

Happy Holidays from FSES!

Season's Greetings

What a Wonderful Year!

The great folks here at FSES and our wonderful collaborators make our program a success. As I reflect on some of the comings and goings of the last year it is both exciting and exhausting. We continue to have projects around the world and in our Oregon backyard.

Please take a moment to read about some amazing updates from our team.

Finally, wishing you all a joyful holiday season!

Kim A Anderson and the FSES program



<http://fses.oregonstate.edu/>

Alan Bergmann



Season's greetings! This year has been full of milestones, field work, and conferences. The year started with a small honor winning the Best Poster Award in our local symposium, EMT Research Day. Call me Candidate Bergmann, because in May I successfully defended my Ph.D. preliminary exams. Getting focused on research again, I led a sampling campaign at the Superfund in Portland Harbor, OR and was involved in sampling near Anacortes, WA. It is great to get out of the lab and look suave (see picture) while doing science. These projects strive to identify toxicants in water column and sediment at contaminated sites. It is intriguing work, as Burgess et al. (Environmental Toxicology and Chemistry, 2013) puts it, "solving some diabolically challenging environmental mysteries worthy of being perpetrated by the toxicological equivalent of the fiendish Dr. Moriarty."

Hyperbole aside, I am honored to participate in such interesting research and interact with many facets of toxicology. And to cap it all we got to share at the annual SETAC meeting, which this year took place in beautiful Vancouver, B.C. I'm looking forward to doing it all again (but differently) next year!

Happy New Year!

Alan

Holly Dixon

Happy Holidays! I am a brand new PhD student in the Environmental and Molecular Toxicology Program. I began working in the FSES laboratory in August 2014. I have learned so much in just a few months and I am very excited about projects in the laboratory that aim to predict human toxicant exposure via passive sampling devices. I was fortunate enough to have the opportunity to help conduct field work in Anacortes, Washington in early September and to attend the annual North America SETAC meeting in Vancouver, BC a few weeks ago. The combination of experiences I have had in the lab, field, and class this first quarter have been extremely valuable, and I cannot wait to see what 2015 brings! I want to thank everyone in the FSES lab for being part of a wonderful team to work with and learn from.



Carey Donald



The promise of field work drew me into the FSES lab, and 2014 sure delivered. I found myself knee-deep in snow in Ohio near active fracking wells. Then in the summer, we were knee-deep in mud in tribal lands in Washington sampling sediment and clams. I also got out for some work in Portland Harbor to deploy samplers on a sunny day. Back in the climate-controlled environment of the laboratory, I have been focused on interactive effects of oxy-PAHs in zebrafish, and I presented those results in a platform at the annual SETAC conference in Vancouver, BC. Now the only thing standing between me and a holiday break is my preliminary exam!

Happy Holidays!

Kevin Hobbie

Season's Greetings! While the dust is settling from our recent laboratory remodel, I reflect on what a busy and productive year we have just completed. We could not have achieved the many successes without the tireless efforts of our staff and students. I feel truly privileged to work in such an innovative, energetic and inspiring work environment and have the opportunity to interact with such a diverse group of collaborators. This year, I had the pleasure of working with students in the field to sample air quality in rural Appalachia, in a community impacted by shale gas development. We have continued to increase automation in the laboratory by introducing a new liquid handling robot. With new equipment and advances in data automation, we are increasing our traceability, throughput, and capacity across the program. I can only imagine what this next year holds. Thank you for sharing this experience with us and being a part of our team. We wish a happy and healthy new year, to you and your family!

Warm Regards,
Kevin



Pete Hoffman



Happy holidays. It has been a pleasure to join the FSES group in 2014 to bring my experience with ultraviolet-light (UV) to bear on an ongoing Superfund research project examining the effects of accurately-simulated solar radiation on mixtures of polycyclic aromatic hydrocarbons (PAHs). Our intent is to base this research on real-world observations, utilizing mixtures representative of the most common compounds present at Superfund sites, subjecting them to terrestrially-relevant UV spectra and doses, and performing these experiments in an aqueous environment model on local Willamette river water. We will examine both the kinetics of degradation of the mixture components, as well as characterize oxygenated-PAHs produced by UV treatments.

Our working hypothesis is that the population of products resulting from our irradiations experiments should mimic those which have been detected by Superfund site-deployed passive samplers. The second phase of the study will be to define the toxicological characteristics of both UV-treated and untreated mixtures using the zebrafish model system available to us at the Sinnhuber Aquatic Research Laboratory (SARL). It's been exciting to become a member of such a dynamic group with such a broad scope of interests. I look forward to answering some of the interesting questions we've defined.

Steven O'Connell

Happy Holidays!! This was a great year for the laboratory and for the work I was able to finish up with help from everyone! I published our personal monitoring silicone wristband research in February, which received some positive feedback and is the basis for many ongoing projects of the program. My graduate work was finally defended in April, and it was a relief to finally put school-work behind me after this and my Master's degree. This summer I finished up some work with *in vivo* silicone sequestration and an in-depth comparison of LDPE and silicone. The latter work was published in June, and I hope to submit the *in vivo* work this winter. Above all, it's been a fantastic year to be in the Anderson FSES laboratory, and I'm very excited to see the projects develop and begin in 2015. I wish a very happy holiday season to you all!

Warm regards,

Steven G O'Connell



Jamie Minick



I joined the FSES program in September and have had many great opportunities and experiences since then. It started with a fantastic annual retreat and connecting with the wonderful people who make up the program. I was acquainted with field sampling on the Willamette River in Portland as well as many techniques in the laboratory. I also had the privilege of being exposed to great science and thought provoking talks at the Society of Toxicology and Environmental Chemistry (SETAC) annual meeting in Vancouver, B.C. Overall it's been a great semester of growth for me as a scientist and I am very excited for what the future holds as a part of FSES.

Gary Points

Having graduated from OSU in the spring with a dual degree in chemistry and biology I have transitioned from part time student worker to a full time research assistant here in the Anderson lab. I have had opportunities to assist in field work on Samish and Swinomish tribal lands in Northwest Washington and in the Portland harbor Superfund site. In the lab I am continuing to refine my analytical and technical skills as I assist in a number of current projects. I am excited to continue to learn and advance my skills and knowledge in the coming year.

Happy Holidays,
Gary Points



Blair Paulik

Happy holidays! The most compelling aspects of my research this year were my field work, and the interactions I had with community members through this work. I became heavily involved with a project assessing air quality in a rural Ohio community that has been heavily affected by fracking. For this project I traveled to Ohio in February and in May, meeting with community members and setting up passive air samplers on their land. Meeting and talking with these community members was one of my favorite parts of my PhD work so far. It was fascinating to hear their stories and see the impacts the natural gas boom is having on this community. Since that first trip in February, my focus has been predominantly on moving the Ohio project forward. This has included analyzing samples, analyzing data, and organizing results. One of the most challenging and rewarding parts of this process was preparing a report to communicate results back to the landowners that would be both understandable and useful. I have also been continuing my work using passive samplers to predict contamination in shellfish. Through one project under this umbrella, I have been collaborating with the Swinomish Indian Tribal Community and the Samish Indian Nation, two Tribes in Washington. The goals are to measure clam contamination on Tribal harvesting lands, and to use passive sediment samplers to predict this clam contamination. This fall I led a sampling team to Washington to collect clams and deploy passive samplers, and then another team to collect the samplers a few weeks later. Again, some of the most memorable and compelling moments of these trips happened during interactions with the Tribal members. It was humbling to hear their stories and perspectives, and an honor to learn from them about harvesting a food their families have relied on for generations. My next steps will be to analyze the samples from the second Ohio trip and the Tribal sampling trip. 2015 promises to be another busy and productive year! Wishing you all the best!



Brian Smith



Season's greetings! In 2014, the FSES program produced a multitude of data. I contributed by supporting data analysis for various projects, such as the Gulf of Mexico Oil Spill, Portland Harbor Superfund, and Ohio Natural Gas Well projects. It has been an exciting and busy year. Wishing you a warm and happy holiday!

Brian Smith

Glenn Wilson

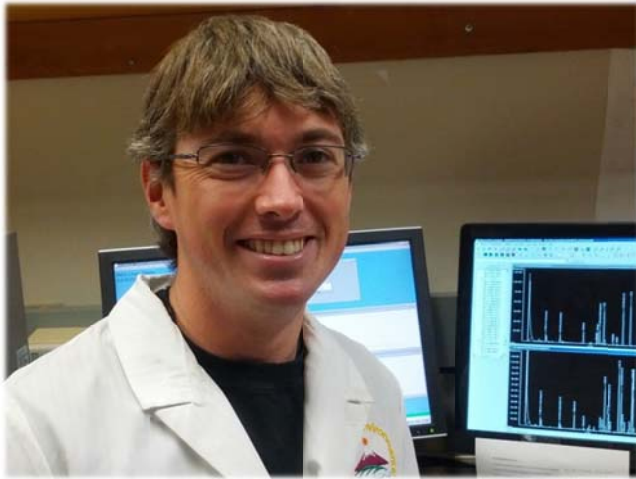
Method development has been a big theme for 2014. The 62 compound PAH method on both single and triple quad instruments has been successfully completed and is currently used for routine analysis. Approximately 100 new compounds have been added to the DRS library. More are currently in process. Investigation of a volatiles interface for the GC/MS instruments was completed, culminating in the purchase of a Markes thermal desorption unit. Development work on volatiles, especially as related to passive silicone samplers, has been partially completed. An autosampler for the Markes unit is scheduled for installation this month. Finally, layout and installation of GC and GC/MS units has been nearly completed for the new instrumentation room.

Best wishes for a Happy Holiday Season and a Productive New Year!

Glenn Wilson



Ricky Scott



Happy Holidays! This has been an exciting year in Dr. Anderson's FSES laboratory, not only have I graciously accepted the roll of laboratory manager, but we made significant improvements to our pesticide analysis. This year we successfully reduced the pesticide analysis time by 2/3, added over a dozen compounds to the analyte list, and improved overall instrument sensitivity. Along with my pesticide research I have also had the privilege of helping in the analysis of the data collected from our mobile exposure device

project. With this research we were able to make comparisons between active sampling devices compared to our newly developed Si wristband personal passive samplers for deployment durations of one week and daily. On top of helping with these new research projects I am writing my first manuscript on the flame retardant method that I developed last year. I hope all of you have had as exciting of a year as I have and wish you all the best holidays.

Lane Tidwell

As a PhD student in the Food Safety & Environmental Stewardship Lab my research focus is to utilize low density polyethylene passive and silicon based sampling devices (PSDs) to investigate the abundance, dynamic transport and potential health impacts of compounds of concern in the environment. This year, this work has allowed me to participate in collaborative research initiatives investigating polycyclic aromatic hydrocarbons and other chemicals around hydraulic fracturing wells in Ohio, Pennsylvania and New York. My research investigating the transport of chemicals between the air and water in the Portland Harbor Superfund is ongoing and the initial data results are proving to be very interesting. My work with PSDs in the Gulf of Mexico during the Deepwater Horizon incident has culminated in a publication titled *PAH and OPAH Air-Water Exchange during the Deepwater Horizon Oil Spill*. I look forward to sharing the results of the research on hydraulic fracturing and chemical transport with you throughout 2015.

-Lane Tidwell

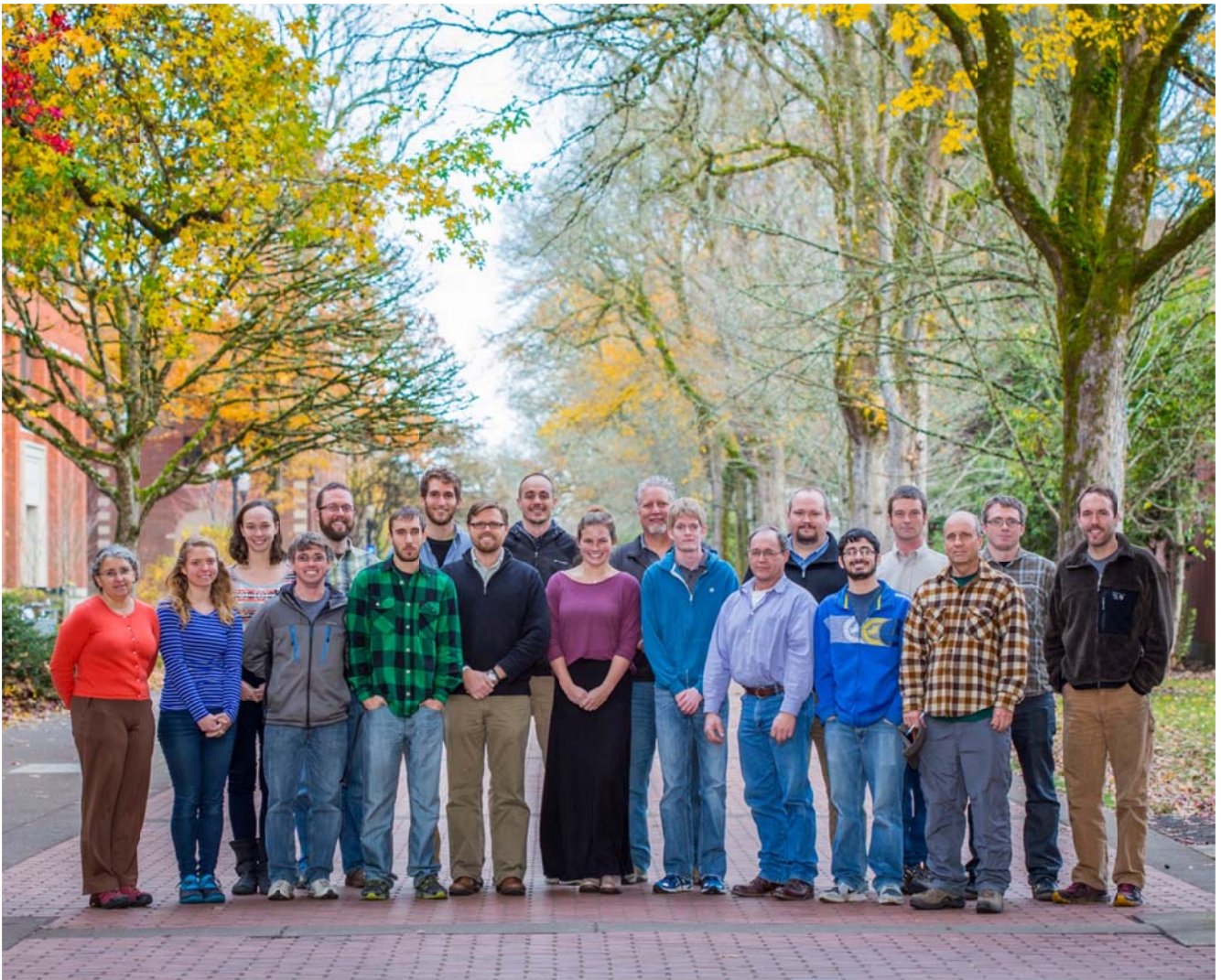




Our remodeling project began in concept many years ago and finally we had our plans drafted in 2012 and then waited in great anticipation for the remodeling to start. In February of this year it all began. After a lot of work, moving instruments and equipment around, sometimes more than once, we are nearly done. The staff has endured dust, noise, multiple sighs, delays, more delays but we now think we can see the light at the end of the remodeled tunnel. Triumphant highs are in sight, we hope to be completed any week (?-month). If you are on campus please stop by so we can show off our new digs. We have work areas that really work for chemists, and instrument stations that actually have room for a person to operate them without also occupying the hallway. Goodness what a change! We plan an open-house in 2015 (please don't even suggest 2016), so stayed tuned for more news. It really is going to be a beautiful laboratory and workspace for the Food Safety and Environmental Stewardship Program and a great way to kick-off 2015.

HAPPY New Year!





From Left to Right: Kim Anderson, Blair Paulik, Carey Donald, Ricky Scott, Kevin Hobbie, Gary Points, Alan Bergmann, Steven O'Connell, Nathan Rooney, Holly Dixon, Pete Hoffman, Josh Willmarth, Glenn Wilson, Shawn Tucker, Jorge Padilla, Lane Tidwell, Brian Smith, Mike Barton, Jamie Minick. Not Pictured: Amber Barnard and Madeline Wilson

Happy Holidays 2014
From FSES at Oregon State University

