The Chair's Message, Chris Kucharik

We are entering the start of the 2021-22 academic year and while there has been some return to normalcy on the UW-Madison campus, like the rest of the world, there remains some trepidation as we return to campus and classrooms. As Chancellor Blank predicted last winter/spring, the majority of classes are being offered in person this fall (including agronomy), but as we all know, the pandemic is far from over. The good news is that the COVID vaccination rate on campus is approximately 90% or greater for all students, staff, and faculty. These first few weeks will be a significant test like a year ago as students return to campus and many more activities are taking place in person. While we do have a mask mandate inside buildings, the social distancing requirements are absent in classrooms, and those who are not vaccinated will be required to test weekly. While we all hope there is not a need to pivot to an online, virtual environment for courses, we are prepared for that possibility given what we've been through in the past 18 months.

On campus, as the pandemic has continued, some economic uncertainty has subsided. Furloughs ended as of May 2021 for faculty and staff, and campus is returning a larger amount of federal indirect cost returns (overhead return) to units on campus. In CALS, revenue from indirect costs returns will increase by 27%. Campus funds are also returning for the faculty and staff compensation programs that were suspended last year, and the state has an approved pay plan that will increase faculty and staff salaries by 2% in each of the next two years (January 2022 and January 2023).

As part of a fundraising campaign that started in October 2015, CALS has raised $166M from 13,000 donors and the Agronomy department has seen an increase in gifts and endowments also during this time period. One department endowment will help support new faculty research, visiting scholars, and start-up packages for newly hired faculty, and another will help support students in the area of weed science. There has been an anonymous gift given to the Spooner Agricultural Research Station (ARS) of $750,000, and another donor is helping with the purchase of 70 additional acres at the Arlington ARS to increase the organic agriculture research footprint there. At the federal level, both the US Senate and House have shown significant interest towards supporting funding for a new USDA plant breeding facility at the West Madison ARS which would significantly benefit our department, Horticulture, as well as several others on campus.

CALS has also allowed us to resume our extension faculty search for a forage systems agroecologist. A department search and screen committee is currently discussing the details of the position vacancy listing, with the hope of launching the search sometime this fall, and the hope that this hire would join us sometime in 2022.

Seminars

The Seminar in Plant Breeding and Plant Genetics meets on Fridays at 3:30pm in 351 Moore Hall.

All are welcome to attend.
**Olugbenle Receives Scholarship**

Korede Olugbenle, Agroecology graduate student with Valentin Picasso, was awarded a Graduate Student Service Scholarship for incredible service to the University. This scholarship is set up to recognize those who take on service roles in addition to their research, work, and family obligations. Priority is given to students who conduct multiple service activities and/or whose service activity is notably impactful.

Korede is one of the administrative members of Mentorship Opportunities in Science & Agriculture for Individuals of Color (MOSAIC). Korede, along with the other administrative members, bring together mentors of color to create a mentoring network for BIPOC students in the College of Agricultural & Life Sciences. Korede assists with the formation of beneficial relationships, increasing a sense of community and belonging, and hosting lunch and discussion events.

See the other winners [here](#). Website is also the source of this text and photo.

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**Fiore, Oyen Named Borlaug Scholars and More**

Isabella Fiore (BS, X'23, *far left*) and Tanner Oyen (BS, X'23, *left*) have been selected as 2021 Borlaug Scholars. The Borlaug Scholars Committee chose 24 outstanding students as scholars this year. Each student will be mentored by a NAPB professional member and recognized at the NAPB Annual Meeting.

Isabella has worked with Drs. Lucia Gutierrez and Bill Tracy. She is interested in pursuing a PhD in plant breeding and plant genetics and hopes to work internationally to address food security issues. The article is [here](#).

Tanner has also received one of eleven Mid America CropLife

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**Alumni Spotlight**

Kent Gutzmer (BS ‘88) is an Agronomy Department graduate. He currently manages the agricultural division of Bell Laboratories in Madison, WI. Bell is the world’s largest manufacturer of rodent control products, and their ag business is under the name Motomco. Motomco’s rodent control products are primarily sold in farm stores like Blains, Fleet Farm, and Tractor Supply, and the major brand is Tomcat. They also supply distributors in crop production like Brandt, Wilbur Ellis, and Nutrien. In crop production, their products are used in orchards and vineyards, grass grown for seed, sugarcane, wheat, alfalfa and more. Under the Bell Labs umbrella, their products are sold in over 40 countries worldwide for professional pest control, agriculture, and island restoration projects.

Kent is a graduate of Madison West High School and grew up just off UW’s ag campus.

You can visit Motomco’s website [here](#) and Bell Lab’s website [here](#).
Conley Receives Award

Crop Science Society of America has named Professor Shawn Conley (right) the recipient of the 2021 Crop Science Extension Education Award. This award recognizes excellence in extension teaching activities in the area of crop science. The award criteria are based on educational innovations developed and used successfully. Effective extension performance evidenced by demonstrated ability to communicate ideas clearly, influence client attitudes, and motivate change in client or audience action.

Dr. Conley is a Professor of Agronomy and the State Soybean and Small Grain Specialist at the University of Wisconsin, Madison. Dr. Conley’s research goal is to generate science-based solutions to address real world problems in soybean and small grain production. This knowledge is then integrated and delivered through his Extension program. Dr. Conley has authored or co-authored 120 refereed journal articles and has spoken at >750 events and to nearly 58,000 clients since beginning his academic career. Dr. Conley’s commitment to agriculture and the Wisconsin Idea has also led him to coauthor a children’s book entitled “Coolbean the Soybean”.


NCWSS Weeds Contest Awards

The Badger Weeds Team (right) consisting of graduate and undergraduate students from the WiscWeeds (Werle) and Cool Bean (Conley) labs traveled to NDSU in Fargo, ND, to participate in the 2021 NCWSS Student Weeds Contest. The graduate team of Lindsay (Chamberlain) Malone, Haleigh Ortmeier-Clarke, Nikola Arsenijevic, and Felipe Faleco received 3rd place overall.

Lindsay Malone (PhD candidate with Shawn Conley) received 1st place in the Graduate Farmer Problem Solving portion.

Matt Humbert (geological engineering student and hourly employee in the WiscWeeds lab) received 1st place in the Undergraduate Sprayer Calibration written portion.

Well done!

Submitted by Nick Arneson

de Leon Receives Award

Natalia de Leon (right) received the inaugural Leadership Award from the Maize Genetics Cooperation. This award recognizes maize cooperators who have inspired the lives and careers of other maize researchers with a special emphasis on those who’ve shown a strong impact in the area of inclusion, diversity, and equity. Read the full article and source here.

Submitted by Chris Kucharik, photo from Picasso’s website.

Picasso Receives Tenure

The Biological Sciences Division Executive Committee voted unanimously in March for the promotion of Dr. Valentin Picasso (left) to receive tenure. Valentin is in his 7th year of teaching and research in the Agronomy Department. To see what his group is working on, please visit his website here. Congratulations!

Submitted by Chris Kucharik, photo from Picasso’s website.
High Honor

2021 graduate, Alexis Schultz (BS, Agronomy, advised by Bill Tracy) was selected to bear the CALS flag at graduation in May. The college Office of Academic Affairs selected students who exemplify the spirit of CALS and who have persevered through the COVID pandemic and made an impact.

Submitted by Bill Tracy; photo credit: University of Wisconsin-Madison

In Memorium

On June 23, 2021, Nicholas Humphrey, 22, passed away, surrounded by his family in Lake Forest, IL. Nick recently graduated with a BS in Agronomy from UW-Madison. He was working in the Agronomy Department this summer. Nick’s obituary can be found here.

Randy Jackson said, “I didn’t know Nick well, but he was in my Grassland Ecology class last fall and Agronomy Capstone this past spring. He was sharp and engaged and witty. Both classes were online only so I didn’t have a chance to get to know him, but he made me laugh every class and produced a very interesting video about entomophagy for Capstone. Recently, he was working in the Grassland Ecology lab and had a part-time gig working on a grazing farm in the Mineral Point area. From all accounts, Nick was ‘leaning in’ to an engaged and thoughtful path full of exciting experiences and relationships.”

Nick’s friend, Erin Reda, said in an email to select faculty, “As you know, Nick had a specific passion for agronomy and was granted his wishes with a career in agronomy located in Chicago. Nick and I had similar friend groups, but our connection within class and similar passions is what kept a bond between us. He was so psyched about the job, and I am fortunate that you all created a class environment that allowed us to see him express his knowledge and passion throughout the semester.”

The UW has created the Nick Humphrey Memorial Scholarship Fund to provide financial aid for students in the UW McBurney Center. The goal is to raise $25,000 to create a permanent fund. You can make a gift below.

Make a Gift | University of Wisconsin Foundation

With an unflagging commitment to serving the needs of people everywhere, we’ve blazed a trail of innovation and ingenuity across history. In order to continue being an inspiration and a force for change, we all need to invest in UW-Madison.

secure.supportuw.org

Oyen

Association (MACA) Young Leader Scholarship Awards for 2021. The MACA YLS is a leadership and networking program designed to expose students in agricultural higher education to the crop protection industry and future career opportunities. The award requires the recipient to be enrolled in one of the 14 participating MACA Land-Grant Universities and to have secured a summer internship in agriculture. It includes a cash scholarship and a travel stipend to attend the annual MACA meeting. One scholarship is awarded per university.

Oyen is from Lancaster, Wisconsin, and is a third year student majoring in Agronomy and pursuing a certificate in business management. He is advised by Dr. Bill Tracy. He interned at Helena Agri-Enterprises this summer and will present his work this fall at the MACA annual meeting in St. Louis, where he and other scholars will be honored.

Tanner is expected to graduate in May 2022, after which he plans to continue his education, earning a Masters in Agronomy or Plant Breeding and Genetics.

The purpose of MACA is “to research public issues relating to crop production and to work together to improve the crop life cycle via health, safety and public education.” For more information, please visit http://www.maca.org/.

Submitted by Calli Anibas and Bill Tracy; Fiore pic from SeedWorld.
Renz and Cartoni-Casamitjana working with US DFRC on restoring impaired woodlands for silvopasture

Silvopasture is an agroforestry practice that integrates tree, forage, and livestock production, and provides several environmental benefits. Wisconsin tax codes incentivize grazing in woodlands, but woodlands on most farms are invaded by invasive shrubs that prevent growth of desirable forage and grazing of animals. Understanding appropriate methods that can be used to restore these areas and establish forages is needed to increase adoption of this sustainable practice potentially increasing farm profitability and resiliency.

Dr. Mark Renz, in collaboration with Francisco Arriaga, PhD student Stefania Cartoni-Casamitjana, US Dairy Forage Research Center scientists, and the Savanna Institute, recently received funding to study silvopasture establishment in degraded woodlands. They will evaluate the effectiveness and cost of mechanical, biological and herbicidal options for shrub removal and impacts to forage establishment in replicated trials at US Dairy Forage’s research station in Prairie du Sac. Research was established this spring and will hopefully continue into the future as livestock will be incorporated on the site. Long-term goals will be centered around evaluating long-term productivity and ecosystem services from silvopasture and provides best management practices for converting degraded woodlands into productive components of the farm. If interested in seeing our furry biological control agents in action, please contact us as they will be on site throughout September.

Submitted by Stefania Cartoni-Casamitjana.

Update from the CB&QG Lab

At 8:15 every morning, the members of the Cereals Breeding and Quantitative Genetics Lab (CB&QG) have signed onto Zoom to start the workday. Since the Safer at Home order was issued in March 2020, we have primarily used the 15-20 minutes to check in with each other and ask questions we normally would have discussed while visiting each other’s offices. Throughout the year we have also shared our favorite songs, recommended socially distanced activities, and discussed ways to cope with our new way of life. Although the past year and a half has been challenging, members of the CB&QG lab have been productive and adapted to ensure timely completion graduate requirements and research objectives. The summer changed this, and we were finally able to connect in person in the field.

“I’ve been working from my family home in Iowa since the pandemic began, and while it has had its challenges, being with family, creating new routines, and finding my own more permanent workspace have helped me adapt to this new way of working” says Ph.D. student, Raegan Hoefler. Her current project is on evaluating the performance of mega-environment designs (MEDs) in wheat and barley multi-environment trials (METs) as part of a USDA-AFRI Foundational and Applied Sciences research grant. “It is common in plant breeding to separate the environments within a target population of environments (TPE) into groups, or mega-environments, that have repeatable patterns of genotype by environment

See CBQG, pg 6
interactions and then select within those mega-environments. This generally results in greater selection gains versus selecting broadly across all environments within the TPE”, Raegan further describes. It was recently shown by the CB&QG lab that using experimental designs that explicitly account for the mega-environment structure of the TPE can additionally increase response to selection compared to using other commonly used designs. In the simulation study, Raegan aims to optimize the MEDs in terms of the number of replicated genotypes, the balance of genotypes within and across environments, and the number of mega-environments and environments within the mega-environments. She also plans to determine the robustness of the MEDs applied to incorrect mega-environment designations. This year Raegan was also awarded the Elwood & Lydia Brickbauer Research Scholarship for her focus on agronomic grain and seed research. Raegan resumed her field activities in the summer.

Ph.D. student, Chris Massman, has also learned to adapt to the new working environment and has made strides towards submitting his first paper that will also be the first chapter of his thesis. The article will discuss the impacts of genotype by environment interactions on agronomic traits in naked barley. Chris’s Naked Barley Project has also advanced to Part 2, a continuation of the Organic Agriculture Research and Extension Initiative (OREI) grant from USDA-AFRI from 2017-2020. Both OREI grants have had a strong focus on research, education, and extension with the goal of producing naked barley genotypes for organic production. These genotypes are hull-less and provide many advantages over covered genotypes. Releasing naked lines would benefit organic farmers, barley processors, wholesalers, retailers, food and malt beverage product manufacturers, and consumers. Under the current OREI grant, we are creating a modified nested association mapping (NAM) population to improve our ability to select and study key agronomic and quality traits. This NAM population will contain a large amount of genetic diversity and allow us to conduct additional genome wide association studies (GWAS) or genomic selection (GS). These activities are in addition to the ongoing research activities from the original naked barley project proposal. Extension and education opportunities such as field days and k-12 fieldtrips are used to involve the public with our research, while sensory and baking trials are key in involving bakers and processors with the breeding process. “Given the COVID19 pandemic, the way we performed research and outreach had to move to a virtual setting and we are always searching for new ways to adapt”, Chris explains. Everyone was excited to have an in-person field day to showcase the small grains breeding efforts in for organic management this summer.

In addition to our graduate students’ progress, the CB&QG lab has also said farewell to some members and welcomed a new student. In May of 2020, Pablo Gonzalez Barrios, a Goetz Fellow, completed his doctorate and accepted his dream job as an Assistant Professor at the Facultad de Agronomía, Universidad de la República in Uruguay. Madhav Bhatta transitioned from his position as a postdoc in the lab to an exciting position as a senior scientist in Bayer Crop Science at Missouri where he is working on trait interactions. José Airton Nunes also completed his postdoc in our lab and is working as an Assistant Professor of Genetics and Plant Breeding at the Universidade Federal de Lavras in Brazil. Daisy Flores moved to Austin to start a Ph.D. on coral breeding. Meanwhile, Pablo Sandro, who started as a technician in the lab, began as a Ph.D. student in Spring 2021.

Exciting research is coming from the lab, with some of the papers being highlighted in the CSA News while others gaining recognition as top articles published in Current Opinion in Plant Biology articles. The lab has also been successful at securing funding from several grants including a $2M OREI renewal of the collaborative Naked Barley Project, a new $2M OREI grant on Value Added Grains, as well as WARP/WCIA grants to continue our work on oat and wheat breeding. Additionally, Dr. Lucia Gutierrez is currently serving as the Chair of the Crop Breeding and Genetics Division at the Crop Science Society of America.
Resources to Address and Report Climate Concerns

Hostile and Intimidating Behavior

-Information for students: https://doso.students.wisc.edu

-How students can report: https://doso.students.wisc.edu/bias-or-hate-reporting/ (note: hostile and intimidating behavior is included in bias and hate reporting)

-Information for faculty and staff: https://hr.wisc.edu/hib/campus-resources/

-How faculty and staff can report: https://hr.wisc.edu/hib/addressing-hib/reporting-options/

Sexual Harassment and assault

-Information: https://compliance.wisc.edu/titleix/

-How anyone can report: https://compliance.wisc.edu/titleix/reporting-response-options/

Special thanks to our donors! Your generosity is valued!

Click below to support UW Agronomy’s research and professional development opportunities.

All undergraduate and graduate students who are enrolled for credit (and pay segregated fees) can use University Health Services for physical and mental health care.

UHS also provides services for post-docs, faculty, and staff.

Subscribe to Grow, Wisconsin’s magazine for the Life Sciences! Grow has up-to-date news on the most significant aspects of CALS.

Deadlines to apply to the Agronomy Graduate Program or the Plant Breeding Plant Genetics Graduate Program:

September 1 for spring entry
December 1 for summer and fall

For more information please contact:
Caitlin Collies
caitlin.collies@wisc.edu
608-262-1390

GRE no longer required!
To Treat or Not To Treat

Pink-coated corn seed, purple-coated soybean seed, and other brightly-colored seed have become normal sights for growers over the years. These coatings of fungicides, insecticides, nematicides, or all of the above, have brought comfort to growers in the form of crop protection, but they’ve also created concerns for wildlife and waterways. Dr. Shawn Conley weighs in here.

Submitted by Shawn Conley.

Contributed by Daisy Flores.

Chair

CALS Dean Kate VandenBosch informed department chairs and the rest of the UW community on August 31 that she would be stepping down from her position at the end of the coming year. Dean VandenBosch has served as CALS dean since 2012. The UW-Madison provost will launch a national search this fall, with a new dean potentially in place by July 2022 so there would not be a need to have someone serve as interim Dean while the search progresses.

In news regarding our faculty in Agronomy, Prof. Valentin Picasso was promoted to associate professor with tenure in spring 2021! Dr. Picasso has rapidly become an international expert in Kernza and more broadly the sustainability and resilience of perennial grain systems. Congratulations to Dr. Picasso for reaching this significant milestone! Professor Molly Jahn has been on an Intergovernmental Personnel Act (IPA) assignment at Defense Advanced Research Projects Agency (or DARPA) since January 2021 where she is serving as a program manager in the Defense Sciences Office. Her current research interests focus on leveraging advances in biochemistry and complexity to improving resiliency in critical U.S. infrastructure and supply chains.

Finally, Professor Cynthia Henson informed me that she is retiring from the USDA and UW-Madison as of August 28 2021. Dr. Henson has been an internationally-recognized expert on carbohydrate metabolism in the cereal grain crop barley, and her research has focused on producing cereals with enhanced agronomic, industrial, and nutritional traits. Dr. Henson joined the Agronomy Department in 1985 and has also held an appointment as a research plantphysiologist with the USDA-ARS Cereal Crops Research Unit (CCRU) on the west side of the UW campus. She has served as the research leader (since 2004) of the CCRU and oversaw the 2006 expansion of the new facility on Walnut Street. For about 90 years, the CCRU has served as the only public research facility that evaluates malting barley cultivars for their widespread use in food products and beer and the CCRU serves as a key link between barley growers, plant breeders and industry. Dr. Henson has also been a significant contributor over many years to committees and other functions in the department. We will really miss Dr. Henson in the department, and congratulate her on a long and distinguished career at both the USDA and UW-Madison!

As always, thanks for reading our newsletter. We are extremely grateful for the continued support of our alumni, emeritus faculty, staff, and other friends!

On Wisconsin! [Signature]

Alumni Spotlight

Dr. Sally Flis was voted President-Elect for 2021-22 for the Council for Agricultural Science and Technology (CAST). Flis is currently a Sustainable Ag Field Manager with Nutrien Ag Solutions. She served as chair of the Plant Ag and Environment Work Group at CAST and is a Certified Crop Advisor serving as the chair of the ICCA board. Sally earned her BS in 2002 in Agronomy and Dairy Science and her MS in 2004 in Dairy Science, both from UW-Madison. More on Flis’ election and vision can be found here.

Submitted by Bill Tracy

Above: Dr. Sally Flis. Photo source: website linked above.

To Treat or Not To Treat

Dr. Shawn Conley weighs in here.

Submitted by Shawn Conley.