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Department of Biology
Pittsburg State University
1701 S. Broadway
Pittsburg, KS 66762
voice: 620.235.4732
fax: 620.235.4194
e-mail:

<mailto:biology@pittstate.edu>

<http://www.pittstate.edu/departments/biology/>



From The Chair's Desk

December 11, 2014: This has been one of the most eventful years, probably the most eventful since I have been on the PSU campus. I just re-read my letter from last year - I was writing before Thanksgiving then. Wow, that WAS a long time ago and much has happened. Today it is the day before I give my last final exam for the semester. About this time last year is when it all really started.



Back then, I had just heard that the Biology Department was going to be allowed to use/inhabit/move into one of the corridors on the second floor of Hartman Hall long-term. Yes, we were moving into that space for the duration of our HVAC renovation, but I got a call right before Christmas with the gift of more long-term space for the department. We had been working toward this goal for at least six or seven years, and it was happy news. With new hiring to accomplish, we were at a critical place: We were about to search for several faculty positions but had insufficient laboratory space for them. With the Hartman "gift", that problem was solved. But of course, then we actually had to move.

Moving began immediately after the holidays. Most of us moved temporarily for the summer, but even so there were modifications that needed to be made in Hartman, and equipment to be sorted, packed and stored in Heckert-Wells. Some of the laboratory-intensive researchers had to move farther away out to the Polymer Chemistry Laboratory (KPRC), but the needs of the rest of us were more modest and we were able to manage in the fairly basic environment in Hartman.

Hartman Hall is not a building with laboratories, but has lovely old offices and classrooms. Two spaces that required slightly more remodeling were the

- continued on next page

Nature Reach temporary quarters and the Microbiology summer laboratory. Delia and Peter did a great job making plans for their summer spaces, and I'm sure they will tell you more about their experiences elsewhere. With Herculean effort from everyone, including our campus Physical Plant, we had vacated Heckert-Wells by the end of April until the fall semester. Fall semester was another story, but I'm getting there.

One of the faculty just passed through as I am writing and reminded me to be sure to mention that we did a great deal of serious and intensive cleaning in the basement! Yes – the basement! Just in case you have forgotten, it was packed full of tons of old stuff that had to be sorted out, recycled, and if all else failed, tossed. The collections stored down there were moved into Hartman, and I am happy to report that, while there is still some work to do, it is greatly improved.

May brought the retirement of Dr. Jim Triplett. Everyone will remember that he has been the face of PSU Biology for – well – decades. Thank goodness I don't have to say that we miss him, because he took up residence down at the north end of Hartman Hall in his "Emeritus" office. We still get to have lunch on a regular basis, and he continues to be involved in outside funding and task forces on campus. It must be terrific to be able to retire and keep working because you love it. We should all be as lucky! Last summer, I was able to collaborate with Jim on a creel survey on Lake Hudson in Oklahoma, and one of my graduate students is managing that survey. What an adventure, but also how exciting it is to see students grow as they confront and master new situations. Jim has an enviable history of developing student projects, and it is wonderful to see him continuing that tradition on our behalf and that of our students.

Through the summer there were a great many meetings as the campus engineers, physical plant offices, and project managers worked on our building. After the initial rush of getting into temporary quarters began the planning for long-term habitation in Hartman.

Summer sessions proceed at a different tempo than the academic year. Graduate and undergraduate research, daily "fires" related to HVAC and space issues to be quenched, along with everything else, summer flies by. My husband and I got away for a week to Utah, and we were able to spend some good weekend time with the grandchildren, but it went by quickly. And then it was time to be starting the fall semester.

Our hopes to be back into Heckert-Wells in late August as planned were soon dashed. It was weeks, no months, later before we were able to fully move back in. And of course, by then we were in the middle of the semester so many of us simply never moved our offices back. (That's how we are spending out Christmas holidays now.) Eventually, we did get our laboratories up and running again in Heckert-Wells, and we have survived. Looking back on this semester, though, I think it may have been worse than I realized when we were in the middle of it. The time involved in keeping track of the building you left as well as the building you are in now is significant. I want to say a little bit about the Hartman space.

We have gained approximately eleven second-floor Hartman rooms in addition to the space we continue to occupy in Heckert-Wells. These rooms not only allow us to provide research space for new faculty, but graduate student offices, additional classrooms, and we have plans for a resource room as well. For the first time we can separate the Environmental Life Science and General Biology laboratories so that those instructors are not constantly tripping over one another.

Those of you that taught those laboratories will be able to appreciate how much this will help traffic flow, course scheduling and access to equipment. The fish and herpetology collections no longer are buried in the basement and are up in the light of day where they can be of real use. With many other advantages, this space is proving to be a great asset for us, and we will continue to work out how best to use it in the coming semesters.

One thing is the same as last year though – I have George Winter on Pandora again today while I write. I didn't realize that his music apparently creates a mood required to write newsletters. I will stop now and let you go on to read the faculty stories. Thanks for checking in with us, Cheers!

Sincerely,

Dixie Smith

dsmith@pittstate.edu
<http://www.pittstate.edu/faculty-staff/dixie-l-smith>

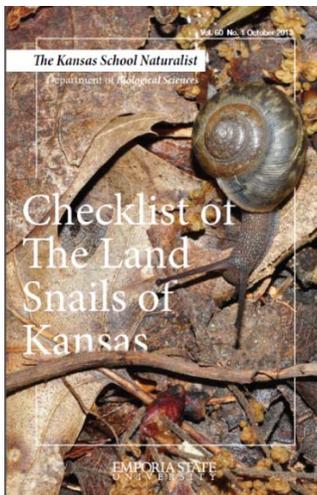


From Dr. Joe Arruda

After 6 months in Hartman Hall, it was sweet to be back in Heckert-Wells, even if some of us remained to finish out the fall over there.

I was able to start Limnology in Hartman, continue my snail surveys, and start two undergrads on a special study. I early on selected a prime piece of real estate in Hartman 215 – the old rock and mineral lab. It had great benches and water and electricity and a chalk board ... all the comforts for doing bucket biology.

Teaching in 2014 included Principles of Biology II both semesters – in the spring with Dr. Jim Dawson and in the fall, starting a new duet in PoB II, with Dr. Neil Snow. I ran two online courses this year - Environmental Protection in the spring and the non-major ELS in the fall. I taught Water Quality Management & Assessment in the spring – we ran several surveys with the students learning how to design studies, implement them, and (most painfully) write reports about them. Limnology capped the fall.



I was asked in 2013 to produce an edition of the Kansas School Naturalist on the land snails of Kansas. I finished it in late 2013 and it hit the press at the start of 2014 – “A Checklist of the Land Snails of Kansas”. I was asked this year to do a similar volume on the aquatic snails – something I am finishing up at the same time as I am putting this newsletter together.

I also published a small paper on the distribution of land snails on the Monahan Outdoor Education Center and was co-author on a paper with former grad student Craig Corpstein on his thesis work which was directed by Dr. Cindy Ford.

Service-wise, I continue to manage some of the Department’s assessment data – both monitoring freshmen success and senior performance on their exit exam – the Major Field Test in Biology. I also manage

the Department’s Facebook page and edit the annual newsletter. Until this past fall, I also managed the Department’s web site, but the university is exerting much more control over design and I decided I didn’t have the time or desire to keep up with them, so the College of Arts & Sciences now manages the site.

We’re in the middle of big changes in the field biology and ecology program here. Last year we added Dr. Neil Snow who is making great strides in the renewal of the Sperry Herbarium. We hope for a successful search for a replacement for Dr. Jim Triplett, in spring 2015. In the next year or two, Dr. Steve Ford will be retiring, so we’ll be searching for a wildlife biologist slash conservationist slash land manager. Dr. Cindy Ford will also be retiring and her position will be open. Soon after, probably, Dr. Jim Dawson (although his perpetual excitement over his algal work will keep him going) and then me ... although I like to think of myself as the first in a new series of field biology replacements – it just took a long time for the others to catch up.

My best to all, keep in touch. Always good to get updates from alumni.

jarruda@pittstate.edu
<http://www.pittstate.edu/faculty-staff/joseph-a-arruda>



From Dr. Peter Chung

Greetings and Happy Holidays from the Biology Department! Another year has flown by, with nary a day that has not been exciting and/or eventful. We hope this newsletter finds you all in good health and good spirits.

I wish to start off by welcoming Kimberly Grissom into our family of Biology faculty and staff. Following Donna’s retirement in January, we were able to spend a few weeks searching for a new prep person to take over Donna’s duties in the prep lab. Kimberly ended up being our top candidate and we were fortunate she was able to step right in and begin working. She has really been the anchor for the Prep Lab move to Hartman due to HVAC renovations and is still very active in moving the Prep Lab back to Heckert-Wells now that the HVAC renovation is complete. Thanks Kim for everything you do!

HVAC renovation....The Move....The Interim...what can we say about that. Well, through the enormous efforts and contributions of the physical plant, our Prep Lab staff and certainly our faculty, we were able to create a functional prep lab and microbiology teaching lab to meet the needs of our students over the summer and fall.

Our lab classes were able to meet throughout the summer; microbiology and pathogenic bacteriology and even anatomy and physiology labs were able to utilize that space in Hartman 214.

The prep lab, once again, showed why it is the center and beating heart of the Biology Department. Although the facility was temporary, it kept us grounded and centered through several months of tumultuous activity due to the HVAC renovations. Yet sadly, although our temporary facilities in Hartman have been more than adequate, I can say we are more than ready to have the Prep Lab and myself back in Heckert-Wells. Like they say, there is no place like home.

We look forward to moving our research lab back into Heckert-Wells and get started back up with our research projects. We will continue to have Maria and Si-Jing in the lab; we welcome Ms. Kayla Davis into our lab in spring. She has signed on to work on a thesis project with our lab. We look forward to her contributions!



Dr. Chung was invited to the DPT hooding ceremony with our graduates Amanda Livingston, Shannon Lynch, and Zac Snow.

As predicted, the number of prospective students interested in becoming Biology majors continues to rise. Not a week goes by without a one on one meeting with a prospective student. It is refreshing to see that the business of Biology is booming! And it makes it so much more rewarding when we do see them in Biology the following semester or year. And we march on...

Our medical technology program continues to gain popularity among our majors. Both Elaina and Amelia graduated, sat and passed their Med Tech Boards and are now employees of Mercy Hospital!

Congratulations! There will be 3 Pitt State med tech majors beginning their clinical year in January at both Mercy Health in Joplin, Missouri, and Cox South Hospital in Springfield, Missouri. Soon-to-be Med Tech grad and YouTube sensation, Carly, will wrap up her clinical at St. Luke's Hospital in Kansas City, Missouri, at the end of this year.
(check out her fame status here: <http://bit.ly/1sILhW0>)

We continue to assist the Biology Club with Science Day. This last February, we had over 750 high school students attend the Science Day festivities (Biology Bowl, Chemistry Capers and Physics Frolics). Kudos to the Biology Club for its record high and its leadership for a job well done! And many thanks to all the faculty and staff that were an immense help! Science Day 2015 has been moved from late February to April 23, 2015, due to construction and weather concerns.

Advising continues to be a top priority for us. PT Open House happened on April 10, 2014, and was co-sponsored by the Pre-PT Club, the Biology Department and the Exercise Science program; once again it was a tremendous success. Many thanks to the Pre-PT Club, the PT School representatives (Mr. Bagley, Drs. Manske and Wallentine), and the faculty (Drs. Harries, Nonnenmacher, Peak and Schmidt), who are always so willing to contribute their time, enthusiasm and support. The 2015 PT Open House is tentatively scheduled for Thursday, April 9, 2015.

Some final thoughts:

- 1) To Drs. Shannon Lynch, Zac Snow and Amanda Livingston, it was such a privilege to hood you guys in May! Thank you, thank you!! (see photo on left) Congratulations on earning your DPTs and good luck with your future endeavors!
- 2) To Drs. Compton and Johannessen (the Boomer Sooner crew), congratulations!! And good luck with your residencies!
- 3) To Dr. McDowell (Hartigan), congratulations and good luck in Springfield! May "eyes" always be watching over you.
- 4) Carly and Conner, congrats on UMKC! Bonzo, good luck at KU!
- 5) Science Day 2015 (April 23, 2015)

6) Pitt State 2015 PT Open House (April 9, 2015)

Kelly, thanks for keeping the department together and for everything you do! Kim, thanks for keeping me sane and running the Prep Lab!

To all our graduates, colleagues and friends: Don't be strangers; stay in contact, keep in touch, and do stop by and visit if and when you are in town.

Regards,
pchung@pittstate.edu
<http://www.pittstate.edu/faculty-staff/peter-a-chung>



From Dr. James Dawson

After a busy spring semester I took the summer off, mostly to re-side the garage and to prepare for a sabbatical leave at the University of Texas Culture Collection of Algae, UTEX.

In June I presented a poster at the 4th International Conference on Algal Biomass, Biofuels, and Bioproducts in Santa Fe, NM. In July Amelia Bristow completed her master's degree with flying colors.

The first week in September I traveled to Austin TX. While in Austin I had 3 major projects. The first was to learn cryopreservation of algae, still an art more than a science, as I discovered. The second was to gain experience in isolating genomic DNA from the algae. I was able to isolate and sequence one of the Microcystis strains that Dylan Galloway had collected in one of the closed lakes in Kansas this past summer. UTEX is very interested in obtaining samples of our harmful algal blooms, HABs, because there are very, very few known toxin producers in their collection, or any collection for that matter.

The third project was the installation of various sorts of LED lighting so that we may be able to move from mostly fluorescent lamps to LED to save electricity, expose the culture to less heat, and replace bulbs less frequently, thus saving time and money.

Spring 2015 brings a full teaching load, including ELS, General Biology, Epidemiology, and Mycology, with 13 students!!!!

jdawson@pittstate.edu
<http://www.pittstate.edu/faculty-staff/james-t-dawson>



From Dr. Steve Ford

Hello everybody!

First of all I want to congratulate Jim Triplett on his retirement. Jim had just become chair of the Biology Department when Cindy and I came to Pitt State in 1985, and was in that position most of our tenure here. We've

been on a lot of field trips and to many Fish and Wildlife Conferences together (including enduring some pretty hairy winter driving experiences). He's been good to us over the years, and I want to take this opportunity to say thanks and best of times in retirement.

Cindy and I went on the Spring Break fish collecting trip to Dauphin Island with Jim and students just for fun. Saw some neat birds and of course enjoyed the history of the forts at Mobile Bay, Alabama ("Damn the Torpedoes . . ."). Nearer to home did my Hunter Education and Audubon thing, including organizing a photography workshop headed up by PSU photojournalist Mike Gullett, talked to Kiwanis about current mined land landscape, helped make about a zillion birdhouses for Audubon and for a project at the Monahan Center, gave cadaver demonstrations and other stuff that keeps me living the dream.



One of the year's highlights was visiting with former anatomy lab assistant, now Dr. Jim Whitford (left), who was honored with an Outstanding Alumni Award for his professional achievements in physical therapy and good work with homeless people in Joplin (Watered Gardens Mission). I remember Jim's clever model of

the ears' semicircular canals made with milk jug handles and duct tape!

At home we're still dodging deer, turkeys, armadillos, beavers, dogs, cats, horses, chickens, and wood rats, and yesterday looked out our back door to watch a bald eagle harass a beleaguered pied-billed grebe. All good, as I hope you are.

sford@pittstate.edu
<http://www.pittstate.edu/faculty-staff/steven-d-ford>



From Dr. Phil Harries

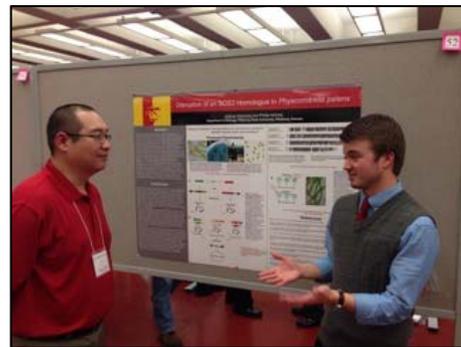
Greetings from Heckert Wells! I'm very happy to be able to say this after all the renovations and moving that occurred in the Biology Department this year. Research and teaching were greatly disrupted by the move, so it really is fantastic to be back in the building and have

everything up and running again.

This year started (scientifically speaking) with the K-INBRE research conference in Kansas City. I took several research students this year including Josh Yeomans (pictured), Hannah Devries, and Trista Dugan, all of who have been working on generating gene knockouts in the bryophyte *Physcomitrella patens*.

Physcomitrella is a moss that serves as an excellent model system for molecular and genetic research. We have been focusing our attention on genes that are likely to be involved with cytoskeletal structure and organization. By determining the function of genes in primitive land plants (*Physcomitrella*) and comparing that to the function of related genes in vascular plants, it may give us some insight into how these genes have evolved.

In October, I was invited to visit Wichita State University to meet with the Biology and Chemistry departments to discuss some of my research on plant virus movement. It was a lot of fun visiting with WSU faculty and students. I even got to catch up with a couple of PSU alumni that are now graduate students at WSU!



Josh Yeomans explains his research project to Dr. Peter Chung at the 2014 KINBRE conference.

In the classroom, I gave my first offering of Bioethics in the spring semester. This is a course that hasn't been offered in the Biology department for quite some time so I was lucky to get a great group of students to get the ball rolling. This is a discussion-based course that examines ethical case studies on topics including environmental ethics, genetic engineering, assisted reproduction, and biomedical ethics. This year I also taught: Principles of Biology I, Biology of Cancer, Senior Seminar, Introduction to Research, and Plant Pathology.

On a personal note, both of my sons are now in middle school (Aidan in 8th grade and Evan in 6th) and my wife Kimberly is still working with the PSU music department. We took a trip to Maryland over the summer to visit family and managed to squeeze in visits to the National Aquarium in Baltimore, some of the museums in Washington D.C., Annapolis harbor, and Great Falls on the Potomac. It was a wonderful break and I can't wait to go back. All the best to you and yours in 2015!

pharries@pittstate.edu
<http://www.pittstate.edu/faculty-staff/phillip-a-harries>



former grad student Kip Chambers now teaching at Pratt CC sends this picture of one of his classes

The Move

As is mentioned in other articles, 2014 was the year (mid-April – end of September) that we were out of Heckert-Wells for the gutting of the ceilings and replacement of the HVAC system. We're glad it's over.

Part 1. The Heckert-Wells "Disassembly"



packing up the prep room



office crammed with stuff that didn't need to move



the ceiling's down – in the micro lab



the prep room: packed up and locked up



the ceiling's down – in Nature Reach



the big crane lifting material to the roof



the three exhaust outlets

Part 2. The Invasion and Colonization of Hartman Hall.



the future wet lab space (for Micro and others)



the old, dirty, dusty, "rocks and minerals" lab space



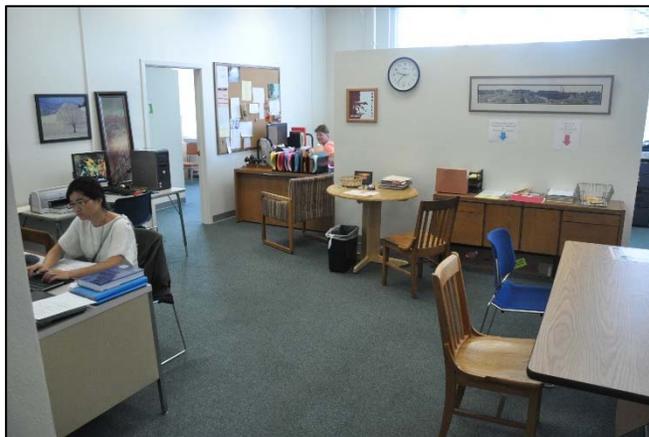
the finished wet lab space (for Micro and others)



same space used for substitute Environmental Lab



summer Principles of Biology I lab



department office and faculty space



From Dr. Hermann Nonnenmacher

Over Spring Break, I joined Drs. Jim Triplett, Cindy Ford, and Steve Ford to take two vans loaded with students to Dauphin Island, Alabama for a combination of ichthyology, barrier island ecology, and birding. Although we used our newer, larger trailer, we

managed to fill it completely.

While at the island, we set up our tenting sites, formed cooking teams, and then maintained a full schedule learning about Mobile Bay ecology, Gulf of Mexico's "Fertile Crescent", and various habitats which included the island's Shell Mound, salt marsh, and Audubon bird sanctuary. After working together on their specimens every day and night, our students ended up setting a new record for fish species keyed.



In early April, three students came with me to the Annual Meetings of the Kansas Academy of Science and the Kansas Entomological Society, hosted by Emporia State University at Emporia, Kansas. Sam Young presented a poster of her work on pollination of tall thistle, *Cirsium altissimum* (L.) Spreng. in southeast Kansas. Natalia Schneider and Fabio Giacomelli presented work they completed in southern Brazil on Plum Leaf Scald, an insect-vectored bacterial disease that threatens plum harvest success in their country.

My poster expanded on earlier work on *Callosamia promethea* Drury, adding more recent specimen collection and food plant data.

In late May, I traveled to Cusco, Peru, with eighteen PSU students. We stayed several days to work in remote communities in the Andes Mountains to assist in setting up and running day clinics with health care providers in medicine and dentistry. In addition, a few days were used to learn about the history and culture of the people of that region. We visited some of the important ruins, and were provided lessons in culture by our local interpreters who are also either teachers or artists. The students earned impressive compliments from the medical and dental health care providers for their exemplary professionalism and generosity toward all who came for help.



After returning to southeast Kansas, Mead's milkweed blooming and pollination had just concluded, so field research was limited to flagging the plants' developing fruits. Landowner support for conservation and scientific study continues to be strong and research for next summer is assured.

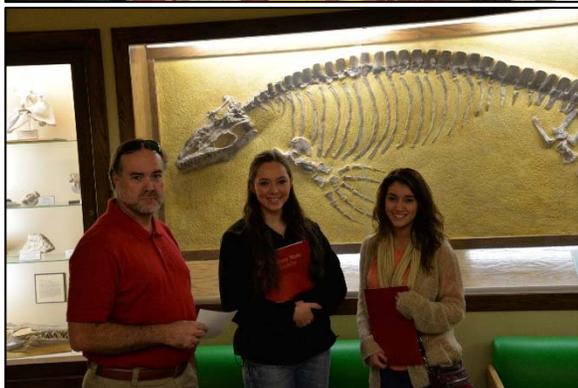


In June, I went to Raleigh/Durham, North Carolina to attend a five day conference on research in evolution and then worked for another week in the genomics lab at the North Carolina Museum of Natural Sciences. Work focused on extracting, amplifying, and

sequencing the cytochrome oxidase I gene from mitochondria in poorly maintained residual tissues of insects.

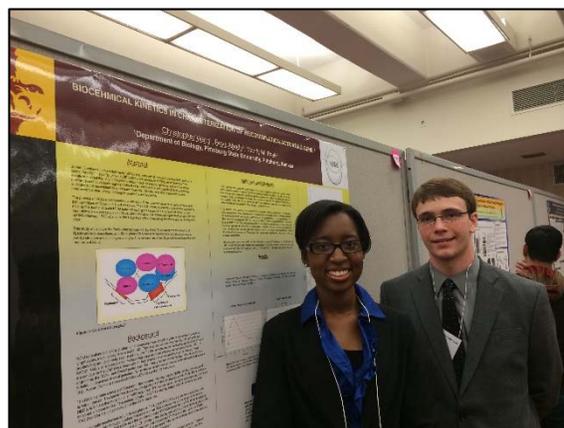
During the fall semester, in addition to courses and the pleasure of working with so many interesting and driven students, we had many opportunities to help those considering PSU as their choice for a quality higher education. Several of us in the department assisted by meeting good numbers of visiting families through our popular PSU Rumble events and

individualized meetings between prospective students and faculty advisors across all emphasis areas we offer.



hnonnenmacher@pittstate.edu
<http://www.pittstate.edu/faculty-staff/hermann-f-nonnenmacher>

Boya Abudu started her first year of medical school at University of California San Diego. I have included their medical school induction pictures, in which all new students receive a short white coat. During their senior year at Pitt, Chris and Boya presented their research at the K-INBRE conference in Kansas City and Chris presented his research at the Capitol Undergraduate Research Day in Topeka. In addition, Chris was awarded a \$10,000 K-INBRE Star Trainee grant for research during his senior year! The students were tremendous assets and I am very proud of their success!!



Boya Abudu and Chris Ward at their K-INBRE poster.



From Dr. Mandy Peak Bryan

Happy New Year Gorillas! This past year I taught Genetics Lecture and Lab, Immunology Lab, Environmental Life Science (online), and I received a welcome opportunity to teach Epidemiology. I loved teaching that class for the

Public Health minor and it provided me the chance to interact with more non-biology majors, including Exercise Science, Elementary Education, Recreation, and Chemistry students. I also applied and received tenure in January 2014.

Three of my undergraduate research students graduated in May and were accepted into medical school. Last fall, Chris Ward and Carly Twarog began their first year of medical school at University of Kansas and



Dr. Peak Bryan with some 2014 graduates.

The pre-health study abroad trip traveled to the Sacred Valley in Peru with Dr. Nonnenmacher last summer. The students had the opportunity to assist medical physicians, a dentist, and a dental hygienist with routine medical and dental exams; run triage; and work with interpreters. Next year, the Pitt State pre-health study abroad program is traveling to Puerto Escondido, Mexico in May 2015. I have an eager group of pre-med

and pre-dental students excited for this fantastic experience!

So, this leads to a few shout outs to my study abroad students that are either currently attending or have been recently accepted to professional schools this past year, including Ann Hutchison, Austin Price, Carly Twarog, Chris Ward, and Ryan Woodruff to KU med; Boya Abudu to UCSD med; Olivia Wright to OU med; Kristen Snyder-Hernandez to Ross University med; Courtney Snyder to Wichita State University PA program; Kyla Henderson to dental hygiene school; Alyssa Snow to Creighton University School of Dentistry; Carly Lallemand, Conner Paustian, and Samantha Thomas to UMKC Dental School. Also, a huge congrats to Megan Mitchell, Taylor Stewart, and Hillari Lamaster for graduating Pitt Nursing School! In addition, there are several students with pending interviews; my fingers are crossed for all them.



Happy New Year and best wishes to you and your family!

mpeak@pittstate.edu
<http://www.pittstate.edu/faculty-staff/mandy-m-peak-bryan>



From Dr. Virginia Rider

Greetings to all friends of the Biology Department. This was a banner year for applicants to KU School of Medicine. Even the admissions people at KU were impressed!

The students who were accepted to KU School of Medicine were: Boya Abudu (chose UC-San Diego, can't imagine why), Tyler Egbert, Sierra Foster, Ann Hutchison, Austin Price, Sarah Taliaferro (Rural Scholar), Carly Twarog, Christopher Ward, Ryan Weir (Rural Scholar), Ryan Woodruff, Jason Zogelman and Timothy Stoppelman. Timothy attended Pittstate but transferred to Rockhurst and applied from there. Olivia Wright was accepted to several medical schools and chose the University of Oklahoma. Jackson Dalrymple was accepted to Kansas City University of Medicine and Bioscience (KCUMB). Coletan Caldwell was accepted to UMKC School of Dentistry. Evan Thomas and Sophia Chang were accepted to Cleveland College of Chiropractic Medicine. If someone has inadvertently been left off this list, please let me know as we always enjoy hearing about your successes.

Samantha Meneely and Anuradha Bhusri, have been making progress on the lupus project. We have started to receive lupus samples from Dr. Julian Magadan, a rheumatologist at KU Medical Center. Dr. Magadan follows approximately 350 lupus patients and he is interested in investigating the underlying causes of the strong gender bias of this disease.

Our research has been supported by The National Institutes of Health since 2001. We plan to present our latest research findings at the Endocrine Meeting in March of 2015. Twenty-two students and twelve faculty attended the 12th annual Kansas Idea Network for Biomedical Research Excellence (K-INBRE) meeting in Kansas City this past January. Support for the K-INBRE comes from the National Institutes of Health and its purpose is to improve biomedical research at all universities across the State.

The annual research conference is oriented toward research projects conducted by students. All students participating in research projects submit abstracts.

Those abstracts judged to be most meritorious are selected for oral presentations. All students have an opportunity to present their research in poster format. For more details on the K-INBRE and highlights from the annual meeting visit the K-INBRE website on the Biology Department home page.



The 2014 K-INBRE Conference

Interview invitations are in full swing from a variety of medical, dental and other professional schools. The “Gorilla Docs” program at Crawford County Health Department is still helping students gain experience in the medical field. Dr. Garner’s program called Premeds with Promise is in full throttle and continues to provide PittState students with additional opportunities to gain experience in a medical practice.

The number of students in the freshman level Premedical Orientation classes continues to be strong with 70 to 80 students every Fall semester. I am grateful to all of the health care professionals who participate in this class and help educate our students about options in health care careers.

Dr. Brett Dunbar (surgery), Dr. Michael Fenech (OB/GYN) and Dr. Jesse Niederklein (anesthesiology) are graduates of our program and have rejoined the medical community at Via Christi. Dr. Megan Clarkin is a hospitalist at Mercy in Joplin. These physicians are back in the community and helping the Pittstate students gain experience about careers in medicine. Thus, the circle of knowledge continues as they give a leg up to the next crop of health care professionals.

It is always such a pleasure to hear about our graduates. Please stop in and see us if you find yourself in the Pittsburg Area. As always, you are sent

my best wishes for continued success and happiness in the pursuit of your passions.

vrider@pittstate.edu

<http://www.pittstate.edu/faculty-staff/virginia-c-rider>



From Dr. Neal Schmidt

I hope our 2014 newsletter finds you well and looking forward to the holiday season! I have been keeping busy with the Anatomy and Physiology lecture and lab courses this semester and I am teaching a

Pathophysiology course again this term. Another upper division class that I am involved with is Immunology lecture and I will continue to assist Drs. Chung and Peak with this course next semester. Hopefully, these upper division courses will provide beneficial educational experiences for our majors in the pre-health and biological sciences and also at the next level in professional school, graduate school, or the workforce.

A recruitment opportunity came my way this year and I went to Northwest Arkansas Community College and assisted with their Healthcare Professions Transfer Fair. It was a rewarding experience and it allowed me to visit with many students about the educational opportunities available at our institution.

I continue to assist in the healthcare community through the provision of pharmaceutical care and consulting. I recently began working in a new capacity in this area called Medication Management Therapy (MTM). Essentially, it is a form of chart review where I evaluate the indications, cost, effectiveness, adherence, and or side effects of therapy or gaps in therapy and make recommendations, if warranted. I hope to continue in this capacity as new opportunities come my way.

I attended the Human Anatomy and Physiology Society (HAPS) annual meeting in May in Jacksonville, Florida. While at the conference, I was afforded the opportunity to become a Chair of the Safety Committee. This organization allows me to network with colleagues, learn new approaches to

optimize teaching effectiveness, and improve my knowledge base.

My wife, Tammy, and I are staying busy outside of academia and healthcare as our children, Ben and Olivia, continue to become more involved in various activities. Olivia is six years old and is involved with gymnastics, dance, and church youth group. Ben is eight years old and is involved in football, soccer, gymnastics, baseball, basketball, Cub Scouts, and the Rangers church youth group. Both children attend George Nettles Elementary School and seem to be matriculating in a better and more efficient way than I did at their age.

Congratulations to all my advisees and other students that have moved on to professional school, graduate school, or the workplace. Thanks to my students and assistants for their solid efforts in my courses over the last year. Keep moving forward and stay the course! As always, I am grateful for the opportunities to work with our students and biology faculty and appreciate all the support I have received over the past year. Have a great holiday season!

nschmidt@pittstate.edu
<http://www.pittstate.edu/faculty-staff/neal-d-schmidt>



From Dr. Neil Snow

Bon Jour from the Botanical Barracks - We have survived the temporary displacement in Hartman Hall while Heckert-Wells was being renovated. The cooperation between faculty during the moves, coupled with the assistance we received from students and the Physical

Plant, has been gratifying to experience. Renovations are never easy, fast or clean, but we are returning to normal.

Last year passed quickly. I enjoyed meeting and interacting with many faculty and staff members beyond Biology and Chemistry, and participating in some faculty-oriented activities, such as Dr. Olson's book reading club. One highlight was a trip with the Provost and several other faculty and staff to Utah to experience an Open Education conference.

Having returned to teaching from previous posts in the non-profit research and administrative realms has been invigorating and rewarding. Typical of faculty in general, I am never entirely satisfied with my teaching, and thus constantly tweak this or that a bit, try new approaches, modify, change, ask for student input, and whatnot. Hopefully that commitment avoid staleness will translate into better instruction and learning opportunities for the students.

I presented an invited paper in Michigan last April on managing small herbaria, and was a lead author or co-author on two posters and one talk at BOTANY 2014 in Boise in July. Two colleagues and I will have submitted a lengthy paper on more new species of the plant genus *Eugenia* from Madagascar by the time this Biology newsletter hits the newsstands.

Two students provided much-needed and able assistance in the T.M. Sperry Herbarium last year. Susan Grace is a continuing work-study student. Sam Young, who graduated last December with her BS in Biology from Pitt, is now working with me as a graduate student surveying plants of Crawford and Cherokee counties. She has gained the trust of many landowners and is collecting plants on tracts of privately held land that likely have been minimally explored botanically in recent decades (if ever).



Sterling May and Karen Stoehr collecting plants near Miami, OK, as part of a plant inventory project.

More broadly, we have initiated some important new projects in the Herbarium. We are barcoding all specimens (which serve as universal identifiers in cyberspace), and will soon begin digitally photographing specimens. The Sperry Herbarium is now part of the Great Plains Herbarium network, and our herbarium data are stored in and managed by Symbiota at Arizona State University in the cloud. We have assembled about 10 percent of the Kansas and

Regional Reference Collection, and hope to have that figure up to 25% of the total by the end of this academic year.

A new course I introduced at Pitt State is Medical Botany, which is intended to help bridge the pre-Health and Field Biology portions of our program. (All medical traditions, as those students now know, have their roots in botany.). In this respect it complements the Medical Entomology course of Dr. Gordon. Six intrepid students signed up for Medical Botany last spring, and based on their feedback some modifications will be made.



Taxonomy of Vascular Plant students identifying plants.

A new course to be offered starting Spring 2015 will be Invasive Species Management. Given the enormous impact of non-native species ecologically and economically, it may well become a permanent part of our curriculum for the Field Biology majors.

I want to particularly thank my colleagues in the Biology Department for their assistance this first year. Orienting to a new institution takes time and includes recurring uncertainties and minor dilemmas. Yet without fail everyone has been quick to extend a helping hand.

Here's to a great academic year.

nsnow@pittstate.edu
<http://www.pittstate.edu/faculty-staff/neil-w-snow>
<http://www.pittstate.edu/department/herbarium>

The 2014 Annual Report of the Sperry Herbarium is at the web site of the Sperry Herbarium -

<http://www.pittstate.edu/department/herbarium/>.

From Dr. Xiaolu Wu



Hello, everyone. In 2014, I taught four courses including General Microbiology, General Virology, General Biology and Infectious Diseases Diagnosis.

I work to continuously enhance teaching effectiveness by trying different strategies. For example, I asked students in my upper-division General Virology class to design a webpage about one virus they are interested in, present the webpage to the class for feedbacks, modify it, and post it online. Students felt excited with this project, because not only did they expand their knowledge horizon but also their creativity transformed what they learned into a visible product that they felt proud to share with their family members and friends.

Another exciting project I supervised in the topic class is to work with three students, Stephanie Brown, Andrew Lorei, and Anuradha Bhusri on a Human Papillomavirus (HPV) project. HPV is chosen as the topic for this course by Stephanie who first enrolled in this class, because she felt strongly about it based on her personal experience: one of her teachers in high school is a cervical cancer survivor and talked about HPV which left a strong impression on Stephanie, and working in the medical arena allowed Stephanie to notice an increasing number of HPV cases. So, when Stephanie and I discussed what we can do in the topic class, I asked her why not do something to raise the public awareness of HPV if she felt that lack of awareness is a problem.

First, in order to find out how much the general public knows about HPV, students designed a seven-question questionnaire and conducted 213 surveys around the campus and in the community. Then, Anuradha analyzed the data based on gender and age. The data indicated that: even though most people have heard about HPV, less than 10% knows the severity of the HPV infection or its connection of cervical cancer, and less than 25% knows how HPV is transmitted. The data also showed that there is no significant difference between genders or age groups in terms of lacking aforementioned knowledge. Next, Andrew took the lead in designing two visually appealing and educational posters tailored to women and men,

respectively, to address the severity of the HPV infection, its connection to cervical cancer and transmission. 22 pairs of posters (for women or men) have been posted around the campus. Their hard work has also led to a research poster which they plan to present in the next PSU research colloquium. I am proud of what students accomplished with this project. Most of all, they felt proud to be able to conduct a real-life project with problem-solving skills, serve the community with their knowledge, and potentially make a difference.

Two undergraduate students, Rachel Miller (physical therapy emphasis) and Lindsey O'Neal (cell and molecular biology emphasis), joined me with the avian influenza virus H5N1 research project this year. Rachel won the 3rd place in undergraduate poster presentation at 2014 PSU Research Colloquiums. Rachel and I conducted a survey over the summer aiming to find out the general public awareness of the highly pathogenic H5N1 virus, which has spread to 66 countries with over 59% mortality rate. The first human case of H5N1 in North American was diagnosed in Canada in January 2014.

If as researchers predicted, a future H5N1 pandemic is just a matter of time due to the high mutation rate of the virus, we wonder how far this virus is from the United States and how prepared the general public is. Based on the data collected by Rachel from 100 survey takers, it showed that although 76% of questionnaire takers have heard about H5N1, only 8% knows the basic information about the virus, such as its transmission, high mortality rate, and the fact that the vaccine for seasonal flu will not protect people from H5N1. Since viruses know no borders, we think that education to the general public regarding the basic information about H5N1 is necessary. Rachel has been

selected to give an oral presentation about this study in the K-INBRE 2015 symposium.

I have been actively involved in service activities, including the committees at the department and college levels as well as the Friends of Pittsburg Public Library Board. To continue the pre-Graduate School orientation presentation series started in 2013, this year I invited/hosted two speakers to introduce their programs to our students: Dr. T. H. Lee Williams (Graduate Dean of OU) about graduate programs, and Annie Lewis-Jones (Admission coordinator from UMKC) about Master's programs in Bioinformatics, Anesthesiologist Assistants, and Physician Assistants. Both speakers gave a fabulous presentation. Several students told me that they really enjoyed and benefited from such events. Moreover, I have served as graduate coordinator and helped 53 graduate applicants by processing paperwork, coordinating between applicants and faculty, and answering applicants' questions by phone or email. Moreover, due to the unique features of the Master's program in Biology, such as research is an essential component of the program besides course works, I have generated a Biology-tailored, detailed application guideline to help applicants become familiar with the program and application procedure so that they may provide appropriate and complete application materials. I would like to thank Dr. Arruda, Dona Pintar, and Janet Miller for their technical support.

Finally, I would like to thank all the people who have given me support and help in 2014 and I wish you all a happy and joyful 2015.

xwu55@yahoo.com
<http://www.pittstate.edu/faculty-staff/xiaolu-wu>



A few of those gathered for the end-of-semester holiday lunch in the General Biology lab.



Nature Reach – Delia Lister

This has been an incredibly busy year at Nature Reach. So far this year we have raised a little over \$30,000 in funding. Most of this comes from a single donor who is just fantastic. I am always so appreciative of the community support we receive. With that funding we have provided well over 100 programs to students in about two-dozen different communities in the area. I am also quite pleased to say we were presented with the 2014 Outstanding Non-Profit Award from the Kansas Association for Conservation and Environmental Education.

This summer we provided both a day camp and an overnight camp. The camps were a big hit, and parents are already asking about camps for Summer 2015. A big thank you goes out to the Sperry-Galligar Audubon Society for co-sponsoring the camps. I also want to say THANK YOU to Jenn Rader, Director of the SEK Nature Center in Galena for Co-Sponsoring the overnight camp. We were also able to lead another Project WILD training for several teachers in the area. These teachers are always enthusiastic and appreciative of the training and materials they receive which makes my job tons of fun!

Our other major project was the big temporary move to Hartman. It was quite a challenge moving the entire program to another building. My student workers, volunteers, and physical plant workers made the transition a little easier, but I have to say I am quite glad to say we are finally back home.

Lastly, for those of you who spent any time at the PSU Natural History Reserve, you probably remember the old farmhouse. It was in quite terrible shape, and in much need of replacement. Things were getting pretty rough out there, but the PSU Foundation stepped up and replaced the home for us. It is so much safer, comfortable, and all around better. Words can't express my appreciation for the Foundation and administrative support. We still have much work to do to replace the teaching garden surrounding the old house, but we will get there. I hope you have a chance to see it sometime in the future.

naturereach@pittstate.edu
<http://www.pittstate.edu/department/naturereach/>



From the Prep Room – Kim Grissom

As I look forward to celebrating the upcoming holidays that mark the end of another year, I also reflect over the changes this past year. For me, it all started with a change in career fields. Then a change in location as the Biology Department packed up and moved to out of Heckert for the summer and subsequent fall semesters.

It was encouraging to see the adaptability of the department to provide a successful year for the students. It seemed like the whole department became mobile. We wore the wheels off the carts as they traveled around campus loaded with instructional material they needed to teach a class in a new location. Then a change in the contractor's schedule brought the challenge of finding or creating needed labs. Mission accomplished.

The year is winding down, finals are underway, and we all look forward to the break. We still have some boxes to move or unpack and some labs and offices to organize before the next semester begins. I look forward to the upcoming year, getting to know the faculty better, under normal circumstances, rather than extraordinary ones. I have enjoyed working with everyone throughout the changes and challenges over the past year and look forward to what next year will bring!

May everyone's holidays be merry, and their new year be blessed.

kgrissom@pittstate.edu



The new caretaker's residence at the Natural history Reserve (minus landscaping)

Peru 2014

In May 2014, the Pitt State pre-health volunteer group traveled to Southern Peru. The eighteen pre-health students were Jian Abbuehl, Megan Albertson, Trista Dugan, Cate Dunn, Jace Erwin, Jen Gallon, Sarah Glavin, Sarah Harmison, Carly Lallemand, Hillari Lamaster, Jennifer Martin, Madalyn Overstreet, Conner Paustian, Austin Price, David Schlee, Sam L. Thomas, Samantha S. Thomas, and Ty Worthington. They were accompanied by Dr. Hermann Nonnenmacher.

To prepare for this trip, students attended a required preparation class led by Dr. Mandy Peak during the Spring semester that covered clinic operations, physical exams, cultural diversity, and Peruvian history. We also gathered medical supplies, diagnostic equipment, and medications for our clinics, as well as requested items for a local Peruvian orphanage.

The crew were bused to small villages in the Sacred Valley and where they set up health clinics. The students assisted medical providers including Dr. Mike Schneeberger and Dr. Mark Lee; Marsha Schneeberger, RN; and Dr. Paul Crowley, DDS with routine health and dental exams, well child check-ups, and dental extractions; and also educated the village children on proper dental hygiene. The team triaged and treated 830 medical and dental patients and filled almost 4,000 prescriptions in five days.

This was a fantastic trip; the Pitt State students developed new medical skills and had a cultural experience of a lifetime by visiting Machu Picchu. We are very proud of our Pitt State pre-health students. Great job! In May 2015, we are heading to Mexico!



Offloading so that bus can clear low dip in road. Driver was excellent.

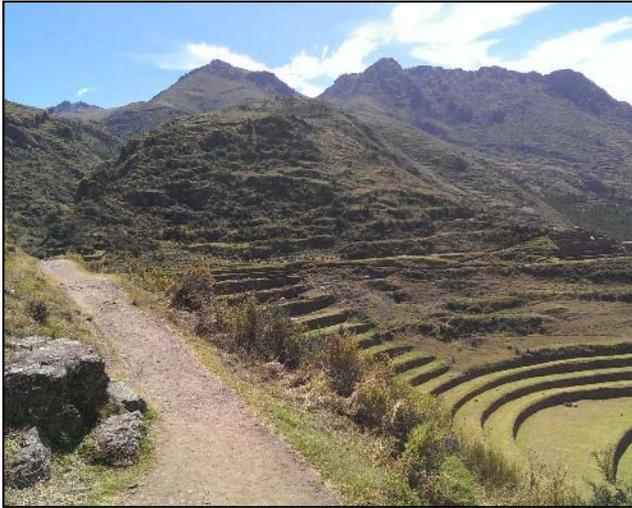


Sarah Harminson, Sarah Glavin, Cate Dunn, Marsha (RN), and interpreters working in the pharmacy.



Pitt State students at Machu Picchu with Dr. Paul Crowley, DDS

Peru 2014 (more pictures)



The vicinity of the Sacred Valley.



Setting up the pharmacy.



Students running triage. Notice the sheets in the background - that is what we collect in the US to set-up make-shift "rooms" for patient privacy.



Building bonds - playing with local children after the work is done for the day while waiting to board bus.



Taking vitals and other info for use by doctors or dentist.



Thank you dinner to acknowledge help from translators, providers and students for the work completed.

Kansas Research Day at the Capital

Four Biology students participated Wednesday, Feb. 12 2014 at the Kansas Undergraduate Research Day at the State Capitol in Topeka. This was an opportunity to display the range of research opportunities for undergraduate students at the state's Regents universities. The Masters Research Day was added this year.

Our students included:

- Samantha Young: "Ecological Notes and Seasonal Activity of Sand Flies in Kansas;" Dr. Dave Gordon.
- Christopher Ward: "Biochemical Kinetics in Characterization of Recombination Activation Gene 1;" Dr. Mandy Peak.
- Grace Anderson (Masters): "Charcoal rot resistance in transgenic soybeans with glucanase gene expression;" Dr. Dan Zurek.
- Samantha Meneely (Masters): "Changes in Phosphorylation for Estrogen Receptor Alpha (ser 104/106, ser 118, ser 167) in Lupus Patients;" Dr. Virginia Rider.

Scholarships

We want to thank everyone that donates to the Biology Department. Those contributions make student travel and attendance at professional meetings possible. They also enhance the funding that we have available for scholarships. If you have been thinking about joining our donors, you can easily do so online at this link: <http://bit.ly/1BSpf94>. It is easy to add to a scholarship by name or by interest area, or contribute to our Biology Alumni account. You can also contact Kelly Borden in the Biology Office for further assistance. Your donation to the department is always needed and appreciated.

We are awarding \$24,900 from 14 scholarships to 62 students in the 2014-2015 academic year.

The 2014 PSU Research Colloquium

More than seventy undergraduate students participated in the PSU Research Colloquium on April 16, 2014. Twenty-five oral presentations and forty-two research posters were presented.

Congratulations to the award winners from Biology and their mentors:

Undergraduate Research Poster for Science and Technology

Samantha Young, 1st Place [Dr. Dave Gordon]

Rachel Miller, 3rd Place (Tie) [Dr. Xiaolu Wu]



Samantha Young



Rachel Miller

Graduate Poster Science and Technology

Samantha Meneeley, 1st Place [Dr. Virginia Rider]



Samantha Meneeley

Picnics – 2014

Good crowds were present for both events and Dr. Hugh Campbell (retired) graced us all with his cooking skills and special mix of seasonings.

Special student awards were given during the Spring picnic. They included:

Academic Excellence: Cell/Molec- Boya Abudu
Field - Samantha Young
Research Excellence: Cell/Molec- Christopher Ward
Field- Samantha Young
Outstanding Freshman: Katelyn Flood
Best Student Employee: Ann Hutchison
Mr. Congeniality: Josh Wormington
Ms. Congeniality: Carly Twarog
Most Vocal: Austin Price
Most Organized: Sarah Poland
Most Spirit: Carly Twarog



2014 Biology Bowl

This annual event was a great success thanks to the hard work of the Biology Club! Thanks to them and all of the student and faculty volunteers.



Dr. James Triplett – 33 Years of Service



Dr. Jim Triplett retired at the end of the 2013-2014 academic year, serving the Biology Department for 33 years. He started here in the fall of 1981 and became interim Chair during the 1984-1985 academic year replacing Dr. Dean Bishop. He became permanent Chair in 1985, a position he held until 2008 – for 23 years. He

is exceeded in years as Chair only by the first Biology Chair, Dr. O.P. Dellinger (30 years) and tied with the Department's second Chair, Dr. James Ralph Wells.

Dr. Triplett has influenced generations of students at both the undergraduate and graduate level. He is responsible for more master's students in the department than other active faculty member (and at a higher rate). Jim was and is a model of knowledge and enthusiasm. Many fisheries and wildlife professionals have known Jim and learned from him – as his student or his colleague.

While many faculty reduce the pace a bit near the end of their careers, Jim sped up. He led a great 2015 Spring Break trip to Dauphin Island and Mobile Bay. He was active on campus helping the efforts on campus and in the community for recycling and he spearheaded the development of the successful Bachelor of Integrated Studies with an Emphasis in Sustainability, Society and Resource Management. He also expanded into conflict resolution and is co-authoring, with Alicia Mason Collins, a chapter case study in a new book on Natural Resource Conflict Management.

As Dr. Smith notes in her essay, Jim has not given up yet. He is actively curating the valuable fish and herpetological collections in his “leisure” time and continues to be a positive influence on resource management in the region.

We all wish him a great retirement – once he gets started on it!

The 2015 Spring Break Trip to Dauphin Island



The Farewell Luncheon at the Alumni Center



The Retirement Reception in Hartman Hall



Biology Faculty (Fall 2014)

Joseph A. Arruda, Professor of Environmental Biology. [Ph.D., Kansas State University]

Specialties: limnology, water quality and biological monitoring and assessment, gastropods

Peter Chung, Associate Professor of Microbiology. [Ph.D., Kansas State University]

Specialties: microbiology, molecular biology (nucleic acid manipulation and protein expression systems in microbes and coccidia), tissue culture

James T. Dawson, Professor of Botany [Ph.D., University of Kentucky]

Specialties: algology, plant physiology, medical mycology

Cynthia S. Ford, Professor of Biology. [Ph.D., Kansas State University]

Specialties: natural history, parasitology, environmental education, biological illustration

Steven D. Ford, Professor of Zoology. [Ph.D., Purdue University]

Specialties: vertebrate zoology, mammalogy, ornithology, ecology, wildlife management, anatomy

David M. Gordon, Associate Professor of Entomology. [Ph.D., University of California at Davis]

Specialties: Ecology of Bees: native bee faunas; medical entomology: phlebotomine sand flies

Phillip Harries, Assistant Professor of Biology. [Ph.D. Washington University]

Specialties: plant viruses, cellular and molecular biology of plants

Hermann Nonnenmacher, Assistant Professor of Biology. [Ph.D., Saint Louis University]

Specialties: plant ecology, entomology

Mandy Peak, Assistant Professor of Biology. [Ph.D., Oklahoma Health Sciences Center]

Specialties: molecular and cellular biology, biochemistry

Virginia Rider, Professor of Zoology. [Ph.D., Arizona State University]

Specialties: gene regulation, reproductive physiology, implantation, mammalian oocyte maturation

Neal Schmidt, Instructor. [Pharm.D, University of Colorado Health Sciences Center]

Specialties: anatomy and physiology

Dixie L. Smith, Associate Professor of Biology, Chairperson. [Ph.D., Kansas State University]

Specialties: soil ecology, grassland ecology, woodland expansion, science education

Neil Snow, Assistant Professor of Botany and Director, T. M. Sperry Herbarium. [Ph.D., Washington University in St. Louis]

Specialties: plant systematics, plant identification, herbarium management

James R. Triplett, Professor Emeritus. [Ph.D., University of Kansas]

Specialties: natural resource conflict resolution, ichthyology, fisheries management

Xiaolu Wu, Assistant Professor of Biology. [Ph.D., University of Illinois at Chicago]

Specialties: cell and molecular biology, virology

Daniel Zurek, Professor of Biology. [Ph.D., University of California - San Diego]

Specialties: cellular and molecular biology, biotechnology, and plant molecular physiology.

Biology Staff (Fall 2014)

Kelly Borden, Administrative Specialist

Delia Lister, Director, Nature Reach

Kim Grissom, Storekeeper
