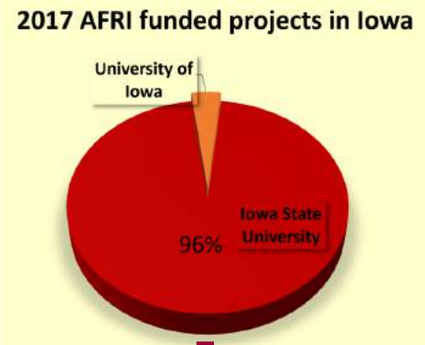
Micro-Phytopathology Series
July Newsletter 2017 Edition
Department of Plant Pathology & Microbiology

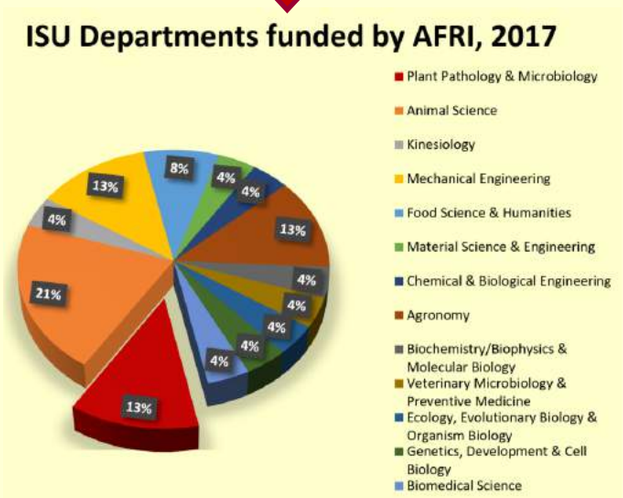
Department News

Congratulations to Leandro, Halverson, and Beattie's lab for obtaining NIFA-AFRI grant!




L. Leandro L. Halverson G. Beattie M. Liebman





Professors Leonor Leandro, Larry Halverson, Gwyn Beattie, and Matt Liebman received a new grant from NIFA-AFRI- foundational Knowledge of Agricultural Production Systems on April 1, 2017. The Agriculture and Food Research Initiative (AFRI) is America's flagship competitive grants program that provides funding for fundamental and applied research, education, and extension projects in the food and agricultural sciences. Each year, thousands of applications are submitted to AFRI programs and only ~15% are funded where about 1% are plant health and production related. The grant proposal written by the Leandro, Halverson, Beattie, and Liebman's lab with the title "*Unraveling the mechanisms underlying beneficial impacts of diversified cropping systems on pest management, soil health and plant productivity*" was awarded $500,000 to be spent over a 3-year period (2017-2020). The long-term goal of this project is to generate a comprehensive, systems-level understanding of how specific agricultural practices can yield environmentally and economically sustainable agricultural benefits.

We would like to congratulate Leonor Leandro, Larry Halverson, Gwyn Beattie, and Matt Liebman for receiving this grant. We look forward to hearing more about the shifts in microbial communities associated with disease suppression and overall crop health as well as hearing about crop productivity enhancement and learning about new ways to increase crop resilience to disease.

Congratulations to Nancy Boury for her multiple grants!

N. Boury

Professor Nancy Boury received a 3-year (2017-2020) grant of $182,812 from NSF Division of Undergraduate Education program (DUE). DUE's programs are intended to strengthen STEM education at two- and four-year colleges and universities by improving curricula, instruction, laboratories, infrastructure, assessment, diversity of students and faculty, and collaborations. Dr. Boury's project "*Tools for Assessment in Genetics*" will develop educational assessment tools needed to accurately measure student understanding of key concepts in genetics. One of the main goals of this project is to improve how biological sciences are learned and taught in college to meet the nation's need for more and better educated graduates in the biological sciences.

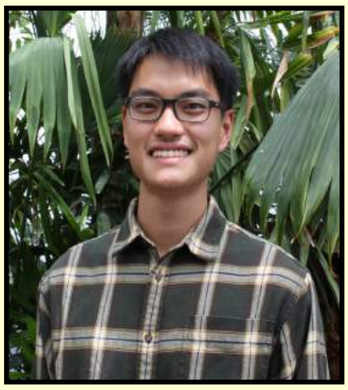
In addition to her NSF award, Dr. Boury received a $12,725 Miller Faculty Fellowship Grant for the 2017-2018 Academic year. Every year, the Center for Excellence in Learning and Teaching (CELT) offers funding through competitive grants programs such as Miller Faculty Fellowship Program. The Miller Fellowships provide faculty with the opportunity to enhance their scholarly work in the undergraduate academic programs at Iowa State University and develop innovative approaches to enhance student Learning. Dr. Boury fellowship grant with the title *"Save us" Online general microbiology students as post-apocalyptic plague survivors*, was designed to teach students the basics of microbial structure and function, microbial genetics, antibiotic resistance, virulence and infection, the immune response and public health using a game-based teaching method where students work through solving complex problems and develop a cure for a fictional civilization-ending plague.

We would like to congratulate Dr. Nancy Boury for her multiple grants and we look forward on hearing more about her innovative ideas and approaches to enhance student leaning.

Welcoming the News members of our family

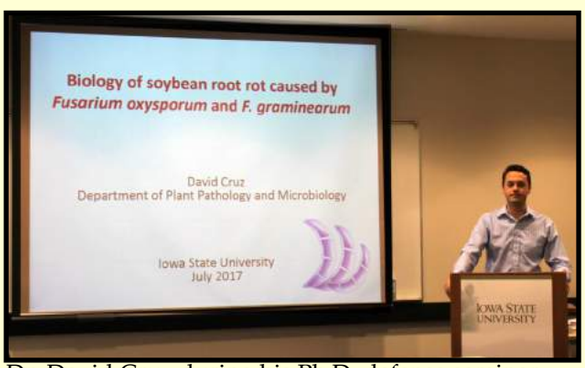
Elizabeth L. Wlezien
Advisor: Gregory Tylka
Major: Plant Pathology & Microbiology
Education: BSc. Biochemistry, Iowa State University
Research Interest: Nematodes and seed treatments

Sagnik Banerjee
Advisor: Roger Wise
Major: Bioinformatics & Computational Biology
Education: ME. Computer Science and Engineering, Jadavpur University, Kolkata
Research Interest: creating computer models to capture protein-protein interaction



Joshua Budi
Advisors: Leonor Leandro &Matt Liebman
Major: Interdepartmental sustainable agriculture
Education: BSc. Biology, Calvin College, MI
Research Interest: crop physiology

Recent Graduates



Dr. David Cruz during his Ph.D. defense seminar

David Cruz successfully completed his Ph.D. in Plant Pathology with a minor in Sustainable Agriculture under the guidance of professors: Gary Munkvold, Leonor Leandro, and Daniel Nordman. The title of David's seminar presented on Friday, July 7, 2017 was "*Biology of Fusarium oxysporum and Fusarium graminearum and its interaction with biotic and abiotic factors in Iowa*." During this presentation, David emphasized on the effects of pH levels, temperature, soil composition, and pathogenicity observed in a diverse population of soybean cultivars in the presence of *Fusarium oxysporum* and *Fusarium graminerarum*.

We Wish Dr. Cruz good luck on the next steps of his career.

Alumni Updates

PLPM Alumnus gets a new position at USDA-ARS, South Carolina


William Rutter, Will's wife and twins

Willian Rutter, a former graduate student at Baum's lab has recently moved to Charleston, South Carolina to start in his new position as a Research Pathologist for USDA-ARS. Rutter's current research focus involves the identification, characterization, and release of root-knot nematode resistant vegetable lines which can be useful for stakeholders in the south east. When asked about how his experience in the Plant Pathology & Microbiology department has helped him in his career, Dr. Rutter responded: "I'm enjoying my current position very much, and I can say without reservation that I would not have this position without the guidance and support I received from the faculty, postdocs, and students I worked with at ISU."

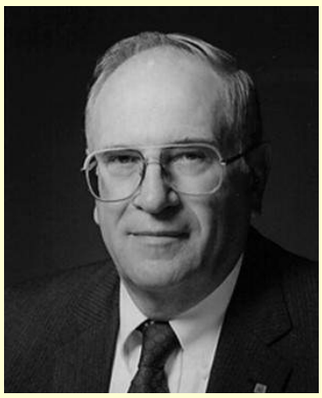
PLPM Alumnus gets a new position at Syngenta Seed Care, Minnesota

Augie Beeman graduated with his PhD from the department in May 2017. His research, conducted in the Tylka lab, focused on developing methods to study plant-parasitic nematode chemotaxis and determining the effect of seed treatments on the soybean cyst nematode biology. Upon graduation, Augie took a position with Syngenta Seed Care in Stanton, Minnesota, as a Seedcare Technology Lead.

We would like to wish the best of luck in his new position and we look forward on hearing more about his future research.


Augie Beeman

In Memoriam

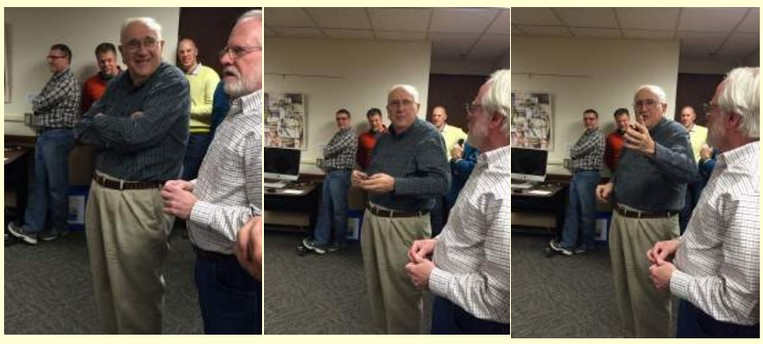


Dr. Charlie Martinson

Dr. Charlie A. Martinson, 82, passed away Thursday, July 13, 2017, at Israel Family Hospice House in Ames, Iowa. Dr. Martinson earned his Doctor of Philosophy in Plant Pathology from Oregon State University. He served on the faculty at Cornell University, Ithaca New York, prior to joining the Plant Pathology faculty at Iowa State University. He also served in the Army and Army Reserves.

In his time with Iowa State University, Dr. Martinson received many distinguished honors, including being named a Fellow of the American Association for the Advancement of Science. He is a past president and Fellow of the Iowa Academy of Science. He also is a past president and received the Award of Merit of the North Central Division of the American Phytopathological Society. Dr. Martinson consulted and taught nationally and internationally on corn pathology issues, including visiting Costa Rica, Hungary, Czechoslovakia, Peru, Antigua, Zambia, and other countries. Dr. Martinson retired as an Associate Professor from Iowa State after 33 years of service and having the privilege of supporting 40 graduate students.

We are saddened by Dr. Martinson death, but his legacy will continue to live in the heart of his loved ones and all the students he mentored over the years.



Dr. Martinson at John Hill's Retirement Party

Dr. Jim Behm

We were saddened to hear of the recent passing of a PLPM alumnus Jim Behm. Jim died at home in Findlay, Ohio, on July 15, 2017. His wife of 43 years, Kathy; two daughters, Anna and Lisa; son-in-law, Michel; and granddaughter, Marie, mourn his passing.

Jim served in the Navy during the Vietnam War and upon discharge pursued a career in agriculture. He worked for DeKalb Seeds in Beeman, Iowa, before he came to Iowa State University for graduate studies. He earned an MS in plant pathology in 1994 and his PhD in plant pathology in 1997. His research for both degrees was on management of the soybean cyst nematode and the interactions of the nematode with brown stem rot disease.

After earning his PhD degree, Jim and family relocated to Findlay, Ohio, in 1997 where he led a soybean breeding and research station for Monsanto. He made a significant contribution to the development of disease-resistant and disease-tolerant soybeans during his employment in the seed industry.

Jim enjoyed travelling, sailing on Lake Erie, and body surfing, relaxing on the beach, and deep-sea fishing with his family in Florida. He will be remembered by his family and friends for many things including his patience, kindness, rich sense of humor, and deep appreciation of music.

Upcoming Events

August 5-9, 2017 2017 APS Annual Meeting: Changing Landscapes of Plant Pathology, San Antonio, TX
Registration Deadline: currently open, fees increase after July 6, 2017

August 16, 2017 9:00a.m.- 4:00p.m. Crop Disease Clinic Workshop, 1928 240th Street, Boone, Iowa
Registration Deadline: midnight, Wednesday, August 9, 2017. $125 Registration fee

August 17, 2017 8:30a.m. - 4:30p.m. SCN and Soybean Aphid Resistance Management Workshop, Boone, IA
Registration Deadline: midnight, Wednesday, August 9, 2017. $125 Registration fee

August 21, 2017 Fall Semester begins

August 21, 2017 11:00a.m.– 3:00p.m. Solar Eclipse Viewing Party, Reiman Gardens, Ames, IA

August 25, 2017 4:30p.m.– 8:30p.m. PLPM Annual Retreat: Story County Conservation Center, McFarland Park, IA
Please Sign-up for the potluck

September 4, 2017 Labor Day

Recent Publications

Abbas, M.F., Aziz-ud-Din, A., Rafique, K., Qadir, A., Rashid, A., Qamar, M.I., Rafique, M., and **Gleason**, M.L. 2017. First report of Alternaria black spot of rose caused by *Alternaria alternata* in Pakistan. *Plant Disease*: http://apsjournals.apsnet.org/doi/abs/10.1094/PDIS-04-17-0578-PDN.

Alam, M.W., **Gleason**, M.L., Amin, M., and Rehman, A. 2017. First report of *Nigrospora sphaerica* causing leaf spot of Kinnow mandarin in Pakistan. *Journal of Plant Pathology* 107:295.

Alam, M.W., **Gleason**, M.L., Mehboob, S., Riaz, K., and Rahman, A. 2017. First report of *Ceratocystis fimbriata* causing pomegranate wilt in Pakistan. *Plant Disease* 101:251.

Alam, M.W., Rehman, A., Iqbal., M., Saira, M., Aslam, S., Muhammad, S., Hameed, A., and **Gleason**, M.L. 2017. First report of *Ceratocystis fimbriata* causing Eucalyptus wilt in Pakistan. *Plant Disease*: Doi.org/10.1094/PDIS-12-16-1703-PDN.

Alam, M.W., **Gleason**, M.L., Ali, S., Fiaz, M., and Rehman, A. 2017. First report of *Botrytis cinerea* as a postharvest pathogen of strawberry in Pakistan. *Journal of Plant Pathology* 107:297.

Alam, M.W., **Gleason**, M.L., Fiaz, M., Ali, S., and Rehman, A. 2017. First report of *Alternaria alternata* causing postharvest fruit rot of lychee in Pakistan. *Plant Disease*: doi.org/10.1094/PDIS-10-16-1452-PDN.

Abbas, M.F., Naz, F., Rauf, C.A., Mehmood, N., Zhang, X., Rosli, H., and **Gleason**, M.L. 2017. First report of *Fusarium solani* causing fruit rot of loquat (*Eriobotrya japonica*) in Pakistan. *Plant Disease*: http://apsjournals.apsnet.org/doi/abs/10.1094/PDIS-10-16-1544-PDN?journalCode=pdis.

Chen, J., Dewdney, M.M., and **Gleason**, M.L. 2017. Citrus killer: battling back against HLB. *Plant Health Instructor*: http://www.apsnet.org/edcenter/instcomm/TeachingArticles/Citruskiller/Pages/default.aspx

McCarville, M.C., Marett, C.C., Mullaney, M.P., Gebhart, G.D., and **Tylka**, G.L. 2017. Increase in soybean cyst nematode virulence and reproduction on resistant soybean varieties in Iowa from 2001 to 2015 and its effects on soybean yields. Plant Health Progress 146-155. http://dx.doi.org/10.1094/PHP-RS-16-0062

Rosli, H., and **Gleason**, M.L. 2017. Sooty blotch and flyspeck: fungal smudges and customer preferences. *Plant Health Instructor*: http://www.apsnet.org/edcenter/instcomm/TeachingArticles/Sootyblotch/Pages/default.aspx

Rosli, H., Mayfield, D.A., Batzer, J.C., Dixon, P., Zhang, W., and **Gleason**, M.L. 2017. Evaluating the performance of a relative humidity-based warning system for sooty blotch and flyspeck in Iowa. *Plant Disease*: http://apsjournals.apsnet.org/doi/pdf/10.1094/PDIS-02-17-0294-RE

Tylka, G.L., and Marett, C.C. 2017. Known distribution of the soybean cyst nematode, *Heterodera glycines*, in the United States and Canada - 1954 to 2017. Plant Health Progress 18:167-168. http://dx.doi.org/10.1094/PHP-05-17-0031-BR

Upcoming Publications

Aune-JE, Lundy-Evans-L, **Boury-N** to JMBE (Journal of Microbiology and Biology Education). Building and testing a communication class that teaches the nature of science to novice writers.