The midpoint of the academic year is often a good time to take stock of our division’s health. Based on visits to field days last fall, many conversations with faculty, students, and staff, and a read-through of this newsletter issue, I would have to say we are indeed healthy. It’s particularly good to say this in the midst of continued swirling changes at MU and CAFNR.

Two immediate changes stand out. First, the University of Missouri has selected a new system president, Mun Y. Choi, who replaces interim President Mike Middleton. Closer to home, at the end of 2016, Tom Payne stepped down from the position of Vice Chancellor and Dean of CAFNR after 18 years of service. Tom’s service in these roles has been very significant for ensuring the division’s and college’s continuing success. Marc Linit, Senior Associate Dean of Research and Extension, and a former director of the Division of Plant Sciences, has stepped in as Interim Vice Chancellor and Dean. Marc will contribute immediately to our continuing success as we search for a permanent dean.

This newsletter issue contains a number of stories that showcase the division’s continuing successes over the last several months. Beginning on page 4, for example, you will learn of the success of several undergraduate students whose academic performances earned them scholarships from the Western Seed Association and the Missouri Seedmen’s Association. You can also learn about seven undergraduate students who participated in an apprenticeship program sponsored by CAFNR alumnus Dudley Alexander. The division’s graduate students have been equally successful as shown by awards received in recognition of the quality of research presentations at national conferences, and by invitations received as conference speakers. Division faculty also continued to reap honors. Among these, Michele Warmund was elected as the President of the American Pomological Society, and Walter Gassmann was selected as a AAAS Fellow. Ben Puttler, Assistant Professor Emeritus, was also honored for his contributions to entomology, with the named Puttler-Hostetter Travel Grant provided by AgBiTech, an Australia-based company. As you peruse this newsletter further you will meet Pengyin Chen, Endowed Professor of soybean breeding who joined our division this past year. You will also meet Sarah Kenyon, regional extension agronomy specialist, who is based in West Plains.
GASSMANN Elected as AAAS Fellow
Excerpts taken from “Joining Elite Company” by Stephen Schmidt, cafnrnews.com

Gassmann, a professor in the Division of Plant Sciences, was recently elected as a Fellow of the American Association for the Advancement of Science (AAAS). He specializes in molecular plant pathology in his laboratory at the Bond Life Sciences Center. Since arriving at University of Missouri’s College of Agriculture, Food and Natural Resources in 2000 as an assistant professor, Gassmann has been a member of the Interdisciplinary Plant Group (IPG). He was elected in the section of Agriculture, Food and Renewable Resources “for outstanding and seminal contributions to plant pathology in the area of plant innate immunity and cellular responses to pathogen exposure.”

MICHELE WARMUND Elected President of the American Pomological Society (APS)

Michele began her two-year term at the annual APS meeting held in Atlanta, Georgia in August 2016. APS, established in 1848, is the professional society for fruit and nut scientists, extension educators, and students to communicate their discoveries. This organization publishes a peer-reviewed journal, publishes and maintains the Registration of New Cultivars, which is the official record of all newly-released pomological cultivars. APS will hold their signature events, including workshops, a fruit showcase of over 200 cultivars, educational tours, and the presentation of awards to outstanding students and faculty, at their annual conference on September 19-22, 2017 in Waikoloa, Hawaii.

MELISSA MITCHUM Selected as NCSU Outstanding Young Alumnus

Melissa Mitchum (STANDING, FAR RIGHT) was one of 14 to receive the 2016 North Carolina State University, College of Agriculture and Life Sciences Outstanding Young Alumni Award in the area of Entomology and Plant Pathology.

The Outstanding Young Alumnus Award recognizes former students of the College of Agriculture and Life Sciences who have excelled early in their career and show potential for continued success.
Graduate Students Win at Tri-Society Meetings

At the past ASA-CSSA-SSSA meeting, more than 100 papers were presented by graduate students across different turf programs in the C5 division of Turfgrass Science. Graduate students competed in a total eight categories. Ph. D. student, Enzhan Song won 1st place in the poster competition of “Golf Course Management”. Michael Patterson, M.S. candidate, won 2nd place in the category of “Pest Management”.

Enzhan (Steve) Song (TOP) and Michael Patterson (BOTTOM) standing by their winning posters.

BEN PUTTLER
Honored with Naming of a Student Travel Grant

AgBiTech, an Australian company that produces baculoviruses used against agricultural Lepidopteran pests, has initiated the Puttler-Hostetter Travel Grant to assist Entomology graduate students in attending professional meetings. Funding for the grant is provided for five years (2016-2021) at $3000/year and has the potential to be extended.

Students Win at the XXV International Congress of Entomology meeting

Two graduate students won in the graduate student poster competition at the XXV International Congress of Entomology meeting held in Orlando, FL, September 25-30, 2016. Kathryn Ingerslew, recent Ph.D. graduate working with Associate Professor Debbie Finke, won first place with her poster titled “Plant Species Diversity Facilitates Behavioral Interactions That Lead to Enhanced Herbivore Suppression.” Binita Shrestha, MS student working with Debbie Finke and Adjunct Assistant Professor Jaime Pinero of Lincoln University, won second place with her poster titled “Attractiveness of Seven Insectary Plants to Natural Enemies of Insect Pests in a Vegetable Cropping System.” Both students were competing in the Integrated Pest Management and Sustainable Agriculture: Management Tactics Session.

Plant Sciences Senior, BLAINE BEISSENHERZ, selected for Greenfield Scholars program

The Greenfield Scholars program is sponsored by the American Society of Agronomy and the International Certified Crop Adviser program with the specific purpose to support outstanding undergraduates in a Bachelor of Science or Associate of Science program with plans to enter the workforce upon graduation and pursue the Certified Crop Adviser/Certified Professional Agronomist profession and certification.
Joshua Tooley and Lindsey Gastler received scholarships from the Western Seed Association during a scholarship banquet at the Westin Crown Center in Kansas City on November 7, 2016.

- **Joshua Tooley** is currently a senior in Plant Sciences with an emphasis in crop management; he expects to graduate in May 2017. He is currently the reporter for the MU agronomy club and competes on the crop judging team. Joshua is currently working at the University of Missouri Turf Research Center assisting with trial and plot maintenance. After graduation, Joshua plans to pursue a Master’s degree in the field of plant science. He hopes to eventually work as an agronomist or in field research.

- **Lindsey Gastler** is currently a junior majoring in Plant Sciences with an emphasis in crop management. This year, she is serving as the Mizzou Agronomy Club Treasurer and the Sigma Alpha-Alpha Chi Co-Fundraising Chair. Lindsey is currently working as a student research assistant for the University of Missouri Weed Science program under the direction of Dr. Kevin Bradley. After completing her undergraduate degree in May 2018, she hopes to continue her education by pursuing a graduate degree and eventually attaining a career in agronomic crop production.

Six Plant Sciences undergraduates received scholarships from the Missouri Seedmen’s Association during a banquet on Thursday, October 6, 2016.

- **Isaiah Akers** of Wildwood, MO graduated in December 2016 with a B.S. in Plant Sciences emphasizing in breeding, biology, and biotech. Isaiah hopes to work in a plant science research lab, and would eventually like to pursue further education in plant genetics.

- **Blaine Beissenherz** of Wellington, MO is a senior majoring in Plant Sciences. He is currently the External Vice President for the Agronomy Club, has served on three Alternative Spring Breaks, along with being a CAFNR Student Council Representative. Following graduation this May, Blaine hopes to find a job with crop consulting or seed sales to build relationships with farmers to help their operations thrive.

- **Jessica Campen** of Canton, MO is currently a senior studying plant sciences with an emphasis in crop management; she expects to graduate in May 2017. Jessica is an active member of the MU Agronomy Club and the MU Forestry Club; she is also the collegiate 4-H representative in the CAFNR Student Council. After graduation, Jessica plans to pursue a Master’s degree in the field of plant science.

- **Ryan Nelson** of Vandalia, MO graduated in December 2016 with a B.S. in Plant Sciences, emphasizing in crop management. He has been vice president of the MU agronomy club, student council representative, and was on the steering committee for the 2015 CAFNR week. Ryan plans to work with Dow AgroSciences as a crop protection sales trainee.

- **Malynda O’Day** of Gower, Missouri, is a Sophomore studying Plant Sciences with an Emphasis in Crop Management and a minor in Agriculture Economics; she expects to graduate in December of 2018. She currently serves as Secretary of the MU Agronomy Club, MU Campus Ambassador for the Agriculture Future of America organization, and as an assistant student researcher for Dr. Reid Smeda in Weed Science. After graduation, Malynda plans to earn a Master’s degree in the plant science field.

- **Allen Scott** of Wentzville, MO is currently a senior in Plant Sciences with an emphasis in crop management; he expects to graduate in December 2017. After graduation Allen plans to acquire a job in research or production.
Graduate Students Selected to Present

Two graduate students in the Gary and Bing Stacey lab were selected to give oral and poster presentations and received travel awards to attend two important national/international conferences. It was a great honor to be selected to present their research in such world-recognized meetings.

Beverly Agtuca, a second year graduate student working on her Ph.D. with Gary Stacey, gave both an oral and poster presentation at the International Society for Molecular Plant-Microbe Interactions (IS-MPMI) congress held July 17-21, 2016 in Portland, OR. She received the IS-MPMI XVII Congress Ko Shimamoto Travel Award and MU Bond Life Sciences Center, Post-doc, Graduate Student Association Travel Grant to attend this meeting. Agtuca’s title was “In situ metabolic profiling of symbiotic soybean-rhizobia interactions by laser ablation - electrospray ionization mass spectrometry (LAESI-MS).”

Cuong Xuan Nguyen, a third year graduate student working on his Ph.D. with Minviluz and Gary Stacey, also presented at the IS-MPMI congress. He was also invited to present at the Molecular and Cellular Biology of the Soybean 16th Biennial Conference held August 7-10, 2016 in Columbus, OH. Travel funds were awarded from the Molecular and Cellular Biology of the Soybean conference. Nguyen’s title was “Use of Crispr/Cas genome editing demonstrates a critical role for uricase and xanthine dehydrogenase in soybean nitrogen fixation and nodule development.”

Mizzou Students represent well at 2016 North Central Weed Science Society’s annual meeting

The 2016 North Central Weed Science Society’s (NCWSS) annual meeting was held in Des Moines, IA, on December 12-15, 2016. At this meeting University of Missouri weed science undergraduate and graduate students presented their research via poster, oral, and/or video formats and competed against students from the 15 US states and one Canadian province that comprise the NCWSS.

Graduate student Andy Luke (TOP LEFT), advised by Dr. Reid Smeda, was awarded second place for his oral presentation in the Equipment and Application Methods section. Undergraduate Drake Gleeson (TOP RIGHT), advised by Dr. Kevin Bradley, earned first place for his poster presentation in Agronomic Crops.

Graduate students Blake Barlow (BOTTOM LEFT), Zach Trower (BOTTOM RIGHT), and Derek Whalen, also advised by Dr. Bradley, received the following: Barlow – first place for his oral presentation in the Agronomic Crops section and second place for his extension research video presentation; Trower – first place for his poster presentation in Weed Biology, Ecology, and Management, and first place for his extension research video presentation; and Whalen – second place for his extension education video, which can be viewed on the Mizzou Weed Science Facebook page.
Congratulations!

Fall 2016

GRADUATES

David Chappell, Crop, Soil & Pest Management, Anne McKendry
Lance Conway, Crop, Soil & Pest Management, Newell Kitchen
Jingwen Kang, Plant, Breeding Genetics & Genomics, Melissa Mitchum
Courtney Coleman, Plant, Breeding Genetics & Genomics, Walter Gassmann & Laszlo Kovacs
Michael Maw, Crop, Soil & Pest Management, Felix Fritschi
Cuong The Nguyen, Plant, Breeding Genetics & Genomics, Gary Stacey & Dong Xu
Kara Riggs, Plant Stress Biology, Bob Sharp
Hongwei Zhang, Entomology, Qisheng Song
Yu Zhang, Plant Stress Biology, Jim Schoelz

UNDERGRADUATES

Cooper Adams, Crop, Soil & Pest Management
Isaiah Akers, Breeding, Biology and Biotechnology
Cory Briggs, Horticultural Science & Design
Gatlin Bunton, Crop, Soil & Pest Management
Jonathan Naydenov, Breeding, Biology and Biotechnology
Ryan Nelson, Crop, Soil & Pest Management
Brett Teel, Turfgrass Science

Summer 2016

GRADUATES

Erin Casey, Horticulture, Mary Ann Gowdy
Ru Dai, Plant Stress Biology, Walter Gassmann
Michelle Folta, Plant Breeding, Genetics & Genomics, Zhanyuan Zhang
Hyun Jo, Plant Breeding, Genetics & Genomics, Kristin Bilyeu

UNDERGRADUATES

Benjamin Abela, Crop, Soil & Pest Management
Alexandria Berghaus, Breeding, Biology and Biotechnology

BUILDING Plant Sciences

The MU Division of Plant Sciences has been developing a plan to BUILD. Not only have we been building outstanding research, extension and teaching programs but we are ready to build a new facility that will allow greater collaboration amongst our outstanding faculty, staff, students and the world.

For more details visit the project website: BuildingPlantSciences.missouri.edu
PENGYIN CHEN
hired to lead MU Fisher Delta Research Center soybean breeding team

Excerpts taken from “Strengthening the Soybean Team” by Logan Jackson, cafnnews.com

Pengyin Chen, a soybean breeding and genetics professor at the University of Arkansas, joined the Division of Plant Sciences September 1, 2016, accepting the David M. Haggard Endowed Professorship of Soybean Breeding. Chen will replace Emeritus Professor Grover Shannon as the head of the program.

“I feel so fortunate to have this opportunity,” Chen said. “Grover has one of the top programs in the nation, with great support all around. I told the farmers in the Missouri Bootheel that I’m excited to help them. I’m very receptive to any input that they have.”

Chen was born and raised in north central China. He was reared in a small farming community of 192 people. After Chen graduated from high school, he was selected to teach biology and English to middle school students. He then went to college in China.

After earning a Bachelor of Science degree in agronomy and a master’s degree in plant breeding, Chen taught at the Northwest University of Agriculture for two years. His career in the United States started shortly thereafter. Chen traveled to Iowa State University and took classes before transferring to Virginia Tech.

Chen studied under Glenn Buss at Virginia Tech. Buss is a renowned soybean breeder. After a couple of years working in Texas, Chen returned to Virginia Tech as a research scientist working on specialty soybean development. After 10 years in that role, Chen continued his outstanding career at the University of Arkansas. While Chen has worked with several crops throughout his career, soybeans are at the top of his list.

“Soybeans are a very important crop,” he said. “It’s an oil crop that has protein for humans and livestock.”

“It’s a versatile, miracle bean.”

Chen’s main soybean research at the University of Arkansas focused on conventional variety development with high yield, pest resistance and stress tolerance. Chen’s primary focus is to improve the quality of soybeans. Chen also has research on developing soybean germplasm for future breeding purposes.

Along with his research, Chen trains students and is heavily involved with seed companies to promote and market new soybean varieties.

The University of Missouri has worked hard to put together one of the largest soybean breeding programs in the nation, as far as public universities go. Chen added that he’s also excited to take the reins of the program, and he’s excited to continue his learning, as well as work with someone he looks up to.

“I’m an old kid on a new block,” Chen said. “I think I have enough gas left in the tank for another good run. I’m extremely excited. This is a new chapter of my professional career.”

Undergraduates participate in Apprenticeship

Seven undergraduate students participated in a sponsored apprenticeship program in Fall, 2016. The students included: Garrett Imhoff, Jessica Campen, Chandler Gruener and Malynda O’Day from Plant Sciences as well as Alex Siefker (Ag. Systems Management), Cavin Joesting (General Agriculture), and Brett Mason (Ag. Systems Management and Agri-Business Management). Andy Luke (M.S. student in Plant Sciences) organized an on-campus workshop on October 27, 2016 for students with Dudley Alexander (LEFT). Dudley has conducted numerous apprenticeship programs in the past with CAFNR undergraduate students. His objective is to provide students with insight on farm valuation, understanding inputs (equipment, seed, chemicals, etc.) for operating a farm, and crop production techniques in order to train the farm producers of the future. The workshop was followed by a visit to Dudley’s farm in Shenandoah, IA November 11-13.

Plant Sciences wants to thank Mr. Alexander for providing students with valuable information and sponsoring the apprenticeship program. We are hopeful that future students will have an opportunity to participate.
Sarah Kenyon serves as University of Missouri regional extension agronomy specialist in six east central Missouri counties including Howell, Ozark, Douglas, Texas, Wright, and Webster. Based in West Plains, Missouri in the Howell County Extension Center, she conducts educational programs for producers in the area of forage production and management. Kenyon also participates with local farmer cooperators with on-farm demonstrations concerning grazing management, weed control, and fertility management.

Prior to her career with MU Extension, Sarah Kenyon was a crop and forage advisor for a pasture-based dairy operation located in Southwest Missouri, and was responsible for forage cultivar testing, fertility management, and educating dairy managers regarding the use of a grazing wedge.

Kenyon’s focus areas are forage management, fertility management, and weed control. She enjoys working with producers to apply research-based information to increase sustainability and profitability of their operations, and to help them achieve their production goals.

Sarah and her husband, Josh, live near West Plains, Missouri. They are expecting their first child in March, and have two playful dachshunds.

On August 25, 2016, as part of the Donald Danforth Plant Science Center Conversations Series, a panel discussion on “Let’s Talk About… People, Plants and Partnership: The Mizzou Connection” highlighted the partnership between the University of Missouri and the Danforth Center. The partnership was established in 2014 to hire four joint positions between the two institutions in plant and crop sciences with a goal of increasing existing collaborations.

The event featured a question and answer session with Interim Chancellor Dr. Hank Foley and Dr. Blake Meyers (Division of Plant Sciences and Danforth Center), the first faculty member appointed under this initiative. Prior to the event, a reception was held and several graduate students from MU’s Interdisciplinary Plant Group were invited to display information on ongoing research projects. Carola de la Tore and Michael Gardner (Dr. Melissa Mitchum’s lab, Division of Plant Sciences) presented on soybean cyst nematodes, Arati Poudel Nepal (Dr. Abe Koo’s lab, Division of Biochemistry) presented on jasmonic acid (JA) for insect defense, and Katy Guthrie (Dr. Paula McSteen’s lab, Division of Biological Sciences) presented on maize evolution.
Merton was born Sept. 22, 1935, in Burlington, Vermont, to Merton Fred Brown Sr. and Gladys (Will) Brown. He was united in marriage to Patricia Lee Richards in Burlington, Vermont, on May 4, 1957, and she precedes him in death. Merton grew up in Vermont and served his country honorably in the United States Navy from 1954 until 1956. He served as a signalman on the U.S.S. Willis A. Lee (DL-4), a destroyer escort. Merton completed his undergraduate and master’s degrees at Orono, Maine, and his Ph.D. at the University of Iowa. The family moved to Columbia, Missouri, in 1968, where Merton taught plant pathology and was the director of the electron microscopy facility in the MU College of Agriculture. He was a fascinating person with strong interests in mycology, and he was a co-author of the wonderful book, Phytopathogenic Fungi: A Scanning Electron Stereoscopic Survey. Merton is survived by his children, Douglas Brown and wife Lee Walthall of Houston, Texas, Jeff Brown and wife Kim of Moberly, Missouri, and Judith Brown of Houston, Texas; grandchildren James Brown and wife Amanda of Houston, Alex Baker and husband Austin of Houston, Andrew Brown and wife Kristen of Ft. Collins, Colorado, Jessica Brown of Longmont, Colorado, and Heather Curtis and husband Jeremy of La Plata, Missouri. Great-grandchildren include Jacob Curtis of La Plata, Missouri, and Mason Baker of Houston, Texas.

Merton always had a great love of anything to do with the outdoors. Canoeing and fishing in the Boundary Waters Canoe Area of northern Minnesota and hunting waterfowl with family and friends were of primary interest. He spent great efforts making sure his children and grandchildren also enjoyed and learned about the outdoors. Merton always valued his time with family and friends.

In Memory of
MERTON F. BROWN, JR.

Merton Fred Brown, Jr., 81, of Columbia, Missouri, passed away at the home of his son Jeff in Moberly, Missouri, on Oct. 9, 2016.
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<th>Title</th>
<th>Sponsor</th>
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<td>Evaluate and Improve Western Corn Rootworm Artificial Diet</td>
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<td>An Integrated Pest Management Approach to Addressing the Multiple Herbicide-resistant Weed Epidemic in U.S. Field Crop Production</td>
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<td>Evaluation of Novel Nitrogen Stabilizers in Forage Production</td>
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<td>Scattering the seed: An initiative to promote cover crop use, benefits to agricultural ecosystems, and acquiring NRCS technical assistance.</td>
<td>Department of Agriculture</td>
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<td>To evaluate the efficacy of novel nitrogen stabilizers on forage crop growth an development</td>
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<td>Research and Education Program</td>
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<td>Chen, P.</td>
<td>Developing Soybean Cultivars and Germplasm with Increased Protein</td>
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<td>Enhancing Eastern Black Walnut Germination and Early Seedling Growth</td>
<td>Northern Nut Growers Association</td>
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