprint/Qhvv8nmAM7KAEdSkEJRJRU/full/10.1146/annurev-ento-011613-162109>
- Castro, S., Flores, M., Wanner, N., Dietsch, T., Banks, J.E., Urena, N., and M. Chandler. 2014. Evaluation of a non-destructive sampling method and a statistical model for predicting fruit load on individual coffee (*Coffea arabica*) trees. *Scientia Horticulturae*, 167:117-126. <http://www.sciencedirect.com/science/article/pii/S0304423813006419>

Megan Schwartz:

Andrade, S., Giribet, G., Kajihara, H., Montenegro, H., Norenburg, J., Schwartz, M., Strand, M., Sundberg, Per., Turbeville, J. A transcriptomic approach to ribbon worm systematics (Nemertea): Resolving the Pilidiophora Problem. *Mol. Biol. Evol.* 2014 : msu253v1-msu253. <http://mbe.oxfordjournals.org/content/early/2014/08/26/molbev.msu253.abstract>

Grants

Erica Cline received a \$4,100 grant to use microbial source tracking to assess swine waste in tributaries of the Buffalo River in Arkansas.

Craig McBride received an IAS Research & Teaching grant.

The Achieving Excellence through Collaborative Learning project had its pilot program in the spring quarter supporting the Pre-calculus and Chem 2 courses. Jutta Heller will take over in the fall to replace Linda who is on sabbatical (She is the first lecturer to be granted a sabbatical on the UWT campus). The program will expand in the fall to include Chem I (TESC 141), Biology I (TESC 120), and Pre-calculus (TMATH 120) with multiple peer educators.



Presentations, Conference & Events

John Banks had invited talks for:

- Finnish Food Safety Authority Evira, Helsinki, Finland
- “The surrogate species approach to protecting endangered species and ecosystem services: Integrating life history data into predictive population models,” Department of Ecology, Swedish University of Agricultural Sciences, Uppsala, Sweden.
- “One size does not fit all! Surrogate species and the protection of endangered species and ecosystem services,” Claremont Center for the Mathematical Sciences, Claremont, California.
- “Birds, beetles and elephants – oh my! Ecological cascades in an East African forest reserve,” Dominican University of California, San Rafael, California.

Bonnie Becker, Erica Cline, Jutta Heller and Megan Schwartz have been selected to participate in a conference emphasizing strategic planning to align your Life Sciences curriculum with the recommendations of the 2011 report “Vision and Change in Undergraduate Biology Education: A Call to Action” from the American Association for the Advancement of Science and the National Science Foundation. This conference will be in Seattle in October.

Erica Cline’s Salmon Market Substitution project involved 10th graders in authentic science for the Math Science Leadership program.

Peter Horak presented a talk at the Institute of Computer Science at University of Bergen, Norway. Alex Cherry & Otis Alexander, an undergraduate and a graduate student at UWT spent 10 days with Peter in Bratislava, Slovakia, working on the NATO grant “Secure Implementation of Post-Quantum Cryptography.” Otis will return to Bratislava in February to finish his master thesis. (Pictured right)



Faisal Hossain hosted foreign delegates from the Institute of Water Modeling for “Collaborative Research on Flood Resilience in Urban areas (CORFU): Dhaka (Bangladesh) Case Study.”

Edward Kolodziej presented on “Conserved Structure, Conserved Risk: Environmental Transformations of Steroidal Pharmaceuticals” at The Gordon Research Conference in Holderness, NH.

Jennifer Quinn spent a busy sabbatical:

- She delivered an invited minicourse “Combinatorially Thinking: Connecting Digraphs and Determinants” at the Pacific Northwest Section of the Mathematical Association of America, held at the University of Montana in Missoula.
- She was an invited speaker to six MAA section meetings throughout the year. She has now spoken at 15 out of the 29 regional sections of the MAA.
- She gave the Michael E. Moody Lecture at Harvey Mudd College, CA.
- This August at MathFest, she was elected Chair of the Council of Publications of the MAA and she completed her term as Second Vice President of the MAA.

Sustainability in Action

Students presented their final project posters in the WCG Atrium in August. Students learned about the relationship between higher education institutions and sustainability. For their final projects, they have been applying theory, knowledge, and practice to our UWT campus to effectively research solutions to campus sustainability issues.



New Giving Garden Officers

- ◆ President: Ryan Brookman (Environmental Studies)
- ◆ Vice President: Rachel Lindahl (Sustainable Urban Development)
- ◆ Secretary: Alecia Kuhl (Sustainable Urban Development)
- ◆ Treasurer: Brittany Eisel (Environmental Studies)

Alumni News

Congratulations to **Austin Jennings!** (Environmental Sciences '14)
 He was just hired as an Environmental Health Specialist 1
 in the Tacoma Pierce County Health department.

SAM in the News



Jim Gawel's research at Spirit Lake is described in this article by the
 Washington State Lake Protection Association. Read here:

<http://www.walpa.org/what-role-do-floating-logs-play-in-lake-ecology/>

Come learn about the
 planned courses for
 winter and beyond, just in
 time for winter
 registration!

Advising Seminar
October 27
12:30-1:30pm
SCI 309

Ryan Card & Haley Skipper led the Quantitative Workshops for the Summer Bridge Program. The
 Summer Bridge program provides incoming freshmen with tools for success as they navigate a new
 academic environment and face the personal and academic challenges of being a first-year student. The
 Quantitative workshops covered problem solving skills essential to succeeding in college courses through
 hands-on activities, including designing and launching water rockets!

