



Graduate

Ashlyn Rairdin

Ashlyn Rairdin is a Ph.D. student in Plant Breeding with a specialization in Predictive Plant Phenomics (P3) at Iowa State University with Dr. Arti Singh. Previously, she earned a B.S. in Biochemistry at the University of Nebraska-Lincoln. Her research focuses on using high-throughput phenotyping technology for protein content in mung beans and in-season yield prediction of mung beans with drone-based imagery. While at Iowa State University, Ashlyn has participated in several committees and outreach activities. She has served on the P3 graduate student organization committee as president and workshop planner and the R.F. Baker committee as Media Chair, I.T. Chair, and Co-Chair/Treasurer. Ashlyn is also a lead organizer of the Women in Ag and A.I. group at Iowa State University. She has planned and participated in several outreach activities through this group, from demonstrating technology to leading small activities with K-12 students, undergraduates, and the public. She is currently interested in pursuing a career in industry where she can continue to aid in developing phenotyping tools for breeders.

Mentor: Taylor Anderson, Bayer



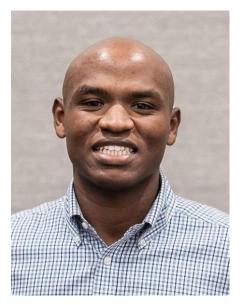


Graduate

Alexander Silva

Throughout my professional career, I have worked in molecular breeding for critical agronomical traits, primarily in rice. Driven by my interest in the genetic control of plant disease resistance, my master's project focused on identifying QTLs for resistance to rice Hoja Blanca disease. Following a valuable experience working at the International Center for Tropical Agriculture (CIAT) Colombia, I joined Michigan State University as a visiting scholar, studying metabolic pathways for the biosynthesis of specialized metabolites in maize. In my PhD research, I am integrating genetic methodologies, phenomics, and bioinformatics to understand the genetic basis of flowering components in tetraploid blackberries, aiming to develop molecular tools for genomic breeding. Working with a polyploid and perennial crop has broadened my skills, preparing me to tackle a wider range of crops, such as other berries, bananas, and roses. My research interests are rooted in the pursuit of sustainable food production and food security. One of my long-term goals is to contribute to developing more resilient genotypes by identifying new genes for biotic and abiotic stress tolerance.

Mentor: Cassie Newman, Bayer





Graduate

Eric Butoto

Eric Butoto is a Ph.D. candidate in the Department of Crop and Soil Sciences at North Carolina State University (NCSU), working in the maize breeding and genetics program. His research focuses on identifying resistance to Fusarium ear rot and fumonisin and is interested in understanding environmental factors that influence their severity. Additionally, he is exploring genetic and phenotypic responses to selection for flowering time in multiple independent tropically adapted maize populations. Eric is a fellow of the AgBioFEWS at NCSU, an NSF-funded interdisciplinary graduate research training program. This fellowship led him to collaborate with CIMMYT in Zimbabwe, examining the performance of old and new CIMMYT hybrids in smallholder farmers' fields. He obtained his M.S. in Crop Science at North Carolina State University and B.S. in Agronomy at Iowa State University. Eric is involved in several professional societies and organizations at his university, including serving in leadership roles in his department's graduate student association.

Mentor: Jenna Hershberger, North Carolina State University





Graduate

Evan Groover

Evan Groover is a plant biology PhD candidate at UC Berkeley and the Innovative Genomics Institute. He works on sorghum, in which he is developing functional genomic approaches to tune photosynthetic gene regulation and improve climate resilience, as well as building and screening the next generation of CRISPR tools. His work is at the interface of gene editing and genomic-assisted breeding, and outside the lab he is an outspoken advocate for the democratization of gene editing technologies for crop improvement. He is a founding instructor of the African Plant Breeding Academy CRISPR course, the lead organizer of several CRISPR-focused public outreach programs, and works as a consultant for seed companies and government agencies on gene editing and biotechnology governance. In 2024 he is instructing an inaugural CRISPR course in New Delhi, India to promote food security.

Evan received his BS in Molecular and Cellular Biology with Honors from the University of Washington, and prior to his PhD worked as a research scientist at a biotechnology startup developing biologicals for crop abiotic stress tolerance.

Mentor: Adisu Negeri, Inari





Graduate

Foster Kangben

Hello, I am Foster Kangben from Ghana, and I am completing my Ph.D. in Plant Sciences at Clemson University. I earned my bachelor's degree from the University for Development Studies in Ghana and my master's degree from the University of Ghana. I am a graduate research assistant in Dr. Christopher Saski's Systems Biology Lab at Clemson University. My research focuses on advancing cotton genetics to improve yield and seed quality by utilizing CRISPR for engineering cotton genotypes with modified shoot architecture and root systems for improved water and nutrient use efficiency, enhanced nematode resistance, and increased cottonseed oil content for dual-purpose cultivation. After completing my Ph.D., I aspire to work in an industry position.

In addition to my academic pursuits, I have served as the Organizer for the Fulbright Foreign Students Program at Clemson Chapter. I was the Vice President of the Plant and Environmental Sciences Graduate Students Association in 2023, a member of the organizing committee for NAPB 2023, and a member of the Minorities in Agriculture, Natural Resources, and Related Sciences (MANRRS).

Mentor: Don Jones, Cotton Incorporated





Graduate

Kyle Parker

Howdy, my name is Kyle Parker, I am in my final stretch as a PhD Candidate in the Texas A&M Wheat breeding program. Where my research focuses on quantitative and comparative genomics for wheat improvement. I enjoy leveraging computational tools to solve puzzles and provide real world solutions. Before my time with Wheat at A&M, I had experience with tomatoes and horticulture while I was at UC Davis for my undergraduate degree. Where I fell in love with mentoring others and sharing my knowledge while managing a nursery internship program through the Learning by Leading structure. However, it wasn't until I worked in a hot pepper breeding team, with HM Clause, that I knew plant breeding was my future. I have been fortunate enough to learn from the best to understand the need to breed for superior quality in combination with biotic and abiotic stress tolerance. I love to share my knowledge with others and encourage up and coming scientists to consider plant sciences and plant breeding more broadly.

Mentor: Brian Pfeiffer, Innovative Seed Solutions





Graduate

Lucas Berger Munaro

Lucas Berger Munaro is a fourth-year Ph.D. candidate in the Department of Crop Sciences at the University of Illinois Urbana-Champaign, supervised by Dr. Jessica Rutkoski. Lucas focuses on accelerating the enhancement of 'total net merit' in wheat for increased sustainability and profitability in Midwest agriculture. His research involves developing multi-trait selection strategies using selection index theory within the genomic prediction context and evaluating traits derived from longitudinal aerial image data to improve selection accuracy. Lucas has also taken on leadership roles in managing field trials and operations within his research group. He is actively involved in the Crop Sciences Graduate Student Organization and the UIUC Plant Sciences Symposium, holding various leadership roles. Before his graduate studies, Lucas gained valuable industry experience as an agronomist and plant breeder in Brazil. Upon graduation, he aims to pursue a career as a plant breeder in the industry to contribute to the development of better products for farmers and improve food security. Outside of research, Lucas enjoys outdoor activities like camping, hiking, fishing, birding, and grilling Brazilian barbecue.

Mentor: Lance Merrick, Corteva



NAB Borlaug Scholars

2024

Graduate

Pabitra Joshi

Hello, my name is Pabitra Joshi. I am a PhD candidate at the University of Idaho working under the Wheat Breeding Program. My research focuses on quantitative trait loci (QTL) mapping of two destructive wheat diseases, common bunt (CB) and dwarf bunt (DB), which can cause yield and quality loss, especially in organic cultivation systems. I use advanced molecular techniques to develop molecular markers for marker-assisted selection in wheat breeding programs. Additionally, I am involved in projects that use high-throughput phenotyping and genotyping to accelerate the selection of high-yielding wheat cultivars.

My interest in plant breeding began during my undergraduate studies at Agriculture and Forestry University in Nepal, where I was involved in maize breeding projects at the national maize research program.

Aside from my research, I am an active member of the ACS Graduate Student Committee at the ASA-CSSA-SSSA and have taken on leadership roles such as Vice-president of Randall Women in Science and Peer Mentor at the University of Idaho. I am dedicated to mentoring future scientists and advancing plant breeding and disease management. My goal is to work in R&D within the industry to develop stress-resistant crop varieties and contribute to sustainable agriculture.

Mentor: Tabare Abadie, Corteva





Graduate

Pablo Sipowicz

Hi! I'm Pablo Sipowicz, a 3rd year Ph.D. candidate in the plant breeding graduate program of the University of Florida. My research is focused on optimizing prediction models in alfalfa and ryegrass. I explore marker density optimization, annual comparison between genomic and phenomic prediction models and crop modeling. I hold a bachelor's degree in biotechnology from my home country, Argentina, and a master's degree in plant breeding from Spain. Here in Gainesville, Fl, I support my community on several levels as I volunteer at Carolyn Parker School in several fundraising Elementary and beautification events. I also have been involved in a student-led organization, the Plant Science Council, with a leading role organizing professional development workshops. I love team sports and as a member of the underwater hockey Club at UF I participate in volunteering activities supporting other sport clubs. Professionally, I look forward to applying different technologies to create new cultivars. I am mostly interested in predictive breeding, molecular breeding, genomics and in systems theory to address complex challenges in crop improvement.

Mentor: Bill McCarthy, Sakata





Graduate

Pradeep Kumar

This is Pradeep Kumar. I am a graduate student in the winter wheat breeding program at South Dakota State University. My research focuses on the characterization of the winter wheat germplasm for drought and heat tolerance. I am working on mapping and characterization of photosynthetic and root traits in winter wheat using genomics and phenomics tools. I did MS in Plant Breeding and Genetics from Punjab Agricultural University, India. I worked as a Research Fellow for a year in spring wheat breeding program in India.

Being a first-generation graduate student hailing from a farmer family in Rajasthan, India, I witnessed the challenges faced by farmers in dryland areas. These experiences ignited my passion for plant breeding, driving me to improve agriculture and support the farming community, especially in arid regions.

Beyond my research, I have consistently taken on leadership roles to benefit graduate students in their research, leadership development, and professional growth. Currently, I serve as Secretary of NAPB GSWG and Vice President of the Plant Science Graduate Student Association at SDSU. During my academic journey, I have been honored with various awards and scholarships, recognizing my dedication and achievements. My goal is to leverage my expertise in plant breeding and genomics to develop stress-resistant crop varieties that benefit the farming community and promote sustainable agriculture.

Mentor: Matheus Benatti, Leap2Bio Solutions





Graduate

Raysa Gevartosky

Raysa Gevartosky is a Ph.D. candidate in plant breeding at the University of Illinois, working in Dr. Jessica Rutkoski's lab. Her research focuses on developing an approach to accelerate wheat This innovative approach improvement. leverages throughput phenotyping (HTP) and observed grain yield data to generate HTP-based imputed phenotypes. These imputed phenotypes will be used to increase the training set size for rapid cycle genomic selection. Besides that, fieldwork and collaboration in breeding activities are aspects that she truly enjoys. Raysa is actively involved in the graduate student organization and the Corteva Symposia Series at the University of Illinois. During her undergrad, she completed internships in melon breeding and hybrid tomato seed production, both in France. For her master's degree, she focused on corn breeding, covering areas of genomic selection, hybrids, double haploids, and developing haploid inducers. In her free time, Raysa finds joy in spending quality time with friends and loved ones, relaxing in yoga classes, and discovering new coffee shops. After completing her Ph.D., Raysa aspires to a career in Plant Breeding in Industry.

Mentor: Clayton Carley, Corteva





Graduate

Richard Tegtmeier

Hi, my name is Ricky Tegtmeier, I am a fifth year PhD candidate in Plant Breeding and Genetics at Cornell University. My research focuses on understanding the genetics of resistance to fire blight, the most devastating disease affecting apples. Given my strong interests in domestication and crop-wild relatives, my work concentrates on the primary progenitor of the domesticated apple, Malus sieversii. Before coming to Cornell, I gained valuable experience researching and working at hydroponic facilities while studying biology at Salve Regina University in Newport, Rl. My junior year, I was able to join the Cornell Summer Scholars Program where I found plant breeding to be the perfect intersection of my passions and desire to improve the lives of others. During my time at Cornell, I have been fortunate to mentor students, build relationships with the apple growers, and share my passions more broadly. As I am finishing my PhD, I will be looking to continue on to the USDA or industry to optimize breeding pipelines and develop cultivars with robust disease resistance.

Mentor: Fang Bai, USDA





Graduate

Saptarshi Mondal

Hi, I am Saptarshi Mondal, a Ph.D. candidate at the Institute of Plant Breeding, Genetics, and Genomics, University of Georgia, under the supervision of Dr. David Jespersen. I completed my BS in Agriculture (Hons.) from Visva Bharati, Santiniketan, India and then I moved to the Punjab Agricultural University, Ludhiana, India, to pursue MS in Plant Breeding and Genetics with the ICAR-PG scholarship. My preliminary steps toward the world of biological sciences were paved by my father, who is a teacher in botany and gradually I started growing my interest in agriculture, especially in crop improvement through plant breeding and genetics. My present research is focused on understanding the genetics of salt tolerance mechanisms in Chloridoideae subfamily that includes Zoysigrass and Finger millet. Apart from my research, I also devote myself to developing leadership roles in organizations such as the IPBGG Graduate Student Association (as the Vice President) and serve as Secretary at the UGA Griffin Ambassadors. I am indeed excited to get selected for the NAPB Borlaug Scholarship 2024 and looking forward to learning something special from the upcoming NAPB meeting in St. Louis, MO.

Mentor: Vivek Sharma, Bayer





Graduate

Seren Villwock

Seren is a 4th-year PhD Candidate in Plant Breeding & Genetics at Cornell University in Jean-Luc Jannink's research group. She received a B.A. in Biology from Lewis & Clark College in 2019. She previously interned at the Danforth Plant Science Center in 2018 with Malia Gehan, developing image analysis pipelines for quantifying temperature stress response. Her current research focuses on yellow-fleshed cassava, which accumulates provitamin A carotenoids. She is investigating the biological basis of an unfavorable trade-off between carotenoid and dry matter contents in cassava roots to help optimize breeding strategies for improving both traits. She works with genomic, transcriptomic, and metabolite data from greenhouse experiments and field trials at the International Institute of Tropical Agriculture in Ibadan, Nigeria. She serves as co-president of Synapsis, the plant breeding graduate student association at Cornell. She is passionate about plant breeding for nutritional and medicinal benefits to human health, and plans to pursue a career as a research geneticist in a public sector plant breeding program.

Mentor: Amanda Hulse-Kemp, USDA





Graduate

Usha Pedireddi

Howdy! I am Usha Pedireddi, a Ph.D. Candidate in Plant Breeding at the Department of Soil and Crop Sciences, Texas A&M University. My research focuses on characterizing gene flow between grain sorghum and johnsongrass. I have conducted experiments in the field, greenhouse, and laboratory to quantify gene flow using phenotyping and molecular techniques. Before TAMU, I worked as an Agricultural Research Scientist at ICAR-Indian Agricultural Research Institute, New Delhi, for about five years after I graduated with my Master's in Agriculture from Acharya N.G. Ranga Agricultural University, Hyderabad.

I have been involved in several graduate student organizations at Texas A&M through serving in different leadership roles, to name a few, International Student Affairs Liaison at Texas A&M Graduate and Professional Student Government (GPSG), Co-host for the Plant Breeding and Genetics Circle (PBGC) at the Department of Soil and Crop Sciences. I enjoy mentoring programs a lot. As a mentee in Bayer's B4U mentorship program, I am gaining valuable personal and professional skills. In return, I also wish to give back to my community by mentoring. Thus, I participated in the Aggie Research (Mentoring) Program (ARP).

I am an active member of professional organizations such as Tri-societies and weed science societies. As one of the active hosts, I encourage students, faculty, and plant breeders across the industry to present their research at our PBGC. After graduation, I want to pursue a career as a plant breeder in the private industry.

Mentor: David Bubeck, Corteva





Graduate

Ashmita Upadhyay

Hi, I am Ashmita Upadhyay, a second-year master's student at the University of Arkansas (UARK), Fayetteville. My research work involves assessing the efficiency of hyperspectral data in a multitrait genomic prediction model for biomass sorghum and using multispectral & genomic data in machine learning model to predict grain yield in rice. I hold a BS degree in Agriculture from Tribhuvan University, Nepal. I worked as a secretary at the Crop, Soil, and Environmental Sciences Graduate Student Club at UARK. One of my research works is in collaboration with International Rice Research Institute (IRRI), Philippines where I spent a month learning cutting-edge research and gained hands-on experience in rice breeding. I worked closely with small-holder farmers as a facilitator in a participatory plant breeding project in Tanzania to improve groundnut and sesame breeding programs collaboration with Tanzania Agricultural Research Institute (TARI), Naliendele. I am interested in working in an applied breeding program further specializing in quantitative genetics genomics for a PhD program.

Mentor: Alejandro Castro Aviles, Bayer





Graduate

Olayemi Christiana Ojeokun

Hello, my name is Olayemi Ojeokun, I am completing my master's degree in Horticulture with a specialization in warm-season turfgrass at Kansas State University. My research focuses on evaluating the relationship between rooting characteristics and shoot quality of zoysiagrass genotypes for drought avoidance in the southern and midwestern parts of the USA. I also investigate the influence of growers' grow-in cultural practices on the performance of zoysiagrass sod after laying. Before this, I earned my bachelor's degree in Agronomy from Nigeria. I was also previously working at the Genetic Resources Center in the International Institute of Tropical Agriculture, Ibadan

Aside from my academic achievements, I have honed my leadership experience with MANRRS, the African Student Union, and Kansas 4-H youth development, I am also an advocate and a lobbyist for climate change.

Professionally, I am passionate about plant breeding and genetics of agronomic crops and I am excited to explore the breeding sector bringing together my skills and expertise in agronomic and non-agronomic crops to contribute to global food security by developing stress-resistant crop varieties.

Mentor: Klaus Koehler, Corteva





Graduate

Stephanie Emily Botton

My name is Stephanie Botton and I'm a masters student and a research technician with University of Georgia, IPBGG in Tifton, Georgia. When I was hired, I had intentions to apply to medical school. However, this changed as I grew to love plant breeding; I decided to pursue a master's degree under the guidance of Dr. Ozias-Akins while simultaneously continuing technician position with her. My work and focus of study revolve around the genetics and breeding of peanut. As a technician, I work and collaborate with a USDA peanut breeder, assisting and managing many aspects of the breeding program. My research studies are focused on characterizing the Meloidogyne arenaria resistance introgressions in peanut. molecularly phenotypically. While at UGA, I've been on several social and planning committees (Journal club-chair IPBGG-GSA; UGA-Tifton's Horticulture department social-committee; Boerma Lecture planning-committee), I've been a mentor for UGA's Young scholars' program, and I've volunteered/chaired for Relay for Life. My desire is to continue to expand my knowledge and experience of plant breeding upon graduation by pursuing a PhD.

Mentor: Stephanie Sjoberg, Syngenta





Undergraduate

Aidan Bobholz

Hello, I am Aidan Bobholz, an undergraduate senior at Iowa State University. I am majoring in Agronomy and Seed Science with minors in Data Science and International Agriculture. I work in the sorghum breeding program at Iowa State under Dr. Maria Salas. Currently, I am working on measuring the coleoptile and mesocotyl lengths of sorghum varieties to find possible genetic associations with these traits. Along with working in this lab, I have been fortunate enough to have interned for Beck's and Syngenta within their Corn Breeding programs the last two summers. In these internships, I have been exposed to nursery work, leading pollination groups, setting up experiments, solving data problems through using R, and gaining knowledge from corn breeders through walking plots with them. I am forever grateful for these experiences and plan to take my gained knowledge into my future career path. After graduating in the spring of 2025, I plan to pursue my master's and then Ph. D in plant breeding and genetics.

Mentor: Navdeep Kaur, New Mexico State University



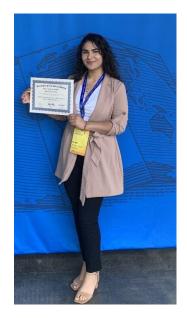


Undergraduate

Cole Hammett

Cole H. Hammett grew up in Ashland, MO, and graduated from Southern Boone High School in 2020. Deeply involved in the FFA, they held many offices, competed in state public speaking contests, and placed first at state in four career development events. Inspired by innovators such as Norman Borlaug, Cole's research experiences started in 2019 at the University of Missouri's Soybean Breeding Program. In the fall of 2020, Cole left Missouri to study as a Plant Biology major at the University of Nebraska-Lincoln (UNL). Quickly jumping into research at UNL, Cole was mentored in plant cell transformation, horticulture production, and applied phenotyping. In the summer of 2023, Cole completed an REU internship in Applied Plant Phenotyping with UNL's Small Grains Breeding lab doing research on droughtstress tolerance in experimental wheat lines. This research subject will continue for Cole as they begin a master's position at North Carolina State University after having completed their undergraduates in May of 2024.

Mentor: Caio Canella Vierira, University of Arkansas





Undergraduate

Deysi Alvaro Ceja

I am Deysi Alvaro Ceja, an undergraduate senior at the University of California, Davis. I am majoring in plant sciences and minoring in Native American studies. I currently work in the fruit biology and quality lab at UC Davis under Dr. Bárbara Blanco-Ulate. We focus on using CRISPR-Cas9 as an approach to increase Vitamin C in tomatoes. This project targets the plant vitamin C-degrading enzymes APX1, APX2, and APXc9 to enhance vitamin C levels in tomatoes without compromising quality traits. We analyze the impact on vitamin C content alongside fruit firmness and sugar-to-acid ratios to assess the efficacy and specific effects of knocking out these APX genes.

In addition, I participate in the planning and management of research trials as an intern with the UC Davis Student Collaborative Organic Plant Breeding Education (SCOPE) Project. My participation in their tomato, zinnia, spinach, and celtuce breeding projects has allowed me to develop a profound understanding of the intricate processes involved in enhancing plant genetics.

I am grateful for these experiences as they have deepened my knowledge of plant breeding and equipped me with valuable skills that I can apply in future research endeavors. After graduating in the spring of 2024, I plan to pursue my master's in plant breeding and agronomy at UC Davis.

Mentor: Cameron Mattews, North Dakota State University





Undergraduate

Khushi Chawda

I am majoring in Plant Sciences and Managerial Economics at the University of California, Davis. I am interested in breeding plants for climate resilience. My interest in plant breeding blossomed when I worked at Syngenta Seeds as a vegetable seeds development intern in 2022, with the melon breeding team. The program was interested in traits like yield, ripening indicator, shelf life, sugar content, and firmness.

Following that, I have been working and learning at Dr. Allen van Deynze's Lab for the past year, assisting with two pepper breeding projects. First, introgression of the destemming trait into elite lines of jalapeño and blocky peppers, along with a focus on tall plant architecture to facilitate mechanical harvesting. Second, breeding for virus resistance against the resistance-breaking strain of Tomato spotted wilt virus.

I am also a field science intern at Corteva agriscience where I help with data collection for experiments involving insecticidal chemistries and biologicals. We work with a variety of insect pests including aphids, whiteflies, leafhoppers, leps, and spider mites.

Mentor: Amaka Ifeduba, Texas A&M University





Undergraduate

Raelyn Butler

Hello! I'm Raelyn Butler and I'm an undergrad at Purdue University. The research I've done involves the improvement of sorghum by replacing the assay used to find digestibility content with a NIRS scan. This reduces the two-day lab session to a few hours of machine analysis. When I was not working on this project I worked at Purdue's ACRE facility to aid graduate students with their projects. I have also worked as an intern at Co-Alliance as a field scout and currently work with Greene Crop Consulting as a field scout/research intern. I am active in the Unhurried club on campus and plan to start a Plant Genetics club this coming fall. I was recognized as a laureate for Indiana by the World Food Prize Youth Institute in Junior year of high school and recently was on a question panel for this year's presenters.

Mentor: Sara Larsson, Corteva





Undergraduate

Rhys Brock

My name is Rhys Brock. I'm a senior from Branson, Missouri, majoring in Crop Science from the University of Arkansas. I'm on track to graduate in the Fall of 2024. For over a year, I've served as a farm technician within the University of Arkansas Division of Agriculture Fruit Breeding Program, under the guidance of Dr. Margaret Worthington.

This experience has provided me with invaluable skills in fruit crop production and the breeding process involving blackberries, muscadines, grapes, peaches, and nectarines. I've also been able to immerse myself within the operational dynamics of a comprehensive, world-renowned fruit breeding program. My current research project aims to investigate the efficiency and accuracy of three texture analysis methods for blackberry fruit.

After completing my undergraduate degree this December, I will immediately begin my master's in plant breeding and genetics under Dr. Worthington, focusing on exploring the genetic variation of chilling requirements within the University of Arkansas blackberry germplasm. I'm excited to apply my knowledge and continue to gain new skills as I enter this new and exciting chapter.

Mentor: Donn Cummings, Monsanto