

CROPS

Collective Research Organization of Plant Scientists
- a student and postdoc society sponsored by UNL PSI

Happy and Exciting November with daylight saving to our CROPS community!



Our next CROPS Seminar speaker is **Dr. Ana Almeida** from California State University East Bay. Her group uses molecular tools to dissect the interplay between evolution and development. Her work also utilizes comparative genomics to study how genome modifications might have led to plant diversification. For more information about her lab, please visit [here](#). For the seminar, please [RSVP here](#).



Check out our new CROPS web page with [resources for professional development!](#) And please reach out if you have other resources you'd like to make available - we'd be happy to post them!

Based on the latest report from Lincoln mayor Leirion Gaylor Baird, 67% of individuals 16 years or older in Lancaster County have received one of the vaccines, and at least 55% have been fully vaccinated. And the CDC also claimed the mask mandate can be lifted for fully vaccinated individuals. The time that the mask mandate being lifted in Nebraska won't be far. Stay tuned!

Also, we want our future newsletters to be as uplifting as possible, so we are creating a section where **YOU can submit lab job postings, personal/professional highlights, and even thesis defense announcements!** We want to stay as connected with each other during this unprecedented time; just because we are physically distant, does not mean we need to remain

socially uninvolved in each others' lives! Email us at CropsPSI@unl.edu to submit! (CROPS reserves the right to not post everything we receive as a submission)

We have started daytime saving from November 7th.

For more information, stay tuned via [email](#), [website](#), and [Twitter!](#)

Don't forget to check out our upcoming events, job announcements, and lab highlight!

-The CROPS 2021/22 Board

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New CROPS 2021-22 Board!

CROPS is excited to announce the 2021-22 board! We are looking forward to a great year filled with new speakers, social events, and workshops! Keep an eye on your email and Twitter for updates on all the CROPS events to come!

On that note, we are looking for speaker nominations for the 2022 year. Remember, that with Zoom, we can invite **anyone** from **anywhere**!! Fill out [this form](#) to send your recommendations our way!



Zach Shomo

President: 2021-22

Vice President: 2020-21

Social Chair: 2019-20

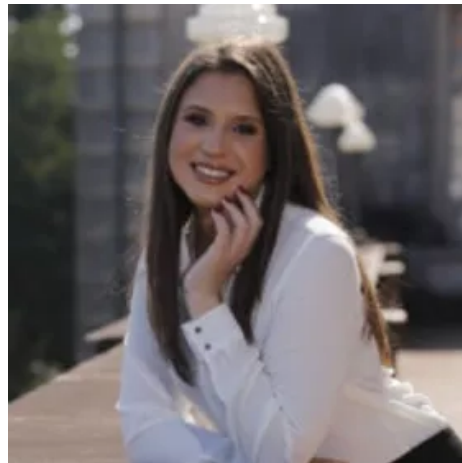
zshomo@huskers.unl.edu



Evan LaBrant

Vice President: 2021-22

evanwilliamlabrant@gmail.com



Leticia Pasqualino

Treasurer: 2021-22

leticiapasqualino@gmail.com



Amanda Quattrone

Secretary 2021-22

Treasurer: 2020-21

amanda.quattrone@huskers.unl.edu



Seema Sahay
Social Chair 2021-22
ssahay2@unl.edu

Upcoming PSI/CROPS Events and UNL Seminars

CROPS Seminar

Thursday, November 18th at 1:00 pm CST, Zoom

Rapid radiation in Neotropical *Costus*: Insights into mechanisms of speciation

Ana Almeida, Assistant Professor, California State University East Bay

Current Research: Dr. Almeida uses molecular tools to dissect the interplay between evolution and development. Her studies focus on how developmental mechanisms evolved to shape the diversity of plant form and function we see in nature today. She is also interested in understanding how genome evolution might have shaped the diversification of plants on Earth. Her work uses comparative genomics to study how genome modifications might have led to plant diversification.

Followed by ~30-45 minutes of career-based discussion

RSVP [here](#) for the zoom link!

For more information about Almeida Lab, please visit [here](#)

Fall 2021 Social Event/Faculty Appreciation!

Thursday, December 2nd, 7 pm Location TBD

Before the semester comes to a close and finals are upon us, CROPS wants to have a social event to give our community a chance to meet the new officers, and just hang out in a "non-work" setting to RELAX! Once we have a location secured, we will send out an announcement!

November PSI Meeting

Thursday, November 18th at 4:30 pm CST, E103 or on [Zoom](#)

Zhang Lab:

Chi Zhang, "Genome-wide identification of genotype-specific RNA splicing for plant stress response in a population"

Schnable Lab:

Ravi Mural, "Data mining to pleiotropic effects and environmental interactions of natural genetic variants in maize"

Hongyu Jin, "Predicting the yields of individual maize genotypes within and across environments"

Agronomy and Horticulture Seminars:

Fridays, 3:30 pm, Keim Hall 150 or [online](#)

Nov 19th

The Wheat We Grow Versus the Wheat We Could Grow: Quantifying and Assessing Causes of Wheat Yield Gaps in the U.S.

Romulo Lollato – Associate Professor of Wheat and Forages Production, Agronomy, Kansas State University, Manhattan

Dec 3

Using Precipitation Insurance to Manage Forage Production Risk in Nebraska: Insights from Extension Programming

Jay Parsons – Professor and Farm and Ranch Management Extension Specialist, Department of Agricultural Economics, University of Nebraska–Lincoln

Dec 10

Modeling Shallow Water Tables and Impacts on Productivity and Sustainability

Sotirios Archontoulis – Associate Professor of Integrated Cropping Systems, Agronomy, Iowa State University, Ames

Note: This presentation will not be recorded.

Complex Biosystems:

Thursdays, 4:00 pm, Beadle N172 (No Zoom or Recordings)

Nov 18

Dr. Heriberto Cerutti, Title TBA

Dec 2

Dr. Yi Qi, Title TBA

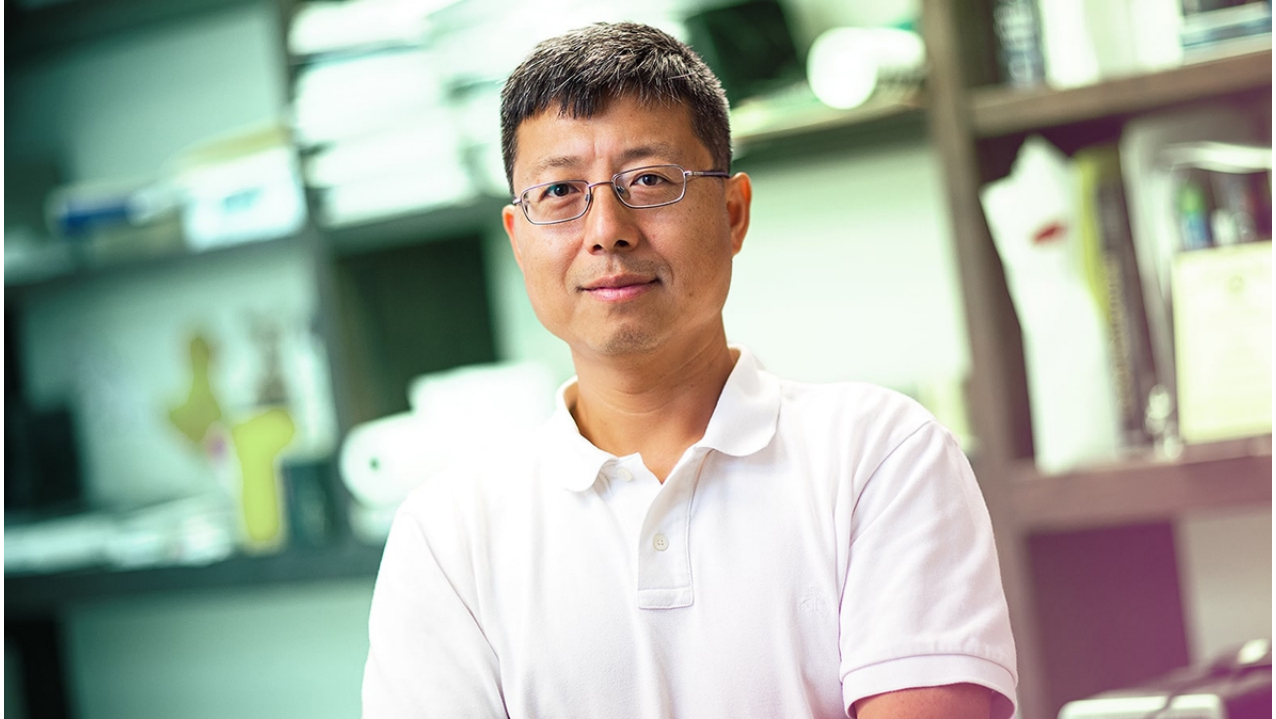
Special Highlight: Rita Yeggy (Retired in September, 2021)



Rita Yeggy worked in the Department of Biochemistry for thirty-two years. She was a Finance and Grants Specialist. Rita had many tasks; which included daily, weekly, and monthly managing of Biochemistry financial accounting for both the academic year and fiscal year with many processing deadlines. She managed state and Federal grant awards for compliance, reconciliation, audits, projections, and closure. She was responsible for reporting on awards with monthly budget reports, analysis and projection reports, grant proposals and grant management. She worked with the Department of Biochemistry, the Beadle Business Center, the UNL Office of Sponsored Programs, IANR Finance & Personnel, and the Office of Research and State/Federal/Private granting agencies, as well as other University departments and centers, and businesses outside of UNL. Rita assisted faculty with grant submissions, typically with tight deadlines. She worked with the Biochemistry faculty and the HR office to coordinate staffing for grant-funded projects and facilitate funding changes as needed and/or requested by the Department Chair and PI's. She worked closely with the Biochemistry Department Chair. Rita was detail-oriented and thorough. She was dedicated, responsible, a loyal employee, and a valuable team member to work with. She was very professional and helpful when working with everyone. Rita retired from the Department of Biochemistry and the University of Nebraska-Lincoln on September 30, 2021. She will be truly missed by all.

PSI Lab/Facility Highlight

The Chi Zhang Lab



Research Interests:

Chi Zhang is the PROFESSOR in the SCHOOL OF BIOLOGICAL SCIENCES.

The research of this lab mainly focuses on Computational Systems Biology and Bioinformatics. Our interest covers a broad area including protein structure modeling, protein-ligand binding prediction, biological network analyses, high-throughput biological data analyses, in silico studies of interactions between pathogens and plant cells, and gene/protein interaction network in plant cells, and many more.

The accomplishment of various genome sequencing projects, the avalanche of high throughput "omic" data, and the increasing number of solved protein structures have provided system-level measurements in model organisms. The conversion of the wealthy heterogeneous data to our understanding of the structure and dynamics of biological processes will only be possible by developing effective data-integration methods. My research aims at integrating and mining diverse high throughput data to extract biological insights and to address fundamental biological questions that would enhance our understanding of systems as a whole. This will be accomplished by designing statistically rigorous and physically sound models to integrate genome sequences, expression profiles, molecular interactions, and protein structures, etc. My research interests also include Computational Systems Biology; Bioinformatics; interactions between pathogens and plant cells; and gene/protein interaction network in plant cells.

His lab & collaboration published a new study that lays bare several roots of how plants respond to drought. They discovered that the mutations substantially stunted the growth and compromised the functioning of plant organs. The double mutant also showed much greater

compromised the functioning of plant organs. The double mutant also showed much greater susceptibility to drought, wilting faster and dying more often than plants with either one or no defective genes.

The Chi Zhang Lab Member Highlight

Post Doc: Dr. Huihui Yu



I received a Bachelor of Science in Biological Science in 2005 and a Doctor of Philosophy in Biochemistry and Molecular Biology in 2011, both from Huazhong Agricultural University, China. During my Ph.D. study, my work focused on the development and application of high-throughput molecular marker identification technologies. Using a rice recombinant inbred line (RIL) population, we developed array-based and sequencing-based high-throughput molecular markers. These markers largely improved the genetic map of the population which could be used in expression quantitative trait locus (eQTL) and phenotypic-QTL (pQTL) analyses. Our work showed gains in QTL detection using an ultra-high density SNP map based on new-generation population sequencing relative to traditional restriction fragment length polymorphism (RFLP) and simple-sequence repeat (SSR) markers.

After my Ph.D. graduation, I accepted a position as a manager at the Genomic Breeding Division of the China Seed Life Science and Technology Center. There, we used high-throughput molecular marker technologies in crop breeding. Our team developed the world's first rice sub-

molecular marker technologies in crop breeding. Our team developed the world's first rice whole genome breeding chip Rice6K, and the updated versions Rice60K and Rice90K, which were used in rice whole genome selection for breeding of high resistance, high quality, and high yield Green Super Rice. Depending on samples and markers, we had various tools for genomic selection of forward and backward genotypes. Integrated these tools, we developed rice genomic-based breeding technology. As compared to field selections performed in conventional breeding programs, genomics-based breeding technology reduces the number of breeding cycles and more precisely integrates target genes for particular traits into an ideal genetic background.

In 2017, I moved to the US and accepted a postdoctoral scholar position in Chi Zhang's lab at the University of Nebraska-Lincoln. Here I have been studying large-scale genomic and transcriptomic data analyses, especially alternative splicing analysis.

Information for upcoming seminar/webinar/conferences in 2021

Highlighting Plant Physiology Focus Issue on Architecture and Plasticity

Thursday, November 18th, 2021, 10:00 AM CST (UTC-6)

Speakers: Jiani Yang, Sebastian Soyk, and Miyo Morito

Jiani Yang (Ph.D., University of Florida, USA): SvFUL2 is required for inflorescence determinacy and timely flowering in the model panicoid grass, *Setaria viridis*
---She is a postdoc at Donald Danforth Plant Science Center. Her current work focuses on dissecting the gene networks that control inflorescence branching and meristem differentiation in maize and *Setaria viridis* (green foxtail), a model panicoid grass. Jiani's research goal is to better elucidate the gene networks that modulate meristem identity and determinacy in grass inflorescences and how they interface with plant growth hormones.

Sebastian Soyk (Ph.D., ETH Zurich in Switzerland): Meristem transitions and plant architecture – learning from domestication for crop breeding
Sebastian Soyk is an Assistant Professor at the University of Lausanne. As a postdoc, he joined the lab of Zachary Lippman at the Cold Spring Harbor Laboratory in the United States to study the genetics and genomics of crop domestication. Now, with his group in Lausanne, he tries to better understand the genetic mechanisms that underlie plant stem cell control and regulate flowering in plants, as well as how these processes were shaped during crop domestication and breeding.

Miyo Morita (Ph.D., Kyoto University, Japan): LAZY1-LIKE-mediated gravity signaling pathway in root gravitropic set-point angle control

Miyo Morita is a professor at the National Institute for Basic Biology in Okazaki, Japan. Her work is dedicated to studying the molecular mechanism of plant gravitropism.

Join us for a special webinar to celebrate the November 2021 Plant Physiology Focus Issue on Architecture and Plasticity. The webinar will be hosted by the Focus Issue editors, Ronald Pierik, Christian Fankhauser, Lucia Strader, and Neelima Sinha; and it will feature talks from three of the authors whose work is included in the issue, Jiani Yang, Sebastian Soyk, and Miyo Morito.

[Read More and Register here](#)

The Annual Plant Biology Meeting

Sat Jul 9th - Wed 13th

Save the date!

Link is [here](#)

Resources for Upcoming Grants/Awards and Career Development Opportunities

Apply for an ASPB Women's Young Investigator Travel Award for Plant Biology 2022

ASPB is now accepting applications for the Women's Young Investigator Travel Awards to attend Plant Biology 2022, which is scheduled to be held this year in Portland, Oregon from July 9-13, 2022, and online! The goal of the program is to increase attendance of early-career female investigators at the annual meeting; women plant scientists who are within the first five years of their appointment to faculty-level positions at research- or teaching-intensive institutions, government research positions, or corporate research scientist positions are invited to apply, as are experienced postdocs. The Society plans to allot \$7,000 to be awarded in increments of \$1,000 for this program. (ASPB reserves the right to adjust the parameters for awardees who do not travel to Portland and instead participate in Plant Biology 2022 virtually.)

Applications, which are due December 17, 2021, should include a research abstract, a two-page curriculum vitae, and a personal statement that describes both professional obligations and alternative sources of travel funds. Additional information and the application form, which must be submitted online, are available via the [ASPB website](#).

ASPB 2022 Travel Award Application

Applications are open for travel awards to attend Plant Biology 2022, which is scheduled to be held this year in Portland, OR from July 9-13, 2022, and online. The submission deadline for the application and both letters is Friday, December 10, 2021, (11:59 p.m. EDT). For more detail click [here](#)

Sharpen your professional development skills with the Graduate & Professional Student Professional Development Learning Modules

The Office of Graduate Studies has developed a series of [Canvas Learning Modules](#) to provide on-demand career readiness resources for all graduate and professional students and postdoctoral fellows preparing for the job market or looking to enhance their professional skills. These modules include short videos and handouts to maximize your time and help you find the most relevant information for your professional development.

For more information please visit [here](#)

New Summer and Fall 2021 Course

CROPS would like to offer our PSI faculty a space to advertise their **Summer and Fall 2021** classes to our community! We will keep this list here throughout the **Summer and Fall 2021** and continue to update it as we receive more submissions!

Job Opportunities!

In collaboration with [Plant-Postdoc Slack](#) group, we are working together to share new job openings in both academia and industry. Please click [here](#) to get the information.

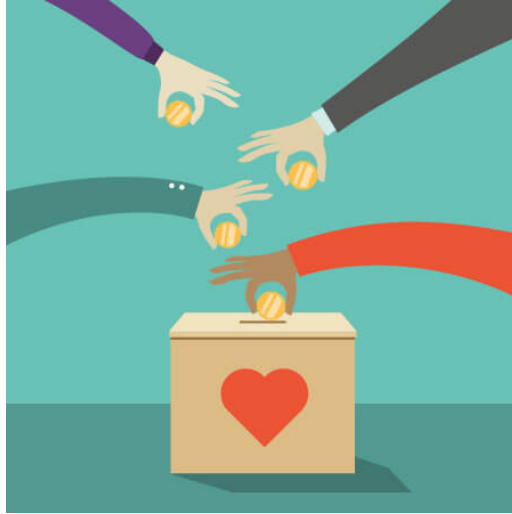


Are you a new postdoc at UNL? Not sure what all you need to need, or struggling to find housing? Check out this [link](#) to Grad Studies for all that info and more! Also, UNL offers a travel grant for postdocs! Check of this [link](#) for more info!

Interested in teaching? Check out the UNL Center for Research Innovation, Teaching and Learning (CIRTL) [here](#) for workshops, seminars and certifications! CROPS also has a [link](#) on our website for more info!



Donate to CROPS!



Like what CROPS has been doing?

Want to help us put on even better events in the future?

We would love you to donate [here](#) to our UNL Foundation account to help us provide the most effective workshops and continue to bring awesome speakers to UNL!

The CROPS Board Thanks You!

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