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We thank Esmail and Mary Zirakparvar for providing funding for the newsletter. Please send all news submissions, questions, and comments to the newsletter editor (Augustine Beeman Email: aqbeeman@iastate.edu).
Dear Friends and Alumni!

All fall semester I have been watching our future home, the Advanced Teaching and Research Building (ATRB) out of my office windows. ATRB first started to appear above Lagomarcino Hall as a small glimpse of concrete through the trees’ foliage earlier this year. But by now it is the towering and impressive structure that we have come to know from the architects’ drawings. In fact, as I type these lines, the top level that will carry the roof greenhouse is being finished. On the ground levels I can see duct work being built and soon siding pieces will be installed starting to close in the new structure. Exciting! Direct your web browser to the ATRB web camera to follow the progress. And ‘yes’, I have been doing other things than looking out of the window marveling at the ATRB 😊.

One other item we have been working on is another piece of exciting news. While we are talking about facility improvements for our department, the ATRB is not the only major project. Just this week, a plan to expand the PLPM footprint on the college’s farm hub between Ames and Boone has been approved. As part of this plan, we are now set to build an additional sizeable machine shed along with a large multipurpose building with cold rooms and programmable research and teaching spaces. In addition, we will construct a water reservoir to allow irrigation of field experiments. And over the next two years, we have plans to add irrigation technology, rain-out shelters and new field equipment to make maximum use of the new building capacities. These dedicated plant pathology spaces and infrastructure additions, together with the ATRB, will elevate our department’s options and opportunities to a lead position in the nation. Keep your fingers crossed that our proposals will be accepted as written and that we will continue to move towards implementation. I would be remiss if I were not pointing out that financing our plans and the department’s programming in general will be the biggest challenges, and I am thus pointing out that any contribution to our departmental fund will be much appreciated, if you were ever thinking about a gifting option. We have taken the liberty of providing requisite information later on in this newsletter.

I close by wishing you all Wonderful and Happy Holidays! I hope you will enjoy this newsletter and I encourage you to provide us with your feedback. Bookmark our webpage and check back frequently! Our department is a truly special place and we are in the process of making it even more impressive.

Thomas Baum, Professor and Chair
Greg Tylka was named a Fellow of the Society of Nematologists at their 2016 annual meeting held in Montreal, Canada from July 17th-21st. Tylka has been at Iowa State University since 1990, where he has had a research and extension program focused on the biology and management of the soybean cyst nematode. The award was presented to Tylka (pictured, right) by Patricia Timper (pictured, left), president of SON and co-winner, with Tylka, of the Best Student Paper award at the 1988 SON meeting.

Forrest Nutter was awarded the 2016 Excellence in Teaching award at the annual American Phytopathological Society meeting held in Tampa, Florida from July 30th to August 3rd. Nutter has been at Iowa State University since 1990, where he has had a research and teaching program centered on plant epidemiology. A detailed background of Nutter's accomplishments can be found here. Nutter (pictured, center) received the award from Timothy Murray (President, APS, pictured left) and Sally Miller (Immediate Past President, APS, pictured right).

Mark Gleason presented a 2-week-long mini-course on research ethics to graduate students and faculty at the Faculty of Agriculture, University of Belgrade, Serbia, from May 9th-20th, 2016. The attendees discussed research ethics issues in a curriculum based on a one-credit, semester long ISU course. This mini-course, along with another course on professional speaking skills during November 2015, was funded by a Fulbright Specialist grant and the U.S. Embassy in Belgrade. The Faculty of Agriculture at University of Belgrade is currently considering adding a course in research ethics to its graduate curriculum.

Jared Jensen, PhD candidate in Gregory Tylka’s lab, was awarded the Dow Student Travel Award to attend this year’s meeting of the Society of Nematologists in Montreal, Canada. Jensen (right) presented research on the soybean cyst nematode at the meeting.

Gwyn Beattie delivered one of the keynote addresses at the Stewards of the Future Conference “Microbiome: Unseen Opportunities for Agriculture and Health”, which was hosted by North Carolina State University in October. Her talk was titled “Phytobiomes: A Whole-system Approach to Advancing Plant Agriculture”.

Gwyn Beattie was also a co-organizer and speaker at the Keystone Symposium “Phytobiomes: From Microbes to Plant Ecosystems”, a meeting with >120 participants from many countries that was held in Santa Fe, NM in November.

After many years of working as a postdoc, Assistant Scientist II, and Associate Scientist with Gwyn Beattie, Dr. Chiliang Chen moved in September to a position as a Soil Microbiologist on the Biorational Rhizosphere Research Team at Valent BioSciences Corporation in Long Grove, Illinois. He gave a talk on his recent work “Soybean-associated bacterial and fungal microbiota: effects of drought and crop diversification” at SOY2016 Molecular and Cellular Biology of the Soybean 16th Biennial Conference in August. He can be contacted at his new position at Chiliang.Chen@valentbiosciences.com.
Gary Munkvold was elected to serve as councilor-at-large (CAL) for the American Phytopathological Society (APS) for the 2016-2017 term. The Councilor-at-Large serves as a liaison between APS members and the leadership council. Information on the job description for the CAL can be found here, and Munkvold’s vision statement for the CAL position can be found here.

Steven Whitham was elected a Fellow of the American Association for the Advancement of Science (AAAS) for "distinguished contributions to the field of plant pathology, namely for plant-microbial interactions in soybean and corn and for the isolation of the N resistance gene".

Reflection on Iowa State Safety Symposium
Tom Maier, Augustine Beeman, and Elizabeth Carino

On October 12th, we attended an ISU symposium for research safety at the Gateway Hotel to represent our department and then share what we learned. The objective of the symposium was to foster a dialogue and promote a culture of safety at the university. Attendees included graduate students, postdocs, P&S staff, EH&S staff, faculty, and administration.

The symposium included a number of speakers, including several from other universities. Johnathan Wickert, the senior vice president and provost at ISU, began the day talking about the university’s desire to start implementing a culture of safety. This culture would emphasize communication, transparency, and diligence, ideally with help from safety “evangelists” to spread the word to colleagues. Wickert noted that implementing a safety culture is challenging at universities due to the high turnover of many laboratory workers (grad students, postdocs).

Mark McLellam, professor at Utah State University, gave a talk about some recent high-profile lab accident cases, one of which resulted in criminal charges brought against a PI. McLellam discussed how farm work is a very dangerous activity that is often overlooked when people think about safety. To combat this, McLellam suggests starting activities and meetings with a brief discussion about safety. Robert Emery, from University of Texas, gave a presentation on balancing time, costs, and risks and how it relates to ethics, and noting that every safety decision is an ethical one. Emery also noted that there is no “magic pill” towards increased safety awareness. It takes a lot of effort and trial and error from all parties to see what works best.

We enjoyed the symposium and found it very thought provoking. It was great to see people from a diversity of academic background discuss how they tackle similar problems. We hope that the department can have a brown bag or seminar focused on safety in the near future. Additionally, we are working with Jared Jensen, Zirakparvar fellow in charge of the PLPM website, to include safety resources and more information on the symposium we attended on the webpage.

Mark Gleason was among 25 attendees at the National Forum on Climate and Pests, held at the National Academy of Sciences building in Washington, DC, from October 4-6, 2016. The NFC&P, funded by a grant to the Northeast IPM Center, brought together a diverse range of disciplines to discuss issues and current research specifically related to impacts of climate change on risks associated with arthropod pests and diseases of agricultural crops and forests. Attendees included plant pathologists, entomologists, forest ecologists, climate modelers, aerobiologists, regional IPM administrators, and representatives from NSF and USDA-NIFA. An additional 100 people attended the Forum via an online link.

Kaitlyn Bissonnette joined the Tylka lab in July 2016 as a postdoctoral research associate, where she will be involved with soybean cyst nematode extension efforts. Bissonnette received her M.S. from University of Idaho and Ph.D. from University of Illinois, where she studied Fusarium head blight management techniques.
Churrasco meets halal – a cross-cultural cookout
On Sunday evening, November 13, 2016, a group of 25 PLPM graduate students, faculty, undergraduates, and families, plus visiting graduate students, gathered for a cookout at the Gleason home in Ames. The theme was “churrasco meets halal.” Visiting PhD candidates Fernando Hinnah and Gustavo Beruski, from University of São Paulo in Piracicaba, Brazil, built an authentic, wood-fired Brazilian barbecue pit out of scrap limestone, and recreated the churrasco experience using various beef cuts and chicken pieces. A conventional Iowa charcoal grill at the other end of the yard was used to cook halal beef and chicken that came from Stanhope Locker via Pammel Grocery. Also featured were a dozen pot-luck dishes that spanned the global gamut from curried beef to jello cake. Halal aficionados included 4 PhD candidates from Pakistan - Mohsin Raza (PhD candidate in PLPM) plus Raees Ahmed, Nasir Mehmood, and Fahim Abbas, all from PMAS Arid Agriculture University in Rawalpindi, Pakistan – as well as PLPM PhD candidate Hafizi Rosli from Malaysia and his family. A good time was had by all, and there was plenty of meat to go around.

PLPM grad organization hosts second annual 5k
On October 22nd, the PLPM graduate organization hosted a second annual 5k run/walk at Brookside Park in Ames. The faculty and the graduate students competed against one another, with the faculty beating the students for the second year in a row.

Grad Organization hosts PLPM retreat
The PLPM department’s graduate student organization, led by Chelsea Harbach (President), Lauren Washington (Vice President), and Chase Mayers (Treasurer), hosted a departmental retreat on September 9th at the Story County Conservation Center. The featured speaker was Dr. Jacquelyn Jackson (right), a PLPM alumna and research assistant professor at Tuskegee University. Jackson gave a talk on campus earlier in the day. The retreat featured a cookout and trivia.

PLPM Apple-Pumpkin Bakeoff
The PLPM department held its annual Apple-Pumpkin bakeoff on October 31st. Almost two dozen different dishes were served and voted on. The winning dishes can be found here.
This was a molecular pathogen detection year in the Plant & Insect Diagnostic Clinic! Our plant disease diagnosticians Lina Rodriguez Salamanca and Ed Zaworski both succeeded in implementing and offering to our client’s DNA-based diagnostic techniques for plant pathogens. Lina implemented a PCR test for *Ceratocystis fagacearum* (the pathogen that causes oak wilt), and Ed used PCR to confirm a new disease of corn – bacterial leaf streak caused by *Xanthomonas vasicola* pv. *vasculorum*. The Plant & Insect Diagnostic Clinic (PIDC) processed samples for regulatory officials as part of a bacterial leaf streak survey in Iowa for the occurrence of this disease, and we were designated the Regional PCR Testing Laboratory for this disease for the North central region within the National Plant Diagnostic Network (NPDN, [www.npdn.org](http://www.npdn.org)).

From January to December 2016, the PIDC clinic received 1420 samples and of those 936 were plant problems and 432 were soil samples for nematode counts.


A mission of the PIDC is to promote accurate diagnostics as part of an integrated pest management program, to fulfill this mission we work with a wide range of commercial producers, professional and citizen groups. We speak and/or offer workshops at the Iowa fruit and growers association (IFVGA) annual meeting, Shade Tree Short Course, Crop Scout School, Integrated Crop Management conference, Turfgrass field day, greenhouse vegetable production workshop, Tomato Production workshop, redefining Prison Environments program, Amish field day, master woodland manager. Next year the clinic will be in charge of the Morel Mushroom Identification workshop for certification.

The PIDC had booths at (IFVGA) annual meeting, Fruit and Vegetable Field Day, Pollinator fest and Iowa Public Radio (IPR)-Hort day 30th anniversary, where our clients had the opportunity to meet face to face and ask questions. We also work with citizens through programs like Master Gardener.

PIDC staff co-instructed the class PLP 590, Extension Experience offered during the summer semester. PIDC staff gave guest lectures on IPM, insect and disease management for the Horticulture department classes HORT 471 and HORT 376 (Vegetable production and management and Field production of horticultural crops respectively).

To learn more about common disease and insect problems in Iowa, please visit the Hort & Home Pest News ([http://www.ipm.iastate.edu/ipm/hortnews/](http://www.ipm.iastate.edu/ipm/hortnews/)) and if you would like more information about the PIDC, please visit our website (clinic.ipm.iastate.edu) or follow us on Facebook ([https://www.facebook.com/ISUPIDC](https://www.facebook.com/ISUPIDC)).
Graduate Student Updates

Update on the Plant Pathology Graduate Organization

Chelsea Harbach, Graduate Student Organization President

Hard to believe we are nearing the end of yet another year and with it ends my year serving as the PLP GSO president. It has been a fun year to say the least! We started by continuing the recently established tradition of venturing to CampusTown during lunchtime once a month with fellow graduate students for CampusTown Dissemination. Then we celebrated the end of the 2015-2016 school year and beginning of the summer with a Summer Kick-Off Breakfast! I am pleased with the turnout for these events; however, my favorite events of the year did not come until later.

The PLPM Retreat this year was held on September 9. Our retreat speaker was Dr. Jacquelyn Jackson of Tuskegee University, one of Dr. Miller’s former graduate students. We tried a different format for the retreat this year where Dr. Jackson gave her presentation during the day and then we had fun and games along with the food being the center of the retreat in the evening. Unfortunately we were cursed for the second year in a row with rain on the day of the retreat so we were unable to partake in outdoor games or canoe races. Fortunately, Chase (GSO Treasurer) and I had the motivation to put together fun indoor games including ISU Plant Pathology BINGO and Trivia! Chase went above and beyond and made plant pathology trophies for winners of bingo and trivia! BINGO winners included Dr. Jackson and Dr. Harrington and the trivia team winners were the Mountain Lions. Great job everyone! I hope you had as much fun as we did!

The other really fun activity we facilitated this year also served as our fundraiser and took the place of the Dam-to-Dam faculty versus students challenge—we organized a 5K/1K run/walk/bike! This event was on October 21 and we had absolutely gorgeous weather that day. Along with the event, participants received “I see dead plants” t-shirts designed by Chase and myself. These t-shirts were also sold to anyone else who wanted them and couldn’t or didn’t want to attend. I may be biased, but I think the t-shirts were pretty awesome. The 5K/1K was also quite fun, although I am sad to report that for the second year in a row the faculty defeated the students... I guess we had better get training for next year students!

I’ve had a fun time serving as the PLP GSO president but am looking forward to relinquishing my duties to the next president (TBD). Thank you all for your input and participation. This job wouldn’t be any fun without your contributions. Thanks and have a happy new year!

Diversity Resources for Graduate Students

Prepared by: Hayley Nelson

Every ISU college has a Multicultural Liaison Officer (MLO). Your MLO in the College of Ag & Life Sciences (CALS) provides support to international, domestic, & undocumented multicultural students, as well as LGBT, veteran, and non-traditional students. Your MLO connects these students with academic and pre-professional opportunities, and she is one person you can report to if you witness or experience non-inclusive behavior on campus. Elizabeth Martínez-Podolsky is your CALS MLO. Elizabeth’s office is in 0020 Curtiss Hall, and she can be reached by email (emart@iastate.edu) or phone (515-294-1701).

Consider this: 71% of multicultural students identified as wanting more networking opportunities with faculty in the College of Agriculture and Life Sciences (2014-2015 College MLO Assessment)

Here are some diversity-related conferences and groups at Iowa State University:

- Iowa State Conference on Race and Ethnicity (free!) - March 3, 2017
- ISU SACNAS (Students for the Advancement of Hispanic/Chicano and Native American Scientists)
- ISU MANRRS (Minorities in Agriculture, Natural Resources and Related Sciences)
- CALS Diversity Committee
An alumnus of Allen Miller’s lab, S.P. Dinesh-Kumar (Ph.D. MCDB, 1993) was named Interim Chair of the Plant Biology Department at the University of California-Davis on July 1, 2016.

In addition, Professor Dinesh-Kumar was awarded the UC-Davis College of Biological Sciences 2015-2016 Faculty Research Award for his publication: Caplan JL, Kumar AS, Park E, Padmanabhan MS, Hoban K, Modla S, Czymmek K, Dinesh-Kumar SP (2015) Chloroplast Stromules Function during Innate Immunity Developmental Cell 34:45-57.

This pioneering work in plant pathology "demonstrates stromules aid in the transportation of messages to the cell’s nucleus during plant immune responses. Stromules are microscopic pockets filled with thick fluid. Although this fluid (stroma) is usually located within the chloroplasts, during immune responses it is packed into a fibrous pocket known as a stromule and sent into the cytosol and nucleus of the cell."

What was your PhD project at ISU and who was your adviser?

My PhD project focused on Erwinia tracheiphila, the causal agent of cucurbit bacterial wilt. My work included looking at the use of row covers as an alternative for disease management (the disease is spread by cucumber beetles) and studying the ecology and genetics of the pathogen. My adviser was Mark L. Gleason.

What did you do immediately after leaving ISU? Is it what you expected?

I stuck around ISU after finishing my degree. While getting my PhD, I worked at the Plant and Insect Diagnostic Clinic, and I stayed for about a year after graduation. Immediately after leaving ISU, I drove for two straight days from IA to Massachusetts (with two cats…) and I started working at the UMass Cranberry Station two days later. Not taking a longer break in between jobs was pretty stupid.

And of course things were not like I expected! I don’t intend this to sound tragic or negative. Some things were better than what I had expected and others were complete surprises, stuff you can’t really plan for. Before coming to MA, I had been warned about people being rude and aggressive, but unless we talk about driving in MA; my experience has been quite the opposite. People talk loudly and can have a very direct and straightforward personality, but if you can get over that you’ll find that they can be warm, kind and very funny. I started a job not knowing the first thing about cranberries, but my colleagues and especially cranberry growers, were very patient and welcoming since day one. An unexpected surprise was how dramatic a nor’easter (a huge storm) can be and how much snow can fall overnight. I thought I’d seen it all in IA, but I was wrong.

What and where is your current position?

I call myself a cranberry pathologist, but my official title is Extension Assistant Professor. I’ve been working at the UMass Cranberry Station for two and a half years. The Station is about 2.5 hours away from the UMass main campus, in the Southeastern part of the state, near Cape Cod. We’re here because Cranberries are the #1 food crop in MA and most are grown in this area. It’s not a bad place to live if you can tolerate the winters and you like clam chowdah.
Alumni Updates (continued)

Ashley West, MS
Response to Alumni Questionnaire

What was your MS project at ISU and who was your adviser?
My master’s project was "Ecological specialization of Tubakia iowensis, and searching for variation in resistance to bur oak blight." My major professor was Dr. Tom Harrington.

What did you do immediately after leaving ISU? Is it what you expected?
After completing my master's thesis, I obtained a substitute teachers license and taught in the Ames School District. Over this past summer, I was a contract employee with the Plant Health team at Monsanto. I am not sure what I expected right after graduate school. I am still searching for the combination of teaching and studying mycology.

What is a typical day like for you?
While I was working on the Plant Health team, I maintained fungal and bacterial cultures, assisted with inoculations, rated diseases, and took plant health notes throughout the season.

Any advice for current graduate students?
My advice for job hunting is do not be afraid to ask for help when looking for careers, attend career fairs, and build your network. Persistence and networking are the keys to finding a job.

What are you favorite memories of ISU?
My favorite memory from graduate school is the summer I spent working in the Plant and Insect Diagnostic Clinic with Dr. Laura Jesse and Melissa Irizarry. I enjoyed working with a very diverse range of plant and fungal issues and educating clients.

Any advice for graduate students or postdocs?
Yes. Take any opportunity you have to learn/do something outside your project, even the stuff that you won't necessarily include in your CV. I mean extension, teaching, leadership opportunities, etc. You never know when they'll come handy. Also, unless you plan to work in a lab all by yourself, try to improve your people and leadership skills. I didn't know how important these were until I started this job. Finally, go to seminars. You have no idea how much you'll miss them if you end up in a research station or small department with few pathologists.

Emeritus Professor Highlight
Abraham (Abe) Epstein at 90 is an emeritus professor in the PLPM department who was department chair of the department of Plant Pathology, Seed, and Weed Sciences (a predecessor to the current Department of Plant Pathology and Microbiology) for a number of years. Epstein grew up on a farm in Connecticut and worked as a plant pathologist in California and Wisconsin before heading to Iowa State. He received his PhD from Iowa State in 1969 before becoming a faculty member. He was president of the APS North Central Division in 1983 and was made a Fellow of the AAAS in 1987. Epstein is currently very active. Epstein can be contacted via email at abrahamhepstein@gmail.com or mail (6620 17th Ave. Court West, Bradenton, FL 34209).
Selected Publications from Summer and Fall 2016


Beeman, A.Q., Harbach, C.J., Marett, C.C., and Tylka, G.L. 2016. Soybean cyst nematode HG type test results differ among multiple samples from the same field but the management implications are the same. Plant Health Prog. 17:160-162.


Please consider making a gift to the Plant Pathology Development Fund. Your gift allows us to provide lecture series, academic excellence awards, travel stipends, small research grants and professional development opportunities to faculty and students.

To make a gift online, go to www.foundation.iastate.edu/ag. Fill out your name and email address at the top of the page and scroll to the bottom of the page to give to the Plant Pathology Development Fund. If you wish to give through the mail, please mail your check to: Iowa State University Foundation, PO Box 868, Ames, IA 50010-0868. Please note fund #0111622 in the memo line on your check or include a note with your donation to ensure that your donation is properly designated.

Thank you for your support. If you have any questions, please contact the ISU Foundation at 515-294-4607 or 866-419-6768.

Visit the ISU PLPM Website!

Use this QR code or go to www.plantpath.iastate.edu