

## Department of Plant Pathology and Crop Physiology

January 2020



*Lawrence E. Datnoff*

### From the Department Head

Happy 2020!

Our Department continued to excel on so many academic and professional levels in 2019. Before I recount these activities, however, I wanted to let you know that two faculty retired, **Drs. Edward McGawley** and **Charles Overstreet**. Fortunately, AgCenter administration allowed us to refill a combined position (60% research, 30% extension and 10% teaching), and **Dr. Tristan Watson** accepted this position and will start on March 1, 2020. Sadly, we lost a giant of a human being and researcher, **Dr. Raymond W. Schneider**, who passed away in October.

As last year, faculty and students published a number of refereed manuscripts and extension articles; gave many presentations locally, regionally, nationally and

*(continued on page 2)*

### In Memory of Raymond W. Schneider

Raymond W. Schneider died October 9, 2019, at age 72 after a courageous four-year battle with cancer. Ray was born in Brooklyn, New York. He obtained his Bachelor of Science in Biology/Chemistry at the University of Alabama (1969) and his Master of Science (1971) and Ph.D. (1973) from the University of Illinois. He held a Ford Foundation Research Fellowship at the International Institute for Tropical Agriculture in Ibadan, Nigeria, (1972) and a postdoctorate at the University of California, Davis (1973-1976). He was on the faculty at the University of California, Berkeley from 1976 to 1984 and then in the Department of Plant Pathology and Crop Physiology at Louisiana State University from 1984 to 2016.



*Ray Schneider*

Ray's career contributions to plant pathology were exemplary. He conducted fundamental research on applied problems with the ultimate goals of explaining plant disease occurrences and discovering solutions for what had previously been recalcitrant disease situations. These mission-oriented research projects led to significant advances in our understanding of pathogen genetics, disease suppression and diseases of complex etiology that resulted in new strategies and tactics for cultural, chemical and biological control of plant diseases. He thought broadly, and this made him a thoughtful and innovative researcher. Depending on where his interests took him, he might arrange to productively collaborate with a chemist, an engineer or a mycologist in order to take the project in whatever direction it needed to go. He determined that disease suppression could result from both microbial and nutritional mechanisms. The research elucidating the mechanisms involved in disease suppression by minor elements could lead to entirely new approaches to managing troublesome diseases, such as *Cercospora* leaf blight in soybean. His attentive nature resulted in him

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# Happy 2020!

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internationally; and competed for grants to support their research and outreach. They also won prestigious recognition for their efforts that include the following: the National Sweet Potato Research Impact Award (**Chris Clark**), invited APS plenary speaker (**Boyd Padgett**), APS recognition with the "A Day in the Life of Extension" online series (**Raj Singh**), Soybean Disease Worker's second place in student oral presentation, (**Myra Purvis**), APS student travel award (**Izabel Costa de Novaes** and **Nike Omolehin**), LACA Scholarship and Cal Agri Products Student Support Award (**Ateet Maharjan**), Southern Region SARE grant and Weston J. Martin Fellowship Award (**Waana Kaluwasha**). Our M.S. and Ph.D. graduate students were highly engaged, and their efforts and outstanding contributions continue to infuse the department with vitality and enthusiasm while helping to answer basic scientific questions and solving plant disease problems of importance to the clientele of Louisiana.

In this current newsletter, you'll see for yourself these wonderful activities and achievements, which are having profound effects on the university and AgCenter's missions, Louisiana agriculture and beyond.

Happy Reading!

## Help Us to Ensure Excellence in Plant Pathology and Crop Physiology

While the Department receives monetary support for core research/extension programs (LSU AgCenter) and its teaching program (LSU College of Agriculture), these funds are not sufficient to provide the resources to move our programs to the next level of performance. Private financial support is becoming a vital resource to enhance existing programs and begin new initiatives. Please consider contributing to help support our programs.

You may help to support the Plant Pathology and Crop Physiology Department by donating to one of the below listed funds:

#106098 - The Max and Leah Cohn Invited Lecture Endowment Fund

#100250 - Plant Pathology and Crop Physiology Excellence Fund

#100246 - Dr. C. W. Edgerton Memorial Fund

#100247 - Dr. Weston J. Martin Fellowship Fund

#105458 - M. C. "Chuck" Rush Plant Pathology Teaching Laboratory Fund

#104814 - Don Ferrin Teaching Student Fund

Donations can be made by accessing the LSU Foundation site at [www.lsufoundation.org/give](http://www.lsufoundation.org/give) or by sending a personal check made out to the LSU Foundation with a letter stating which fund you would like to donate to. Address the letter to:

Department of Plant Pathology and Crop Physiology  
302 Life Sciences Building  
LSU Campus  
Baton Rouge, LA 70803

For more information contact:  
Lawrence E. Datnoff  
Professor and Department Head  
[ldatnoff@agcenter.lsu.edu](mailto:ldatnoff@agcenter.lsu.edu)  
or 225-578-1366

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# Raymond W. Schneider

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being the first to find soybean rust in North America, and he became a leader of the coordinated national research and extension effort that followed. Ray was well recognized for his professional achievements, receiving numerous honors that included the LSU AgCenter's Tipton Team Research Award (twice) and the Doyle Chambers Research Award, the ESCOP National Multistate Research Award, the Southern Soybean Disease Workers Distinguished Service Award, the American Phytopathological Society (APS) Southern Division Outstanding Plant Pathologist Award and the APS Fellow Award.

Ray worked hard but also enjoyed life. He was an adventurous sailor, sailing frequently in San Francisco Bay. He always had a boat he was working on. He would take professional visitors, students and friends out for a day of fun under calmer conditions on Lake Pontchartrain. He enjoyed a lively poker game and thought up a new game that came to be known in the longtime poker group as "higher math." Ray was consistently good natured and a prankster with a mischievous sense of humor. Once on his birthday and the anniversary of his discovery of soybean rust, he sprinkled rust spores onto the celebratory bagel and lox, declaring the event "now official." He never regarded his work as a job; rather, he was genuinely passionate about it. He also never minded stopping for a good lunch and a piece of lemon pie while traveling to field plots.

Ray was a great mentor to students. They knew him for his compassion and generosity. He and his wife regularly hosted gatherings for students in their home, giving them a feeling of home away from home. His enthusiasm was infectious during discussions about research and future plans that could carry well into the evening. He organized and led trips with the students,

including once during spring break to see diseases of vegetables in the Rio Grande Valley and another time after an APS meeting to visit other universities, research stations and tourist attractions. The trip after the Portland APS meeting became known as the "Golden Opportunity Tour." Through these various means, students were prepared for future career endeavors. He trained over 30 graduate students, and many of them are now leading professionals in academia and industry.

Most of all, Ray loved Rhea — his wife of 49 years — and his family. They have established a fund in his honor to support travel by students in the Department of Plant Pathology and Crop Physiology that will provide opportunities to network with other plant pathology faculty and students and gain exposure to the nature and diversity of agricultural industries. The funds will be used for travel by students to professional meetings, other universities and agricultural industries, as well as for special technical training.

**Gifts to this fund may be made online at:**  
[www.lsufoundation.org/give](http://www.lsufoundation.org/give).

**Note "Raymond W. Schneider Memorial" in the Gift Comments. Checks may be made payable to the "LSU Foundation," indicating "Raymond W. Schneider Memorial" in the memo line, and mailed to:**

**LSU Foundation, 3796 Nicholson Drive, Baton Rouge, LA 70802.**



*Graduate students traveling with Dr. Raymond Schneider on the "Golden Opportunity Tour."*

# PPCP faculty and graduate student Cesar Escalante visit UNA and Zamorano in Honduras

In May 2019, three faculty (**Drs. Lawrence Datnoff, Vinson Doyle and Jonathan Richards**) and graduate student **Cesar Escalante** were invited speakers at the First International Congress of Plant Physiology, Mineral Nutrition and Plant Protection hosted by the National University of Agriculture (UNA) in Honduras. During the congress, they had the opportunity to interact with faculty members and students from UNA and universities from other countries, such as Brazil, Colombia, Chile and Peru. This was a unique opportunity to initiate possible collaborative research projects with UNA and the Honduran Institute of Coffee (IHCAFE) toward proffering solutions to the prevalent coffee rust problem in Central America. They also discussed student internships at LSU and the criteria used to select students. Datnoff, Doyle, Richards and Escalante spent three days in Catacamas, Olancho, where the UNA campus is located. During the course of the trip, they also presented information about PPCP and their research programs to third-year undergraduate agronomy students (more than 100 attended) at Zamorano University. They met with individual professors from the Department of Production and Agricultural Sciences and toured the facilities and field production areas with Dr. Carolina Avellaneda. Toward the end of their visit, they met with the Dr. Jeffrey Lansdale, president of Zamorano University, and Dr. Luis Osorio, academic dean of Zamorano, and both parties had conversations related to strengthening the already existing collaborative program between Zamorano and LSU, particularly with the PPCP department. An important part of the visit to Zamorano University was the opportunity to provide students information about plant pathology-related problems in Louisiana as well as possible future internships in the department.



*From left to right: Doyle, Richards, Escalante and Datnoff at the First International Congress of Plant Physiology, Mineral Nutrition and Plant Protection, hosted by UNA in Catacamas, Olancho, Honduras.*



*From left to right: Luis Osorio (Zamorano Academic Dean), Carolina Avellaneda (PPCP alumna and Zamorano faculty), Cesar Escalante, Lawrence Datnoff, Jeffrey Lansdale (president of Zamorano), Jonathan Richards and Vinson Doyle.*

## PPCP 2019 Graduates, Dissertation/Thesis Titles and Advisers

### Ph.D. degrees

#### **Dongfang Hu**

Understanding host-fungus interactions between soybean and *Phakopsora pachyrhizi* to enhance soybean resistance to rust disease.

*Advised by Dr. Zhiyuan Chen.*

#### **Tiago Lelis**

Characterization of the integrated signaling network of *Burkholderia glumae* for the regulation of virulence-related function in the bacterial pathogenesis of rice plants.

*Advised by Dr. Jong H. Ham.*

#### **Yenjit Raruang**

Transgenic control of aflatoxin contamination in maize through host-induced gene silencing targeting *Aspergillus flavus* genes encoding polygalacturonase (p2c) and versicolorin dehydrogenase (afIM).

*Advised by Dr. Zhiyuan Chen.*

#### **Rebecca Sweany**

Investigations into *Aspergillus flavus* infection of corn and regulation of aflatoxin production by volatiles and biocontrol strains.

*Advised by Dr. Chris Clark.*

### M.S. degrees

#### **Jhonson Leonard**

Effects of silicon and beneficial bacteria on sheath blight of rice and the microbial community of rice rhizosphere.

*Advised by Dr. Jong H. Ham.*

#### **Ateet Maharjan**

Development of biological tools to promote rice health and growth.

*Advised by Dr. Jong H. Ham.*

#### **Myra Purvis**

Developing management strategies for taproot decline caused by *Xylaria* sp. in soybean.

*Advised by Dr. Trey Price.*

## Graduate Student Activities



### GSA holds international luncheon

On Friday, April 5, the PPCP Graduate Student Association (GSA) organized an international luncheon for students, faculty, staff and friends. All the participants enjoyed exotic foods from around the world prepared by the GSA. All students shared their diverse ethnic backgrounds through delicious dishes. The international luncheon provided a great social gathering opportunity for students, faculty and staff to discuss science and food.

# PPCP graduate students attend APS Annual Meeting, visit other research institutions

PPCP graduate students traveled to Cleveland, Ohio, to attend the APS Annual Meeting held Aug. 3 to 7. During this meeting, students had an opportunity to interact with colleagues from other institutions. The students gave poster and oral presentations sharing different aspects of their research results. In addition to the exceptional networking opportunity the APS meeting offered, the PPCP graduate students participated in the post-APS educational trip to industries and other universities. Before the APS meeting, PPCP graduate students made a stop in St. Louis, Missouri, to visit Bayer Crop Sciences. During this visit, students had the opportunity to interact with personnel from Bayer and learned about the

philosophy of working in a robust and fast-paced emerging agriculture/biotechnology industry.

After the APS meeting, on Aug. 7, the students met with different faculty members representing Ohio State University's virology (Dr. Feng Qu), bacteriology/phytobiomes (Dr. Soledad Benitez), nematology (Dr. Chris Taylor) and epidemiology (Dr. Larry Madden) programs. On Aug. 8, Dr. Francesca Rotondo, representing Dr. Sally Miller's vegetable pathology lab, and Rachel Kaufman took the students around the lab, the greenhouses and the field plots of the fruit pathology lab (Dr. Melanie Ivey). In addition, Felipe Dalla Lana da Silva introduced the students to Dr. Paul Pierce's cereal crops lab and field plots. After lunch, organized by the OSU plant pathology graduate students, Dr. Fiorella Cisneros-Carter gave the LSU-PPCP students an extensive tour of the Core Facility located in the basement of the plant pathology building.

**Role of lipid droplets in self-resistance of *Cercospora cf. flagellaris* to cercosporin**  
 Maria Isabel Costa de Noves, C. L. Robertson, and S. Thomas-Sharma  
 Department of Plant Pathology & Crop Physiology, Louisiana State University Agricultural Center, Baton Rouge, LA, USA

**BACKGROUND**  
 Cercospora leaf blight (CLB) is a yield limiting disease of soybean in Louisiana and many other southern states. Although historically Cercospora kikvidze has been the causal agent, currently Cercospora flagellaris and Cercospora glaberrimae are common in Louisiana. Leaf lightening symptoms of CLB are usually observed in the production of Louisiana. Leaf lightening symptoms of CLB are usually observed in the production of Louisiana. Leaf lightening symptoms of CLB are usually observed in the production of Louisiana.

**RESULTS AND CONCLUSIONS**  
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**MATERIALS AND METHODS**  
 Fungal isolates and growth conditions: Cercospora flagellaris isolates were collected from soybean plants in Louisiana and other southern states. Growth conditions were established in a growth chamber under controlled conditions.

**EXTRACTION AND QUANTIFICATION OF TOTAL LIPID**  
 Total lipid was extracted from soybean leaves using a chloroform-methanol extraction protocol. Lipid levels were quantified using a gravimetric method.

**A diagnostic TaqMan real-time PCR assay for detection and quantification of *Colletotrichum theobromicola*, causal agent of Boxwood dieback**  
 Harleen Kaur, Vinson Doyle and Rashwinder Singh, Department of Plant Pathology and Crop Physiology, Louisiana State University Agricultural Center, Baton Rouge, LA 70803

**Abstract**  
 Boxwood dieback, caused by *Colletotrichum theobromicola*, is spreading at an alarming rate in the boxwood industry in the United States. Although *C. theobromicola* has been reported in several states, it is difficult to detect and identify from other closely related species on the basis of morphology. Moreover, molecular identification requires amplification and sequencing of DNA, which is expensive and time-consuming. However, detection and identification of *C. theobromicola* can be achieved using a real-time PCR assay. In this study, a TaqMan real-time PCR assay was developed for the detection and quantification of *C. theobromicola* in boxwood plants. The assay was validated using pure cultures and field samples. The results showed that the assay is highly sensitive and specific, and can be used for the detection and quantification of *C. theobromicola* in boxwood plants.

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**Materials & Methods**  
 DNA extraction: DNA was extracted from pure cultures and field samples using a standard protocol. The quality and quantity of DNA were determined using a spectrophotometer.

**Results**  
 The TaqMan real-time PCR assay was used to detect and quantify *C. theobromicola* in boxwood plants. The results showed that the assay is highly sensitive and specific, and can be used for the detection and quantification of *C. theobromicola* in boxwood plants.

**Genetic dissection of rice resistance to sheath blight and bacterial panicle blight using recombinant inbred lines of Jupiter and Transase**  
 John Christian Oney, Indrajit Borah, Adam Fomon, and Jang Hyun Han  
 Department of Plant Pathology and Crop Physiology, Louisiana State University Agricultural Center, Baton Rouge, LA 70803; FA, Rosemary C. Coffey Rice Research Station, Louisiana State University Agricultural Center, Rayne, LA 70778

**Introduction**  
 Sheath blight (SB) and bacterial panicle blight (BPP) are two major diseases that affect the yield of rice. The genetic architecture of resistance to these diseases is complex and has been the subject of extensive research. In this study, we used recombinant inbred lines (RILs) derived from the cross of Jupiter and Transase to dissect the genetic architecture of resistance to SB and BPP.

**Results**  
 The RIL population was screened for resistance to SB and BPP. The results showed that there is a strong correlation between resistance to SB and BPP. Several quantitative trait loci (QTLs) were identified that control resistance to these diseases.

**Methodology**  
 The RIL population was developed by repeated selfing of the F2 population. The plants were grown under field conditions and screened for resistance to SB and BPP.

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Graduate students presenting research posters at the annual meeting of the American Phytopathological Society, Cleveland, Ohio.

The students learned about the molecular and cellular imaging center, sequencing facilities and the section for bioinformatics. Finally, the PPCP students met with Dr. David Francis, representing the Plant Breeding Department of the OSU Wooster campus. Dr. Francis presented different aspects of his research related to both plant pathology and food science and showcased some of the diseases of the Ohio fields for which breeding efforts were being conducted.

The LSU-PPCP graduate students then traveled to Lafayette, Indiana, and toured the Department of Botany and Plant Pathology and the Department of Agronomy at Purdue University on Aug. 9. During the tour, PPCP students engaged with Purdue faculty and students and toured some of the facilities. The PPCP students toured the Department of Botany and Plant Pathology and met with Drs. Guri Johal, Catherine Aime and Guohong Cai. Students also toured the Arthur Fungarium and the Krebel Herbarium, of which Dr. Catherine Aime is currently the director. Dr. Guohong Cai gave students a tour of his laboratory. The second part of the tour took place in various facilities of the Department of Agronomy, which included the off-campus state-of-the-art research station, phenomics facility, greenhouses and a biosafety level 3 laboratory. LSU-PPCP students also observed ongoing *Striga* research by members from the labs of Drs. Mohammadi, Tuinstra and Ejeta. Dr. Mohsen Mohammadi is an assistant professor of wheat breeding and quantitative genetics, Dr. Stephen Tuinstra is a professor of plant breeding and genetics, and Dr. Gebisa Ejeta is a distinguished professor of sorghum breeding and genetics and the 2009 World Food Prize laureate. Overall, this educational trip was a wonderful networking and horizon-broadening opportunity for the PPCP graduate students.



*PPCP graduate students visiting Purdue University's Indiana Corn and Soybean Innovation Center.*



*Current and former graduate students and faculty at the American Phytopathological Society's University Alumni Networking Event, Cleveland, Ohio.*



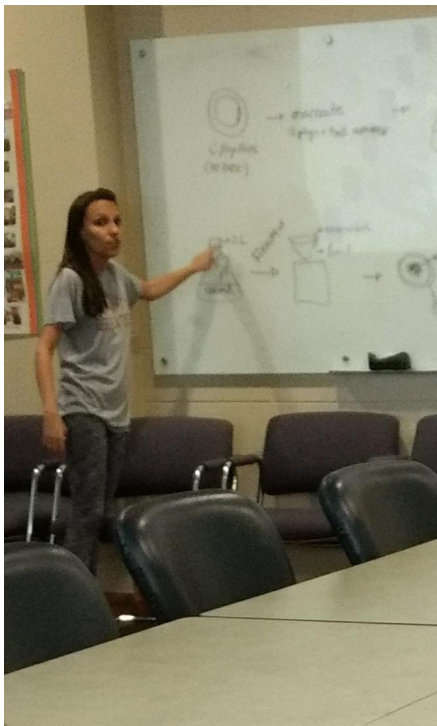
*PPCP graduate students visiting Bayer.*



## PPCP Graduate Student Association Summer Technique Sharing Session

The technique sharing session is an initiative of graduate students in PPCP, and the 2019 session marked the sixth edition. These annual sharing sessions are organized by the GSA Journal Club and Training Committee. This year they were led by Marija Zivanovic. Graduate students across laboratories in the department came together to share some of the commonly used techniques and protocols specific to individuals' research work. This exercise has become a great opportunity to exchange knowledge and encourages student to expose themselves to other labs and other techniques that may otherwise be difficult for them to learn. This serves as another example of building communication among students while at the same time discussing scientific methods across a variety of subjects.

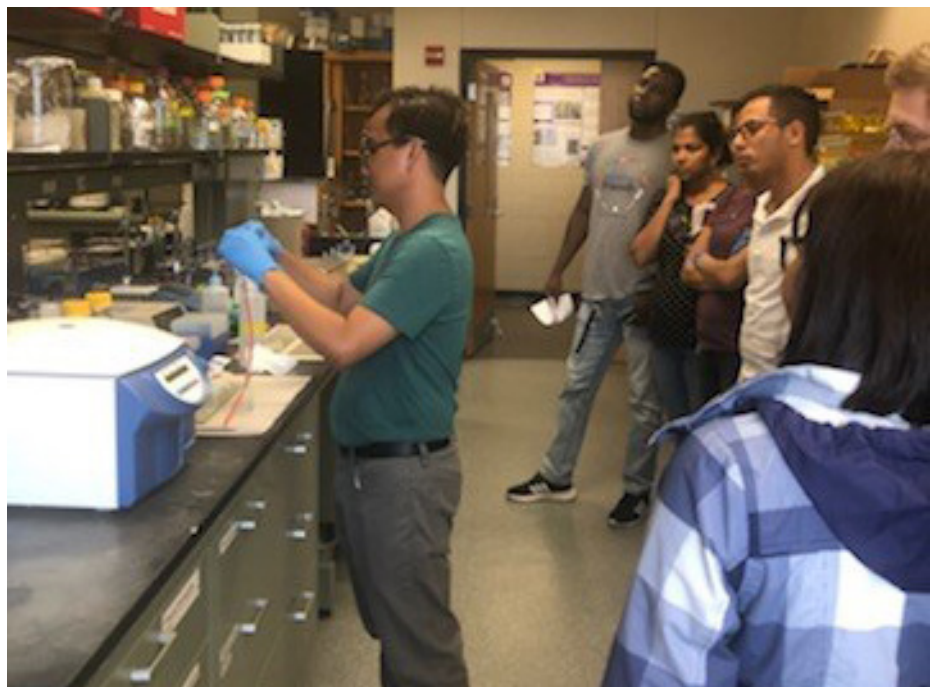
Name	Date	Demonstration Title
Cesar Escalante	6/20/19	Extraction of large viral dsRNA from plants and fungi
Teddy Garcia-Aroca	6/27/19	Phylogenetics 101: Methods to perform phylogenetic analyses from raw data to phylogenetic trees
M. Izabel Costa De Novaes	7/15/19	Total lipid extraction and cercosporin extraction from <i>Cercospora cf. flagellaris</i>
John Ontoy	7/22/19	Rapid DNA extraction and polymorphic survey using PAGE



Izabel Costa de Novaes talking about total lipid and cercosporin extraction.



Cesar Escalante demonstrating large dsRNA extraction.



John Ontoy demonstrating rapid DNA extraction.



*Dr. Everlyne Wosula (center) explaining her research to a freelance journalist.*

## Wosula's research is helping to protect cassava from whiteflies

Talented young female scientists, the pride of IITA-CGIAR, are making a mark in East Africa. **Dr. Everlyne Wosula** is one of them. She is working to unravel the complexity of whiteflies attacking cassava and spreading viruses in Africa. She has developed a new KASP diagnostic tool to help identify different whitefly biotypes. To date, six distinct populations were discovered. She recently was promoted to associate scientist, having completed three years as a post-doc at IITA. Dr. Wosula graduated with her Ph.D. in 2012 under the direction of **Dr. Chris Clark**.



## Ward hired by ISK Biosciences

**Dr. Brian Ward** was recently hired by ISK Biosciences. His primary job responsibility is to develop and implement fungicide programs in the U.S. and Canada as well as provide technical services for fungicide use in North and South America. He also represents the company at professional and industry meetings. Ward started his position in August 2019. Ward obtained his Ph.D. in 2017 under the supervision of **Dr. Raymond Schneider**.



## Annual Spring Departmental Crawfish Boil

Coming soon in May 2020  
Stay tuned!!!!

## Graduate Student Awards and Honors



### Purvis takes second place at the SSDW student oral competition

**Myra Purvis** won second place in the graduate student oral presentation competition at the 46th Southern Soybean Disease Workers (SSDW) meeting held at Pensacola Beach, Florida, March 6-7. The title of her presentation was "Soybean variety response to *Xylaria* sp., causal agent of taproot decline." Her research provides practical taproot decline management options for soybean producers in the southern United States. Myra conducted her M.S. research under the direction of **Dr. Trey Price**.



### Maharjan wins LACA Scholarship and PPCP Cal Agri Products Student Support Award

The Louisiana Agricultural Consultants Association (LACA) awarded **Ateet Maharjan** a \$2,000 scholarship from Ray and Dorothy Young plus a certificate of excellence at its annual meeting in Marksville in 2019. Ateet was recognized for his academic achievements and performance in agriculture studies. Ateet also received the Cal Agri Products LLC Graduate and Undergraduate Student Support Fund. Selection for this award was based on academic standing (GPA) and significance of research. Ateet conducted his Master of Science thesis research under the direction of **Dr. Jong Ham**.



### Garcia-Aroca receives Ray and Dorothy Young Assistantship

**Teddy Garcia-Aroca** was the recipient of the 2019 Ray and Dorothy Young Endowed Assistantship in Louisiana Row Crop Integrated Pest Management. This endowed assistantship was established to honor Ray and Dorothy Young for their professional contributions and service to agricultural industries for more than 40 years as agricultural consultants. Garcia is pursuing his Ph.D. degree and is advised by **Drs. Trey Price** and **Vinson Doyle**. He is studying taproot decline of soybean, an important and emerging disease of soybean in Louisiana and other southern states.



### Kaluwasha receives Southern Region SARE grant and the Weston J. Martin Fellowship Award

**Waana Kaluwasha** received funding for her proposal titled "Biological control and re-curing of sweetpotato roots as alternatives for managing *Rhizopus* soft rot" from the Southern Region Sustainable Agriculture Research and Education (SARE) Administrative Council. SARE's mission is to advance innovations that improve profitability, stewardship and quality of life by investing in groundbreaking research and education in agriculture. Her proposal was one of 22 selected out of 88 proposals submitted to the program this year.

She also was a recipient of the Weston J. Martin Fellowship Award. The Martin Family created this fellowship to honor Martin by financially assisting graduate students studying in the department. In the late 1940s and early 1950s, Dr. Weston J. Martin advanced the understanding of a number of sweet potato diseases and contributed to the development of several disease-resistant sweet potato cultivars. Waana is a Ph.D. student advised by **Dr. Chris Clark**.



### Raruang wins prestigious C. W. Edgerton Award

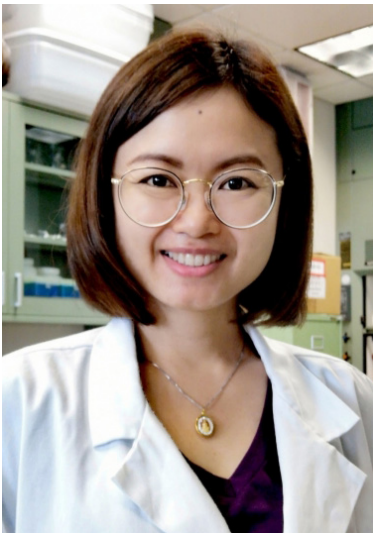
**Yenjit Raruang**, Ph.D. candidate, recently won the C. W. Edgerton Award. This award was established in 1965 by two of Dr. Edgerton's sisters to award outstanding performances by Plant Pathology and Crop Physiology students. Yen was nominated by her adviser, **Dr. Zhi-yuan Chen**, for her outstanding academic and professional achievements.

## Visiting Student Scholars and Postdocs



### Farias completes a portion of his Ph.D. dissertation in Jong Ham's lab.

**Roberto Farias** completed an 11-month research program (November 2018 to October 2019) in **Dr. Jong Ham's** laboratory for a portion of his Ph.D. dissertation. Farias is a Ph.D. student of Dr. Marco Gama of the Department of Plant Pathology at the Federal Rural University of Pernambuco, Brazil. His research was supported by the Brazilian CAPES Doctorate Sandwich Program. During his visit, Mr. Farias analyzed the whole genome sequence of *Xanthomonas campestris* pv. *viticola*, the causal agent of bacterial canker in grapevines, focusing on the candidate genes for quorum-sensing and protein secretion systems, particularly type II and type III, due to their predicted importance in bacterial pathogenesis. Mr. Farias also investigated the virulence functions of those candidate genes through targeted mutation of individual genes and subsequent virulence tests of the mutants in grapevines.



### Jungkhun completes a portion of her Ph.D. research in Jong Ham's lab

**Nootjarin Jungkhun** completed a one-year research (December 2018 to 2019) program in **Dr. Jong Ham's** laboratory for a portion of her Ph.D. dissertation. Ms. Jungkhun is a Ph.D. student from Kasetsart University, and her research was supported by the Thailand Agricultural Research Development Agency. Jungkhun's research topic was identification of phages as a potential biological agent to manage bacterial panicle blight of rice. In this research project, she identified three phages that kill certain strains of *Burkholderia glumae*, the major causal agent of bacterial panicle blight, and investigated the efficacy of these phages in suppression of disease development in rice plants. Further, Ms. Jungkhun obtained TEM images and the whole genome sequence information of the three phages.



### Hawerth completes training in Chen's lab

**Caroline Hawerth**, a Ph.D. graduate student in the Department of Plant Pathology at the Universidade Federal de Viçosa, under the guidance of Dr. Fabrício de Ávila Rodrigues, spent six months (November 2018 to May 2019) as a visiting scientist in **Dr. Zhi-yuan Chen's** laboratory. During this time, she worked on her Ph.D. project titled "Physiological and Biochemical Aspects of Rice Resistance to *Bipolaris oryzae* Infection Modulated by Nickel." While at LSU, Caroline learned several new techniques in molecular biology that included DNA extractions from plant tissues and from bacterial cultures, designing primers and performing PCR and real time PCR reactions for detecting and quantifying gene expression. She also learned to produce double stranded RNA for possible disease control applications and to quantify aflatoxins using high-performance liquid chromatography (HPLC) technique. These techniques will complement her training in plant pathology and contribute to her success in completing her Ph.D. project.

## Shrestha joins Price's research group

**Dr. Bishnu Shrestha** recently joined **Dr. Trey Price's** research group as a postdoctorate. Dr. Shrestha is a former PPCP student, and he graduated with his Ph.D. under the direction of Dr. Jong Ham in December 2014. Dr. Shrestha will be working on the multistate project titled "Enhanced Pest Control for Mid-South Soybean Production," which is primarily focusing on identifying sources of resistance to *Cercospora* leaf blight of soybeans. He will characterize the genetic variation in the pathogen's population, identify QTLs via associated mapping, define fungicide resistance and collaborate with PPCP faculty on other research projects.



## International visiting scholars receive advanced training in plant health diagnostics

**Kensy Rodríguez Herrera** and **Hector Mendoza**, international visiting scholars from National Agriculture University and Zamorano University, in Honduras, respectively, completed a four-month internship in advanced plant diagnostic methods and techniques. The internship prepares the students with skills to identify plant health problems caused by various abiotic and biotic causes of ornamentals and turf, vegetables, fruits and nuts, field crops and other specialty crops.

They learned and practiced techniques used to diagnose problems caused by the major groups of plant pathogens, including fungi, bacteria and viruses, and performed specialized tests using conventional and modern molecular methods. Other diagnostic techniques learned included visual observation of symptomology, microscopy, cultural morphology of plant pathogens, isolation of plant pathogens, enzyme-linked immunosorbent assay, tissue blot immunoassay, DNA and RNA extraction and quantification, polymerase chain reaction, real-time PCR, reverse transcriptase PCR, restriction enzyme digestions and gene sequence analysis.

Interns isolated fungal and bacterial organisms using a wide variety of cultural methods, including direct plating of foliage or root tissue, water baiting methods, serial dilutions and use of selective growth media. They learned how to make single spore/colony cultures critical to accurately identify plant pathogens using molecular techniques. Training also was provided on how to store fungal and bacterial isolates for future research purposes.

The students gained hands-on experience with high-impact plant diseases, including citrus canker, citrus greening, lethal yellowing and bronzing of palms. Students participated and worked on samples that originated from cooperative pest surveys conducted by the Louisiana Department of Agriculture and Forestry. They visited growers in the state and gained firsthand experience of their problems in the field. They obtained soil samples for nematode and soil nutrient analyses during these visits, too.

"This internship has been one of the best experiences I have had.

Before I came to **Dr. Raj Singh's** lab, I was sure that I would learn many things and I was not wrong. I learned about important plant pathogens and pests and new techniques to diagnose them. I really enjoyed this time because I had a great learning experience. I had the opportunity to apply all these techniques for the first time and improved on using them over my internship. I was happy to be part of the LSU AgCenter Plant Diagnostic Center," said Kensy.



*Kensy Rodríguez Herrera*



*Hector Mendoza*

## Invited Seminar Speakers



### GS-invited speaker Dr. Linda Kinkel from the University of Minnesota gives seminar

Every spring, students of the the PPCP-GSA invite a top scientist in the fields of plant pathology, crop physiology or plant breeding to come to LSU for a research seminar. **Dr. Linda Kinkel**, professor, Department of Plant Pathology, University Minnesota was invited to give a seminar titled: "Managing the microbiome: competition, coevolution, and pathogen suppression" on Feb. 27. Students and faculty enjoyed Kinkel's visit, and students also were able to ask her a range of questions that covered topics from her experiences as a student and professor to advice she might have to offer students at certain stages of their career and research. During her three-day visit, Dr. Kinkel enjoyed the weather and the seafood from Louisiana and discussed ongoing research with faculty and students, exchanging ideas and discussing possible collaborations. In her thank you letter she said: "The schedule that you arranged was really fun, and I enjoyed the opportunity to talk with the small groups of students throughout the day. You have a great group of students! It was fun to learn more about the program. I know that it is a lot of work to host a visitor, and I thank you for your hospitality. I am presently in Vienna, but the weather was MUCH nicer in Louisiana." Students were very proud of Dr. Kinkel's appreciation letter and expect to receive more renowned scientists in our department in years to come.

### PPCP Alumni Seminar Speakers

**Dr. Ashok Chanda**, assistant professor and extension specialist, Department of Plant Pathology and Northwest Research and Outreach Center, University of Minnesota presented a seminar on March 27 titled "Finding Better Ways to Beat the Beet Root Rot." Dr. Chanda graduated with his Ph.D. in 2012 under the direction of Drs. Zhi-yuan Chen and Raymond Schneider. His dissertation title was "Molecular approaches to detect and control *Cercospora kikuchii* in soybean."

**Dr. Rebecca Melanson**, assistant extension professor, Central Mississippi Research and Extension Center, Mississippi State University, presented a seminar on Oct. 16 titled "Is Extension in Your Future? Reflections From an Early Career Extension Plant Pathologist." Dr. Melanson graduated with her Ph.D. in 2014 under the direction of Dr. Jong Ham. Her dissertation title was "Characterization of a novel negative regulator of toxoflavin production, ntpR, in the plant pathogen *Burkholderia glumae* that cause bacterial panicle blight of rice."

During their visit, they had the opportunity to tour the department and meet with faculty members and students, including their former major professors and committee members. The graduate students met with both professors for lunch to discuss professional development and networking opportunities in plant pathology.



Dr. Ashok Chanda

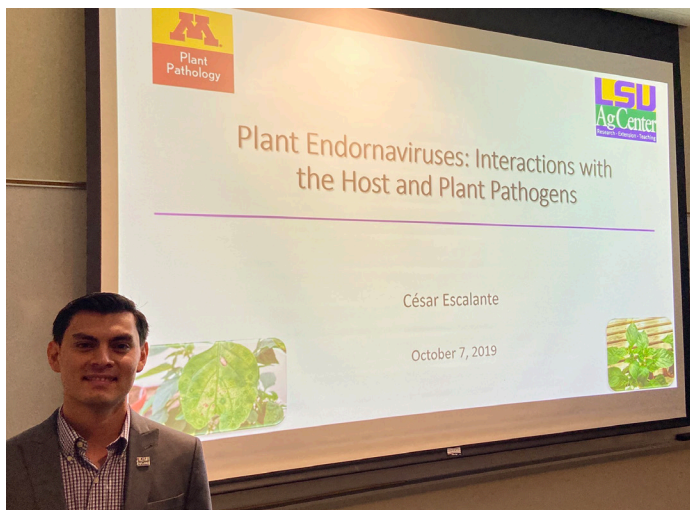


Dr. Rebecca Melanson

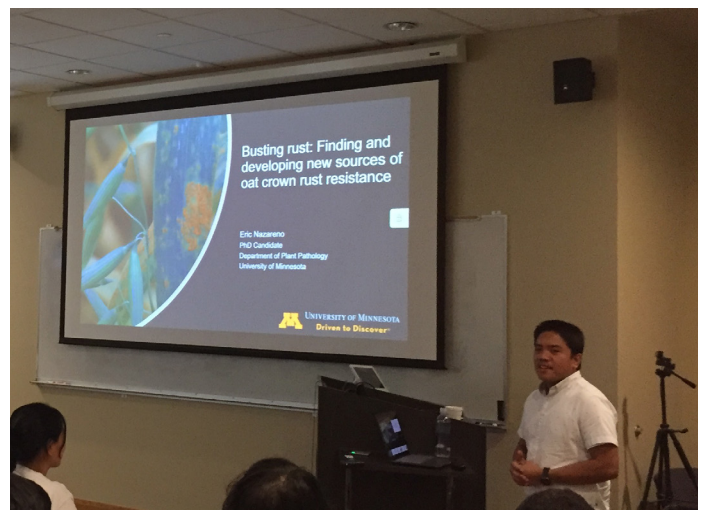
## Graduate Student Seminar Exchange Program

A graduate student seminar exchange program was established between PPCP and the Department of Plant Pathology, University of Minnesota (UM). The idea behind this program is to promote student exchanges and enhance networking and professional development opportunities. **Eric Nazareno** was the UM student speaker on Oct. 2, and the title of his presentation was "Mapping for crown rust resistance genes and finding genes involved in crown rust

virulence." He is a Ph.D. candidate, and his major professor is **Dr. Shahryar Kianian**. Eric also met with many students and faculty members to learn about their research programs. From PPCP, **Cesar Escalante**, a Ph.D. candidate under the direction of **Dr. Rodrigo Valverde**, visited the Department of Plant Pathology at UM. He presented a seminar on Oct. 7 titled "Plant endornaviruses: interactions with the host and plant pathogens." During his visit, Cesar had the opportunity to tour the UM Plant Pathology Department facilities and meet with several faculty and students.



Cesar Escalante



Eric Nazareno

## Faculty Retirements



### Overstreet retires

After 40 years at LSU, I decided it was time for me to retire. I started back in December of 1978 as an extension assistant to operate the Nematode Advisory Service. I had just graduated from North Carolina State University with my master's degree and had been working there as a

research technician with Dr. Don Schmidt, who was a soybean nematologist. Once I arrived at LSU, I quickly transitioned from just running the Nematode Advisory Service to conducting surveys, demonstration plots and meetings relating to nematode problems in our state. I was encouraged to begin working part time on my Ph.D. immediately after arriving at LSU. There was a change in the policy by the extension director at that time to have all extension specialists at this level. Although I initially started my Ph.D. program with Dr. Clark, once Dr. Edward McGawley was hired as the state nematologist, I switched over to work with him. My project was an interesting study on the interaction of the red-crown rot fungus *Calonectria crotalariae* and soybean cyst nematode impacting soybean. I finished my degree in December of 1988 and immediately was promoted to associate specialist. In 2001, most of the extension specialists were placed in departments and all of the extension plant pathologists were placed in the Plant Pathology and Crop Physiology Department. In 2010, I transitioned from a 100% extension role to a 75% extension and 25% research appointment. This allowed me the opportunity to have graduate students for the first time. I was very fortunate to have a number of excellent students, including Deborah Xavier-Mis, Manjula Kularathna, Churamani Khanal and Felipe Godoy. Of all the things that I did during my career, working with these graduate students was by far the most rewarding. I also had a number of great research associates during the latter part of my career, including Maurice Wolcott, Melea Martin, Deborah Xavier-Mis, Leahy Tapley and Dr. Josie Rezende. These people were really a tremendous help in conducting my research and extension programs.

One of the great things about my career was the number of different people that I met and worked with over time. I encountered thousands of producers, home gardeners, chemical company representatives, agents, consultants, students and fellow scientists. Knowing that I have helped a great number of

people over time with understanding some aspects of nematology and making wise management decisions is a great feeling. I did receive a number of awards during my career, including the DSA with the National Association of County Agricultural Agents, Tipton Team Research Award, Bayer CropScience Award with the Organization of Nematologists of Tropical America (ONTA), Floyd S. Edminston Award, and the DSA for Southern Region and International Service Award for the Southern Region with National Epsilon Sigma Phi association. I did serve as the chairman of the ONTA Foundation for many years and served on numerous committees of various organizations.

I also really enjoyed the opportunities that my career provided me through different meetings and scientific organizations for traveling around the United States and to 21 additional countries. The exposure to different cultures, languages and traditions really was a great education in itself. I particularly enjoyed being able to bring my graduate students with me and giving them the opportunity to compete in student competitions (successfully a number of times). I have also really enjoyed my time in the department and working with my colleagues, particularly with Dr. McGawley and his great assistance over time.

After a lifetime of giving out advice on how to grow plants, now it's time for me to concentrate on my own garden and fruit orchard, which are hobbies that I really enjoy.

### McGawley retires

A native of New Orleans, Louisiana, Dr. Edward Caleb McGawley earned the Bachelor of Science in botany from Southeastern Louisiana University in 1973. He then entered graduate school in plant pathology at the University of Kentucky, completing the requirements for the Ph.D. in 1978 under Dr. Richard A. Chapman with the Dissertation "Population Development of Concomitant *Criconeoides simile*, *Helicotylenchus pseudorobustus*, and *Paratylenchus projectus* on Soybean." In 1979, McGawley joined the Plant Pathology Department at LSU as assistant professor of nematology, followed by a long and highly productive career in teaching, research, grantsmanship and administration.

McGawley's published papers report findings on at least 14 nematode species and almost as many crop plants as well as their interactions with major fungal and insect pathogens plus research on the *Pasteuria* bacterium infecting the reniform nematode, experimental nematicides and nematode molecular diagnostics. McGawley's research thus addressed diverse components of nematode biology, interactivity and management, often with important economic impacts. Not surprisingly, his research was supported by over 20 separate government and industry sponsors at the state and federal levels and provided in excess of \$750,000.



McGawley has trained numerous nematology students and served as major professor for 12 Ph.D. and 8 M.S. students and as graduate committee member or research co-director for 18 additional students. Many students have also benefited from courses he developed and taught at LSU for 40 years in nematology, introductory plant pathology, integrated pest management, invertebrate zoology and honors biology. Throughout his career, McGawley also gave guest lectures in a variety of biology classes at LSU and his nearby alma mater SLU.

McGawley's teaching success is augmented by unique, powerful teaching tools, including minutely detailed large-format nematode morphology and taxonomy posters and nine video/DVD recordings that he developed and made available by mail or by cost-free internet download, such as his "Introduction to Nematodes" production, downloaded over 5,000 times in seven languages (co-authored with C. Overstreet, M. Pontif, A.S. Skantar and available at [nematode.net](http://nematode.net)). Other video productions he developed with Eisenback, Bost and others address perineal pattern preparation, soybean diseases, nematicides, root-knot/reniform competition and graduate opportunities in plant pathology at LSU.

McGawley has been honored for his teaching contributions by the distinguished Sedberry Award for the Outstanding Graduate Teacher within the LSU College of Agriculture in 2017, the SON Outstanding Teaching Award at LSU in 2013, and the LSU Outstanding LSU Graduate Teaching Award in 2001.

McGawley is an author of nine book chapters and of approximately 80 refereed papers published in *Agronomy Journal*, *Fundamental and Applied Nematology*, *Journal of Economic Entomology*, *Journal of Nematology*, *Louisiana Agriculture*, *Nematropica* and *Plant Disease*. He has given more than 65 invited lectures to industry, professional societies and public institutions in Australia, Austria, Canada, Chile, Cuba, Germany, Japan, Russia, South Africa, Spain, Turkey and the U.S. He was a recipient of a William J. Fulbright Fellowship Teaching/Research Award in 1996-97 as well as a NATO/JNICT Scholarship.

Over his career, in addition to teaching and research, McGawley met administrative demands of his institution, state government and national government. Within the LSU Plant Pathology Department, he served as chair of the Graduate Admissions Committee, chair of the Foundation Accounts Committee, acting head intermittently, and member of five other departmental committees. At the university, state and national levels he served as chair of the CW Edgerton Committee, member of the university-wide Dissertation Evaluation Committee, on the USDA Western Regional IPM Special Projects Grants Review Panel, as university delegate to the Council for Agricultural Science and Technology (CAST), and

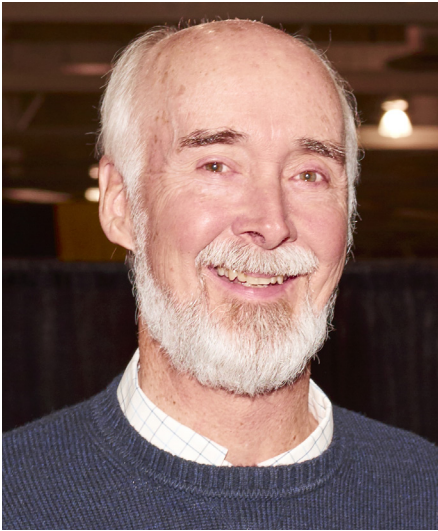


on the Louisiana Agricultural Center Strategic Plant Science Task Force.

McGawley has participated actively in the American Phytopathological Society and the European, Russian and Japanese nematology societies. The professional society outside ONTA with greatest involvement is the Society of Nematologists (SON). Within SON, McGawley served as newsletter editor, executive board member, chair of the educational committee, associate editor of the *Journal of Nematology*, delegate to the Third International Congress Organizing Committee, and member of the Honors and Awards, the Ecology, and the Biological Control committees. In 2000, he received the Outstanding Service Award for contributions to SON.

McGawley's contributions to ONTA include serving as editor-in-chief of *Nematropica*, vice president in 2017-18 and president in 2018-19. Other contributions he made to ONTA include participation and presentations at 11 ONTA conferences, and co-organizing/convening several symposia on teaching nematology with Ignacio Cid del Prado of Mexico.

McGawley received the ONTA Distinguished Service Award in 2006 to express appreciation for his excellent work as editor-in-chief of *Nematropica*. He will be further recognized at the Seventh International Congress of Nematology in Antibes, France, in 2020 by receiving the prestigious Honorary Member Award for his many contributions to the Science of Nematology and as well as to ONTA since he began his first research project with nematodes 47 years ago.



## Tipton Team Research Award for Sugarcane Varietal Development

**Dr. Jeff Hoy** was part of the team that won the prestigious LSU AgCenter's Tipton Team Research Award for Sugarcane Varietal Development. Hoy has responsibility for evaluating disease resistance in the parent population and the during variety selection process. In addition, he supervises the Sugarcane Disease Detection Lab, which is a key component of the healthy seedcane program that is essential in allowing released sugarcane varieties to realize their full yield potential. His research on the epidemiology of diseases has allowed for the release and successful cultivation of high-yielding varieties with moderate susceptibility.

## Clark receives national research award

**Chris Clark**, professor of plant pathology, a widely recognized expert on sweet potato diseases, has received the National Research Impact Award from the National Sweet Potato Collaborators Group at the group's annual meeting Feb. 2 in Birmingham, Alabama.

Clark, who has been with PPCP and the AgCenter since 1977, plays an important role in plant pathology and breeding programs. He has worked with other AgCenter scientists on developing disease-resistant sweet potato varieties, including the breakthrough Beauregard variety that was released in 1987 and was at one point grown on about 80% of U.S. sweet potato acreage.

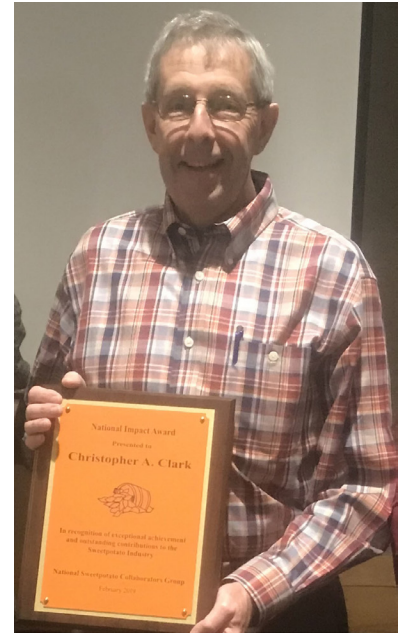
He also oversees virus testing for the AgCenter Foundation Seed Program, ensuring sweet potato farmers have access to seed that are free of diseases. Clark has written or contributed to more than 100 publications and trained many graduate students during his career.

Tara Smith, director of the AgCenter Central Region and coordinator of the Sweet Potato Research Station, nominated Clark for the award. "Varieties developed through these his research efforts are grown across the United States and around the world," Smith wrote in a nomination letter. "His work with the virus-tested foundation seed programs, virus detection and identification and the National Clean Plant Network for Sweet Potato are all major accomplishments that have contributed to the sustainability of the national sweet potato industry for over 40 years."

Smith added that Clark's knowledge and work ethic have earned him the respect of sweet potato industry professionals throughout the country and world. "Chris has qualities that embody what we all should strive to realize in our careers — genuine, honest, humble, eager and willing to help, talented, diligent, dedicated and committed to working with others," she wrote.

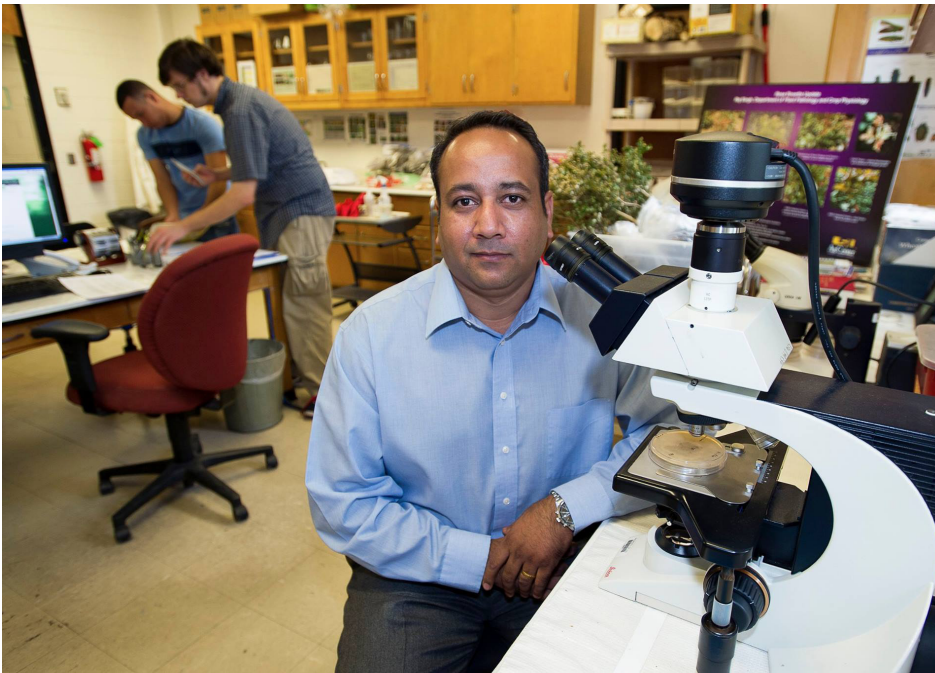
Originally published at the following site:

<https://www.lsuagcenter.com/profiles/rbogren/articles/page1549378941486>



## LSU AgCenter and PPCP hire new nematologist

**Dr. Tristan Watson** was hired as the new PPCP nematologist. He will start on March 1, 2020. Dr. Watson currently holds a postdoctorate position in which he is investigating effective integrated nematode management options for horticultural production systems at the Gulf Coast Research and Education Center, Entomology and Nematology Department, University of Florida. Dr. Watson is originally from Canada and completed his Ph.D. at the University of British Columbia in June 2018.



## A Day in the Life: Raghuwinder 'Raj' Singh

*Often, graduate students and early career professionals are interested in extension and applied research careers. They may base those interests on a past childhood experience or observance of extension professionals within their universities. Unfortunately, many of those students lack an understanding of extension, and they may hesitate to inquire whether such positions may apply to them. They observe from afar and often are reluctant to ask questions. The interview with Dr. Raj Singh below helps provide an overview of potential careers in extension. The idea behind this interview organized by the Professional Development Center of the American Phytopathological Society is to help students initiate extension career conversations with advisors, mentors, and colleagues. Originally published at the following site:*

[http://www.apsnet.org/careers/ProfessionalDevelopmentCenter/LAUNCHCAREER/Pages/RajSingh.aspx?fbclid=IwAR3ejqMUXD-seOcU0UEaajgl\\_3CMvyBBfCtUnAVmO0wp93q-eSk5AuB3PA](http://www.apsnet.org/careers/ProfessionalDevelopmentCenter/LAUNCHCAREER/Pages/RajSingh.aspx?fbclid=IwAR3ejqMUXD-seOcU0UEaajgl_3CMvyBBfCtUnAVmO0wp93q-eSk5AuB3PA)

### **Distribution of efforts: 100% extension**

Degree held, thesis/dissertation topic: Doctor of plant medicine; M.S. in crop protection, B.S. in plant protection

Current commodity assignment: Statewide plant diagnostic program for ornamentals, vegetables, fruits, agronomic crops, trees and turfgrass; trainings and educational programs for horticultural commodities.

### **Typical workload in spring:**

Workload in spring is very weather dependent. We start receiving samples as early as first week of January and, on an average, we receive 30-40 physical samples and 50-60 digital samples per month in the spring. I also provide free plant clinics at several garden shows, three to four guest lectures related to plant pathology in the department during spring and attend three to four commodity-based meetings.

### **Typical workload in summer:**

Summer is our peak period. On an average, we receive 60-80 physical samples and 50 to 60 digital samples per month during summer. This is the time when the Master Gardener training sessions are also at their peak; I

conduct 10 to 12 training sessions, each three to four hours long on plant pathology and plant diagnostics. I also participate in three to four field days. In addition, I also participate in three pesticide recertification programs in different parts of the state. Summer is also busy for home visits. I also mentor students during a 15-week internship on plant health diagnostics during the summer.

### **Typical workload in fall:**

Fall and winter is also busy for us due to longer growing seasons and mild winters. Sample load is similar to summer for both physical and digital samples per month. Fall includes Master Gardener trainings, pesticide recertification trainings, commodity-based meetings and home visits.

### **Most rewarding thing about working in extension:**

The most rewarding thing about extension is a feeling of satisfaction. I like to solve problems for our growers, and it gives me a feeling of satisfaction when I am able to help them. Sometimes I will get a thank you note or a message that puts a smile on my face and encourages me to do more. Pathogens and pests do not take time off or go on vacation, and growers need current information about these pesky pests more than ever. I believe that extension is the only efficient way of delivering timely information to the growers.

### **Challenges with extension work:**

Longer hours and lack of funding and specialists.

### **What early career professionals need to know:**

Extension is not an 8 to 5 job. It requires longer hours and weekends to help your clientele. Starters need to be very patient and good listeners. They need to understand why some clients are restless when they have issues with their livelihood. They trust you, and it becomes critically important for an extension specialist to provide practical up-to-date

information to solve the problem. Do not leave your growers in the middle of an issue, and always follow up on the issue. Do not pretend that an extension specialist knows about everything on the earth.

**Put into context the way extension is evaluated at your institution:**

LSU AgCenter has a very intensive protocol for promotion and tenure. It takes about a year to complete the whole process from application to when you are promoted. The promotion and tenure (P & T) package is reviewed by the department P & T committee, and then by the faculty before it goes out to external reviewers. Then it is reviewed by the faculty again and forwarded to human resources. Extension

specialists require peer reviewed publications, extension publications, other subject matter and competitive grant funding.

**Advice to graduate students and early career professionals who want to pursue a career in extension:**

Careers in extension come with great responsibilities and the rewards are endless. You do not have to sit in your lab all day and work on one pathogen for years. In extension, every day is a new day, and it comes with surprises. You never get bored, and you get the results most of the time. Most importantly, you get to meet and make new friends every day.



Boyd Padgett

## Padgett invited as an APS plenary speaker at Plant Health 2019

**Boyd Padgett**, professor of plant pathology, was invited as a plenary speaker at the American Phytopathological Society (APS) annual meeting (Plant Health 2019) held in Cleveland, Ohio, Aug. 3-7. The theme for this year's meeting focused on "Sow, Know and Grow" to celebrate the breadth of the work plant pathologists do, from applied field work to fundamental and exploratory research. His presentation was titled "In the Field: Boots on the ground." Being in the field provides plant pathologists a platform to monitor disease epidemics, monitor for and document pathogen resistance to fungicides, provide timely recommendations for management and identify new diseases. This important information gathered in the field can be used to justify and develop research projects to address emerging disease problems, as well as validate new management practices.

## Padgett wins extension excellence award

**Boyd Padgett**, an extension plant pathologist who also serves as the state soybean and wheat specialist, received the LSU AgCenter's Extension Excellence Award. Padgett plays a key role in assessing crop damage caused by disease outbreaks. He evaluates fungicide trials for treating major plants diseases, such as Cercospora leaf blight in soybeans and scab in wheat, and screening soybean and wheat germplasm and developing varieties for disease resistance. He is also involved with developing plant disease guides published by the AgCenter and has received more than \$3 million in grants to support his research.

# PPCP Faculty Activities January - December 2019

## Zhi-Yuan Chen

### Invited oral presentations

"Transgenic approach to reduce aflatoxin contamination in maize." Harbin Normal University, Heilongjiang Province, China. Oct. 18, 2019. The Institute of Microbiology, Heilongjiang Academy of Science, P. R., China. Oct. 21, 2019.

"Manage soybean fungal diseases through biotechnology." The Provincial Microbiological Society Annual Meeting, P. R., China. Oct. 19, 2019.

"Transgenic Control of Aflatoxin Contamination in Corn through Host-Induced Gene Silencing." AMCOE funded project at the 2019 Commodity Classic meeting in Orlando, Florida. Feb. 26, 2019.

"Screening method for selecting *Cercospora* cf. *flagellaris* target genes for silencing via dsRNA application" (Zivanovic, M. and Chen, Z. -Y.). American Phytopathological Society Annual Meeting, Cleveland, Ohio. July 30-Aug 3, 2019.

### Poster presentations

"The role of Avr4 effector in *Cercospora* cf. *flagellaris* virulence, cercosporin biosynthesis, and infection of soybeans" (Santos Rezende, J., Zivanovic, M., Costa de Novaes, M. I., Chen, Z. -Y.). The XVIII International Congress on Molecular Plant-Microbe Interactions, Glasgow, Scotland. July 14-18, 2019.

"Reduction of *Phakopsora pachyrhizi* infection of soybean through host and spray induced gene silencing" (Hu, D., Chen, Z. -Y., Zhang, C., Ganiger, M.). The XVIII International Congress on Molecular Plant-Microbe Interactions, Glasgow, Scotland. July 14-18, 2019.

"Host-induced gene silencing of *Aspergillus flavus* P2c gene reduced aflatoxin contamination in field grown maize" (Raruang, Y. Omolehin, O., Wei, Q., Rajasekaran, K., Cary, J., Chen, Z. -Y.), The XVIII International Congress on Molecular Plant-Microbe Interactions, July 14-18, 2019 (Glasgow, Scotland).

"A maize line carrying an O-methyl transferase HIGS construct accumulates lower aflatoxin under field conditions" (Omolehin, O., Raruang, Y., Wei, Q., Rajasekaran, K., Cary, J., Hu, D., and Chen, Z. -Y.). The American Phytopathological Society Annual Meeting, Cleveland, Ohio. July 30-Aug 3, 2019.

### Awards and Honors

Graduate student Marija Zivanovic received PPCP GSA travel award to attend APS annual meeting.

Graduate student Olankike Omolehin received the APS Foundation travel award to attend APS annual meeting.

### Committees

APS mycotoxin subcommittee member.

APS host resistance subcommittee member.

Served on Journal of Fungi Travel Award Evaluation Committee, January 2019 and evaluated 15 applications.

### Grants and Contracts

USDA-ARS cooperative agreement award (58-6054-6-015, #5). "Identification and evaluation of proteins/genes associated with aflatoxin-resistance in soybean and maize." \$25,000. 2019-2021.

AMCOE Aflatoxin Program grant. "Transgenic Control of Aflatoxin Contamination in Corn through Host Induced Gene Silencing." \$68,159. 2019-2020.

2019 Louisiana Soybean and Grain Research and Promotion Board grant. "Cercospora Leaf Blight Disease of Soybean-Screening Soybean Varieties for Differences in the Expression of Resistance Genes." \$33,055. 2019-2020.

### Visiting Scientists/Students

Sabrina Holz, visiting M.S. graduate student from the University of São Paulo, Campus Luiz de Queiroz, Brazil, November 2019-April 2020.

Caroline Hawerth, visiting Ph.D. student from Department of Phytopathology, Federal University of Vicosa, Brazil, November 2018-May 2019.

### New Collaborations

Established new collaborations with Dr. Sérgio F. Pascholati from University of Sao Paulo, and Dr. Francismar Corrêa Marcelino-Guimaraes from Embrapa, Brazil on using spray-induced gene silencing for managing soybean rust disease, and with Dr. Sumei Zhang from Institute of Microbiology, Heilongjiang Academy of Science on small RNA application for controlling *Cercospora* leaf blight of soybeans.

## Chris Clark

### Invited Presentations

"Sweetpotato: Black Rot and Guava Root-knot Nematode." Lamb Weston Growers Meeting, Poverty Point State Park, Louisiana. March 13, 2019.

### Awards and Honors

National Impact Award presented by the National Sweetpotato Collaborators Group, February, 2019.

### Committees

APS Press Senior Editor

### Grants and Contracts

"A Unified Proposal for National Clean Plant Network — Sweetpotato for 2019-20." USDA, APHIS, National Clean Plant Network. \$107,883. 2019-2020.

"Using resistance and cultural methods to manage sweetpotato diseases." Louisiana Sweet Potato Advertising and Development Commission. \$29,000. 2019-2020.

"Evaluation of the Guava Root-knot Nematode, *Meloidogyne enterolobii*, in Relation to Louisiana Sweetpotato and Other Major Crops." Louisiana Sweet Potato Advertising and Development Commission. \$5,000. 2019-2020.

### **New Graduate Students**

Waana Kaluwasha started in January 2019 on a Ph.D. working on management of Rhizopus soft rot of sweet potatoes. She is from Zambia and has a B.S. from the University of Zambia and an M.S. from the University of Missouri.

## **Lawrence E. Datnoff**

### **Invited Presentations**

"Challenges for the use of beneficial nutrients in agriculture." 26th International Symposium of the Scientific Centre for Fertilizers (CIEC), Braunschweig, Germany. Sept. 5, 2019.

"El rol de silicio en el estres biotico y abiotico." Primer Congreso Internacional de Fisiología, Nutrición y Protección Vegetal, La Universidad Nacional de Agricultura, y El Instituto Hondureño del Café, Catacamas, Olancho, Honduras. May 16, 2019

"Silicon's role in abiotic and biotic plant stress." Crops, Soil and Environmental Sciences, Auburn University. April 2, 2019.

### **Committees**

APS-SD Awards Committee, 2019-2023

## **Vinson P. Doyle**

### **Invited Presentations**

"Evolution of fungal pathogens across wild and agricultural habitats." Brazilian Congress of Phytopathology, Recife, Pernambuco, Brazil. Aug. 28, 2019.

"Understanding the diversity and dispersal of existing and emerging fungal plant pathogens." Primero Congreso Internacional de Fisiología, Nutrición, y Protección Vegetal, Universidad Nacional de Agricultura (UNAG), Honduras. May 15, 2019.

### **Committees**

Chair — PPCP Courses and Curricula Committee

Chair — College of Agriculture Courses and Curricula Committee

PPCP Graduate Admissions

PPCP Graduate Student Recruiting

College of Agriculture Undergraduate Research Grant Review Committee

### **Grants and Contracts**

"Plant-microbe relationships in extreme environments: a biogeographic survey of the alpine plant *Silene*

*acaulis*." 2018 Norwegian University of Life Sciences. (PI: Erik Aschehoug; Co-PI: Vinson P. Doyle), 75,000 NOK (\$9,800). August 2018-August 2019.

"Identifying sources of inoculum to determine effective management strategies for Cercospora leaf blight and purple seed stain." 2019 Louisiana Soybean and Grains Research and Promotion Board (LSGRPB) Funding Program. (PI: Vinson P. Doyle; Co-PI: Trey Price). \$30,800. April 2019-March 2020.

"Building the framework to develop integrated management strategies for taproot decline." 2019 Louisiana Soybean and Grains Research and Promotion Board (LSGRPB) Funding Program. (PI: Vinson P. Doyle; Co-PI: Trey Price). \$20,000. April 2019-March 2020.

"Soybean seed treatment with fungicide-loaded nanoparticles." 2019 Louisiana Soybean and Grains Research and Promotion Board (LSGRPB) Funding Program. (PI: Cristina Sabilov; Co-PI: Vinson P. Doyle, Trey Price, Jeff Davis). \$20,000. April 2019-March 2020.

### **Visiting Scientists/Students**

Ernesto da Silva, Department of Plant Pathology, Federal University of Vicosa, Brazil. January-June 2019.

### **New Graduate Students**

Jose Solorzano, May 2019

Ernesto Ticiano da Silva, August 2019

## **Jong Hyun Ham**

### **Invited Presentations**

"Genetics of Plant-(Bacterial) Pathogen Interactions" and "Infection, Symptomatology, and Virulence Mechanisms of Bacterial Plant Diseases." Special Lecture (online, two 1.5-hour lectures), Federal Rural University of Pernambuco, Recife, Brazil. Oct. 30, 2019 and Nov. 06, 2019.

"The signaling and regulatory system of the rice pathogenic bacterium *Burkholderia glumae*." 51st Brazilian Congress of Phytopathology, Recife, Brazil. Aug. 26-29, 2019.

### **Committees**

APS/APHIS Widely Prevalent Bacteria Committee (2015-present), member (invited).

### **Grants and Contracts**

Development of New Biological Agents for Seed Treatment and Biofertilization to Promote Soybean Growth, Louisiana Soybean and Feed Grains Research and Promotion Board Grant, (PI: Jong Hyun Ham, co-PI: Changyoon Jeong). \$20,000. April 1, 2019-March 31, 2020.

Characterization and Utilization of Genetic Traits for Resistance to Multiple Diseases of Rice, Louisiana Rice Research Board Grant, (PI: Jong Hyun Ham. Co-PI: Donald Groth). \$56,668. January 2019 – December 2019.

Training of Thai visiting graduate student (Trainee:

Nootjarin Jungkhun, Ph.D. candidate). Agricultural Research Development Agency of Thai Government. \$5,000. Jan. 22, 2019 – January 21, 2020.

### Visiting Scientists/Students

Youn-Je Park, Associate Professor, Dept. Food Science and Technology, Kong-ju National University, Yesan, South Korea, August 2019 – July 2020. "Functional characterization of active biological compounds from microorganisms."

Nootjarin Jungkhun, Ph.D. student, Dept. Plant Pathology, Kasetsart University, Bangkok, Thailand. January 2019 – December 2019. "Biological control of bacterial panicle blight disease in rice using phages and antagonistic bacteria."

Roberto Farias. Ph.D. student, Federal Rural University of Pernambuco, Brazil. November 2018 – October 2019. "Molecular genetic and genomic studies of *Xanthomonas citri* pv. *viticola* causing grapevine bacterial canker."

### New Graduate Students

Jobelle Bruno, M.S. program. January 2019 – present.

## Jeff Hoy

### Invited Presentations

"Disease Updates." Louisiana Agricultural Consultants Association, Marksville, Louisiana. Feb. 12, 2019.

"Sugarcane: An Applied Botany Story." Hendrix College, Conway, Arkansas. April 5, 2019.

### Awards and Honors

Elected Honorary Member of the American Society of Sugar Cane Technologists.

Tipton Team Research Award.

### Committees

LSU AgCenter Variety Advance Committee.

PPCP Safety, Recruiting, and Social (Chair) Committees.

### Grants and Contracts

American Sugar Cane League. "Pathology Research." \$30,000. 2019

Helena Chemical Company. "Disease Testing and Delivery of Experimental Sugarcane Cultivars." \$17,000. 2019.

Certis/Kleentek. "Sugarcane Disease Detection Lab." \$17,000. 2019.

FMC. "Fungicide testing." \$12,000. 2019.

Syngenta. "Fungicide testing." \$1,000, 2019.

### New Graduate Students

Chenie Zamora, M.S., Molecular markers for resistance to mosaic.

### New Collaborations (University, Industry, Other)

Accepted additional job responsibilities as resident coordinator for the Sugar Research Station, St. Gabriel.

## Ely Oliveira-Garcia

### Invited Presentations

"Clathrin-dependent endocytosis mediates internalization of *Magnaporthe oryzae* effectors into rice cells." 30th Fungal Genetics Conference, Pacific Grove, California. March 12-17, 2019.

"Clathrin-mediated endocytosis facilitates internalization of *Magnaporthe oryzae* effectors into rice cells." Department of Plant Pathology and Microbiology, Texas A&M University, College Station, Texas. Nov. 12-14, 2019.

### Committees

LSU AgCenter nematologist faculty position search committee.

PPCP committees: Courses and Curricula, Graduate Student Recruiting, and Equipment Room –A465.

Graduate student mentoring committees: Leonard Johnson (Master student; mentor Dr. Ham), Cesar Escalante (Ph.D. student; mentor Dr. Valverde), Olanike Omolehin Olukunle (Ph.D. student; mentor Dr. Chen).

### New Collaborations (University, Industry, Other)

Dale Bumpers National Rice Research Center: USDA-ARS — Rice blast disease research project.

## Boyd Padgett

### Invited Presentations

"In the Field: Boots on the Ground." APS Annual Meeting, Cleveland, Ohio. Aug. 3-7, 2019.

"Soybean disease identification and the potential impact reduced tillage systems have on their development." Cotton and Rice Conservation Tillage Conference. Baton Rouge. Jan. 31-Feb. 1, 2019.

"Soybean Disease Management and Update." Agent Training, LCAAA, New Iberia. June 4.

"Soybean Disease Management and Update." Agent Training, Dean Lee Research Station. July 27, 2019.

"Disease Management in Selected Row Crops." Certified Crop Adviser Training. LSU AgCenter Rapides Parish Office. Oct. 10, 2019.

"Pesticide Recertification Disease Management Update." Pesticide Recertification Meetings. Jan. 23 and Nov. 5, 2019.

"Plant Pathology." Master Gardener Association Meeting. Deridder. Jan. 24, 2019. Dean Lee Research Station. May 16, 2019.

Parish Production Meetings: Jeff Davis, Jan. 18, 2019. Avoyelles, Jan. 15, 2019. St. Landry, Jan. 17. Central Region Crops and Cattle Forum, February 25, 2019.

## Field Days

Macon Ridge Wheat and Oat Field Day. Macon Ridge Research Station. April 12.

Southwest Rice Field Day, Acadia Parish. May 28.

Evangeline Parish Field Day. Mamou. May 30.

South Farm Field Day. H. Rouse Caffey Rice Research Station. June 12.

Northeast Row Rice Field Day. Richland Parish. July 18.

Rolling Crops Field Tour Avoyelles/St. Landry Parishes July 25.

Dean Lee Field Day Expo July 27.

## Awards and Honors

LSU AgCenter's Extension Excellence Award

Co-PI State IPM Coordinator

## Committees

Louisiana Agricultural Consultants Association (LACA) Planning Committee.

LACA Governmental Affairs Committee.

LACA Executive Board Member.

LSU AgCenter Awards Committee.

LSU AgCenter Soil Fertility Specialist Search Committee.

LSU AgCenter Soybean Specialist Search Committee.

SERA003 Southern Region Information Exchange Group for IPM, secretary.

Graduate Student Committees: Turner Graham (co-adviser), John Rocconi, Alejandro Castro, Waana Kaluwasha, Maria Izabel Costa de Novaes, Myra Purvis.

## Grants and Contracts

Louisiana Soybean and Grain Research and Promotion Board. Monitoring Soybean Diseases and Pathogen Resistance in Louisiana., \$5,000, 2019-20

Louisiana Soybean and Grain Research and Promotion Board. Soybean On-Farm Demonstration Program. \$60,000, 2019-20

Louisiana Soybean and Grain Research and Promotion Board. Best Management Practices in Louisiana Soybean Production. \$20,000, 2019-20

Louisiana Soybean and Grain Research and Promotion Board. Evaluation of Soybean, Corn, Grain Sorghum Cultivars and Fungicides for Disease Management in Central and South Louisiana. \$20,000 (soybean), \$5,000 (feed grains), \$2,500 (grain sorghum). 2019-20

United Soybean Board. Enhanced Pest Control Systems for Mid-South Soybean Production. \$37,500. September 2018-September 2019.

USDA United States Wheat and Barley Scab Initiative. Development of FHB Resistant Wheat Genotypes Adapted to the Gulf Coast and Use of DHs to Expedite Variety Development. \$8230. 2019-20

Unrestricted (various industry). \$13,500. No date (still waiting on more for this year).

Wheat Official Variety Testing (OVT). \$5182.50.

Soybean OVT, \$27,400 (still waiting on more).

Syngenta Variety Testing, \$10,000.

## New Graduate Students

Turner Graham, Padgett/Harrison.

## Trey Price

### Invited Presentations

"Management strategies for taproot decline." Tri-State Soybean Forum. Stoneville, Mississippi. Jan. 4, 2019.

"Soybean taproot decline: diagnosis, yield loss, and management options." National Conservation Systems Conference. Baton Rouge. Jan. 31 and Feb 1, 2019.

"Soybean disease management update." LATMC. Marksville. Feb. 12.

"Disease management research/experiment station." Disease Management Class (Padgett). March 29.

"Field crop diseases/soybean update." ANR Agent Training. Alexandria. June 27.

"Agronomic crop disease and management." Eight parish grower meetings. Multiple locations and dates.

"Current issues in row crop pathology." Three podcasts. Delta Crop Podcast. Multiple dates.

"Disease management updates." Six field days. LSU AgCenter. Multiple dates.

### Awards and Honors

National Agri-Marketing Association (NAMA) Award for Overall Public Relations Campaign — SCN Coalition (USB Project). April 10.

Incoming President, SD-APS.

Sponsorship Chair, Southern Soybean Disease Workers.

Promoted to Associate Professor.

### Committees

North Central Integrated Pest Management Center, Proposal Review Committee.

Hiring Committee Chair, Macon Ridge Research Station, Field Crops Entomologist Position.

Graduate Student Committees: PPCP, Myra Purvis (Chair, Graduated); Teddy Garcia-Aroca (Chair); John Rocconi (Chair); Marija Zivanovic; Turner Graham; Zac Carver.

SPSS: Kelly Arceneaux, Alejandro Castro, Ben Merrit, Keith Shannon, Justin Dufour.

Seedling Disease Committee, Beltwide Cotton Conferences.



Nematode Committee, Beltwide Cotton Conferences.  
Planning Committee, Louisiana Agricultural  
Consultants Association.  
NCERA 184, Wheat Working Group.  
NCERA 137, Soybean Working Group.  
Drift Mitigation Committee.  
Awards and Publicity – PPCP.  
P&T – PPCP.

### **Grants and Contracts**

United Soybean Board/Mid-South Soybean Board.  
“Enhanced Pest Control Systems for Mid-South  
Soybean Growers.” \$373,851. 2018-19. Multistate, PI.

United Soybean Board. “SCN Coalition.” \$17,000.  
2018-19. Multistate.

U.S. Wheat and Barley Scab Initiative. “Development  
of FHB-Resistant Wheat Genotypes Adapted to the  
Gulf South.” \$12,621. 2018-19.

Louisiana Soybean and Grain Research and Promotion  
Board. “Developing Management Strategies for  
Soybean Diseases.” \$70,000. 2018-19.

Louisiana Soybean and Grain Research and Promotion  
Board. “Developing Management Strategies for Corn  
and Wheat Diseases.” \$14,700. 2018-19.

Louisiana Soybean and Grain Research and Promotion  
Board. “Managing Foliar Diseases and Head Blights of  
Grain Sorghum.” \$2,850. 2018-19.

### **Visiting Scientists/Students**

Dr. Bishnu Shrestha, post-doc, minimum one-year  
appointment – USB Cercospora leaf blight project.

New Graduate Students

John Rocconi (Ph.D. student), Progeny Ag Products.

### **New Collaborations (University, Industry, Other)**

LSU

Boyd Padgett — Fusarium head blight of wheat; on-  
farm fungicide trials; crown rust of oats.

Jon Richards — Novel sources of resistance for  
frogeye leaf spot.

Sara Thomas-Sharma — spore trapping to further  
define CLB epidemiology; cercosporin assay; USB CLB  
project; fungicide resistance.

Vinson Doyle — Mycotoxin TRD project, fungicide  
resistance.

Ely-Oliveira-Garcia — Fusarium head blight of wheat;  
rice blast.

Rodrigo Valverde/Raj Singh/Jeff Davis — CLRDV of  
cotton.

Josh Copes — Soybean seed quality.

Dustin Harrell — On-farm soybean fungicide efficacy  
trial (QoI-resistant location).

Luciano Shiratsuchi — Remote sensing of foliar  
diseases.

Thanos Gentimimis — CLB-resistant PI project.

Richard Letlow — On-farm soybean variety demo,  
Morehouse Parish.

Keith Collins — Variety demo at MRRS, Franklin  
Parish.

Bruce Garner — TRD in variety demo, West Carroll  
Parish.

Other

Jenny Koebernick — Auburn USB CLB breeding  
project.

University of Texas at Arlington (Woo Suk Chang) —  
soybean drought tolerance inoculum project.

Many Industry Collaborations: Syngenta, Corteva,  
BASF, Adama, Bayer, Valent, FMC, etc.

## **Jonathan Richards**

### **Invited Presentations**

“Genomics illuminates the molecular basis of the  
interaction between *Parastagonospora nodorum*  
and wheat.” First Congress of Plant Physiology,  
Nutrition, and Crop Protection. Universidad Nacional  
de Agricultura, Catacamas, Olancho, Honduras. May  
16, 2019.

“A necrotrophic effector from *Parastagonospora  
nodorum* triggers programmed cell death by  
targeting two distinct non-homoeologous wheat  
sensitivity genes.” IS-MPMI XVIII Congress, Glasgow,  
Scotland. July 17, 2019.

“Genomic insights into fungal plant pathogen  
virulence and adaptation.” LSU Museum of Natural  
Science. September 6, 2019.

Awards and Honors:

Associate Editor, Phytopathology. January 2019–  
December 2021.

### **Committees**

University Hearing Panelist, Student Advocacy and  
Accountability.

PPCP Graduate Student Recruiting Committee.

PPCP Courses and Curricula Committee.

PPCP Newsletter/Website/Social Media Committee.

### **Grants and Contracts**

Earth Sciences Laboratory. “Effects of Co-factors on  
Mineral Accumulation and Physiology of Rice and  
Soybean.” PIs: Brenda Tubana, Jonathan Richards.  
\$66,392.

### **Visiting Scientists/Students**

Gabriel Munoz Herrera, Visiting Scholar, Zamorano,  
June 15-Dec. 15, 2019.

### **New Graduate Students**

Jacob Searight, M.S. program, co-advised by Vinson  
Doyle.

## **New Collaborations (University, Industry, Other)**

Vinson Doyle: Genomics and biology of multiple fungal plant pathogens.

Adam Famoso, H. Rouse Caffey Rice Research Station, LSU AgCenter: Characterization of narrow brown leaf spot host resistance.

Trey Price, Macon Ridge Research Station, LSU AgCenter: Host resistance to frogeye leaf spot.

Jeff Ray, USDA-ARS (Stoneville, Mississippi): *Cercospora sojina* genomics and host resistance.

James Smith, USDA-ARS (Stoneville, Mississippi): *Cercospora sojina* genomics and host resistance.

Alemu Mengistu, USDA-ARS (Jackson, Tennessee): *Cercospora sojina* genomics and host resistance.

Tim Friesen, USDA-ARS (Fargo, North Dakota): *Parastagonospora nodorum* small RNA biogenesis.

## **Raj Singh**

### **Invited Presentations**

"Cucurbit Downy Mildew." Louisiana Fruit and Vegetable Grower Association Field Day, Baton Rouge. Dec. 18, 2019.

"Agronomic Production and Pest Management of Industrial Hemp in Louisiana." Louisiana Forage and Grassland Council Annual Conference, Alexandria. Dec. 6, 2019.

"High Impact Plant Diseases in Louisiana Landscape." LSU AgCenter Ornamental and Turfgrass Pesticide Recertification Training, Kenner. Dec. 5, 2019.

"Impact of Plant Diseases on Hemp Production in Louisiana." LSU AgCenter Industrial Hemp Informational Meeting, Alexandria. Nov. 13, 2019.

"Winter Vegetable Disease Identification and Management." Vegetable and Fruit Growers Falls Meeting, Jackson. Nov. 5, 2019.

"Important Plant Disease in Louisiana Landscapes and Lawns." LSU AgCenter Ornamental and Turfgrass Pesticide Recertification Training, Lafayette. Oct. 2, 2019.

"Emerging Plant Diseases of Horticulture Crops." Master Gardener Appreciation Day, Shreveport. Sept. 20, 2019.

"Plant Pathology and Plant Diagnostics." Master Gardener Flip Classroom Activity, Covington. Sept. 3, 2019.

"Plant Pathology and Plant Health Diagnostics." Louisiana Master Gardener Training Session, Lafayette. Aug. 29, 2019.

"New and Emerging Plant Diseases in Louisiana Landscapes and Gardens." Horticulture Field Day, Hammond. Aug. 23, 2019.

"Importance of Natural Enemies in Integrated Pest Management." Tabasco IPM Training, Avery Island. June 20, 2019.

"Recognition of Major Disease, Disorders and Insect Pests of Tabasco Peppers." Tabasco Integrated Pest Management Training, Avery Island. June 20, 2019.

"Landscape Plant Diseases and Disorders." St. John Library Seminar Series, LaPlace. June 17, 2019.

"Southern Blight of Tomatoes and Peppers — Disease Prevention and Management." Paulina. June 13, 2019.

"Current Status of Lethal Yellowing and Date Palm Lethal Decline in Louisiana." Cooperative Agricultural Pest Survey Annual Meeting, Hammond. June 11, 2019.

"High Impact Plant Disease in Louisiana Landscapes and Gardens." Louisiana County Agricultural Agents Association Annual Meeting, New Iberia. June 4, 2019.

"Advanced Plant Health Diagnostics." Horticulture Agent Training, Baton Rouge. May 21, 2019.

"Plant Diagnostics 101." Horticulture Agent Training, Baton Rouge. May 21, 2019.

"Landscape Plant Diseases and Disorders." Hort 2022 Installation and Maintenance of Ornamentals in the Landscape II, Baton Rouge. March 29, 2019.

"Plant Diseases and Disorders Diagnostics." PLHL 4001 Plant Disease Management. Baton Rouge. March 25, 2019.

"Recognizing and Managing Plant Diseases in Home Vegetable Gardens." Southwest Louisiana Garden Expo, Lake Charles. March 22, 2019.

"Ornamental and Turfgrass Diseases and their Management." Ornamental and Turfgrass Pesticide Recertification Training, Bossier City. March 20, 2019.

"Integrated Plant Disease Management in Home Gardens." Northshore Spring Garden Show, Covington. March 15, 2019.

"Bacterial Plant Disease Diagnostics." PLHL 7011 Phytobacteriology, Baton Rouge. March 14, 2019.

"The Role of Plant Diagnostic Centers in Safeguarding Agriculture." PPCP Department Seminar, Baton Rouge. March 13, 2019.

"Economically Important Bacterial Plant Diseases in Louisiana." PLHL 7011 Phytobacteriology, Baton Rouge. March 12, 2019.

"Emerging Plant Diseases in Louisiana Landscapes." Central Region Garden Expo, Alexandria. March 8, 2019.

"Disease and Insect Management in Vegetables." West Feliciana Vegetable Growers Meeting, St. Francisville. Feb. 27, 2019.

"Citrus Diseases and their Management." LSU AgCenter Second Citrus Symposium, Belle Chasse. Feb. 23, 2019.

"Integrated Management of Boxwood Dieback in Landscape." LSU AgCenter Landscape Pest Management Workshop, Hammond. Feb. 14, 2019.

"Plant Pathology and Plant Diagnostics." Master

Gardener Flip Classroom Activity, Baton Rouge. Jan. 31, 2019.

"Watermelon Disease Management." Louisiana Watermelon Growers Annual Meeting, Franklinton. Jan. 29, 2019.

"Diseases and Disorders of Palms in Louisiana." Louisiana State Horticulture Society Annual Meeting, Lafayette. Jan. 16, 2019.

"Diseases and Disorders of Golf Green Turfgrass in Louisiana." Louisiana Turfgrass Association Annual Meeting, Baton Rouge. Jan. 8, 2019.

### **Committees**

National Plant Diagnostic Network, Diagnostic Committee, member.

National Plant Diagnostic Network, Awards Committee, member.

Citrus Clean Plant Network, Tier II Governing Body, member.

The Southern Region Small Fruit Consortium, Steering Committee, member.

The Southeastern US Vegetable, Extension Working Group, member.

Louisiana County Agricultural Agent Association, Professional Excellence Recognition Committee, chair.

Epsilon Sigma Phi, Professional Development Committee, chair.

APS, Plant Health Progress Journal, senior editor.

LSU COA, Scholarship Committee, member.

LSU COA, dean's representative.

LSU AgCenter, AgMagic Team, department representative.

LSU AgCenter, Horticulture Extension Committee, member.

LSU AgCenter, Hemp Team, member.

PPCP, Awards and Publicity Committee, chair.

PPCP, Course and Curricula Committee, member.

PPCP, Graduate Student Admissions Committee, member.

PPCP, Nematologist Search Committee, member.

### **Grants and Contracts**

Southern Plant Diagnostic Network Agricultural and Food Research Initiative Grant. NIFA. \$30,000. Sept. 1, 2018-Aug. 31, 2019.

Citrus Clean Plant Network Grant. NCPN and NIFA. \$33,078. Sept. 1, 2018-Aug. 31, 2019.

Integrated Pest and Disease Management in Tabasco Pepper Seed Production. McIlhenny Company, Inc. \$134,000. June 1, 2015-Dec. 31, 2020.

State Liaison Representative. IR4. NIFA. USDA. \$1,750. Sept. 1, 2019-Aug. 31, 2021.

Cucurbit Downy Mildew Specialty Crop Multistate Project. Specialty Crop Research Initiative. NIFA. \$12,960. Jan. 1, 2018-Dec. 31, 2020.

Susceptibility of Commercially Available Satsuma Cultivars to Citrus Canker caused by *Xanthomonas axonopodis* subsp. *citri*. USDA-AMS Specialty Crop Grant administered by Louisiana Department of Agriculture and Forestry. \$87,736. Oct. 1, 2017-May 31, 2020.

### **Visiting Scholars**

Kensy Rodríguez Herrera, Zamorano University Honduras, Plant Diagnostic Professional Internship. Sept. 15- Dec. 20, 2019.

Hector Mendoza, Zamorano University Honduras, Plant Diagnostic Professional Internship. Feb. 1- April 15, 2019.

### **New Graduate Students**

Harleen Kaur, M.S., co-advised by Vinson Doyle.

New Collaborations (University, Industry, Other)

Thomas Jung, Phytophthora Research Center, Mendel University, Brno. Czech Republic. Molecular and morphological characterization of *Phytophthora* species isolated from various host species in Louisiana.

## **Sara Thomas-Sharma**

### **Committees:**

Board member of APS Office of international Program (OIP).

OIP liaison to APS Office of education (OE).

### **Grants and Contracts:**

"Development of new iron formulations for management of *Cercospora* leaf blight of soybean." Louisiana Soybean and Grain Research and Promotion Board. \$30,000. 2019-20

"Development of rapid laboratory protocol for screening for resistance of *Cercospora* leaf blight in soybean." Louisiana Soybean and Grain Research and Promotion Board. \$29,253 2019-20.

"Enhanced pest control systems for Mid-South soybean production." United Soybean Board. \$20157. 2019-20.

### **Visiting Scientists/Students:**

Evelin Reyes Mendez, Intern, Pursing M.S., Eastern Illinois University, studied cercosporin production in *Cercospora* sp., June-July.

### **New Graduate Students:**

Nelomie Galagedara, Ph.D., co-advised by Vinson Doyle.

## **Rodrigo Valverde**

### **Invited Presentations**

Traveled to Warsaw, Poland and Zaragoza, Spain to discuss research collaborations and present seminars.

"Endornaviruses of Plants: Mutualism or Parasitism?"  
Center for Agrifood Research and Technology of  
Aragón, Zaragoza, Spain. May 20, 2019.

"Endornaviruses." Dept. of Botany, Warsaw University  
of Life Sciences, Poland. May 15, 2019.

#### **Awards and Honors**

Awarded Erasmus+ STAFF Mobility Scholarship,  
Warsaw University of Life Sciences, Poland (teaching  
scholarship).

#### **Grants and Contracts**

USDA/APHIS. "Evaluation of the response of Roseau  
cane to the simultaneous effect of two biotic stresses:  
the scale insect and plant pathogens." \$40,260. 2019-  
21.

#### **New Graduate Students**

David Galo, graduate from Universidad Nacional de  
Agricultura, Honduras. M.S.

Heather Cizek, graduate from Louisiana State  
University, School of Renewable Natural Resources.  
M.S.

#### **Meetings**

Attended APS meeting in Cleveland and coauthored  
three poster presentations.

#### **Other**

During the fall semester, Ph.D. graduate students  
Olanike Omolehin and Marija Živanovic presented  
invited lectures in the PLHL 7040 Plant Virology  
course on gene silencing, mycoviruses, and dsRNA.

#### **International Student Advising**

Thesis advisor of Calendario Ortega Acosta, Ph.D.  
candidate at the Colegio de Postgraduados,  
Montecillo, Mexico.

Thesis advisor of Happyness Gabriel Mollel, Ph.D.  
candidate at the Universidad de Malaga, Spain.



# PPCP NEWS



Department of Plant Pathology and Crop Physiology

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