Dae Kwan Ko

Michigan State University,
612 Wilson Rd, Room 122, East Lansing MI 48824
dkko@msu.edu, (512) 300-7521, Google Scholar, GitHub, Twitter, Website

Research Interests

I am a plant biologist passionate about addressing fundamental biological questions at the systems level through a hypothesis-driven, genomics-enabled approach. My research focuses on unraveling **biological networks**, the molecular interactions among genes and proteins that regulate pathways essential for cellular homeostasis. My long-term goal is to decode these regulatory networks and apply the insights to advance translational research for crop resilience and sustainability.

Professional Appointments

Assistant Professor - Fixed Term 2022 – Present
MSU-DOE Plant Research Laboratories
Great Lakes Bioenergy Research Center
Department of Plant Biology, Michigan State University

- Hosted by Dr. Federica Brandizzi
- Research: Using single-cell genomics technologies, investigating how genes respond to environmental stresses in model and non-model plant species.

Postdoctoral Research Associate 2017 – 2022
MSU-DOE Plant Research Laboratories
Great Lakes Bioenergy Research Center, Michigan State University

- Advisor: Dr. Federica Brandizzi
- Research: Investigated gene regulatory networks in plant unfolded protein response using multi-omics approaches. Explored cell wall biogenesis and differentiation in bioenergy crops through gene regulatory network modeling and functional characterization. Aimed to provide a systems-level understanding of these processes.

Postdoctoral Research Associate 2016 – 2017
Department of Plant Biology, Michigan State University

- Advisor: Dr. C. Robin Buell
- Research: Identified unintended consequences of genome modification methods in clonally propagated diploid potato, addressing critical concerns related to genome editing and its implications within the context of crop improvement.

Education

Ph.D. Plant Biology | The University of Texas at Austin 2009 – 2016

- Advisor: Dr. Z. Jeffrey Chen
- Thesis: *Clock-Regulatory Networks Contribute to Growth Vigor in Maize Hybrids*
- Research: Circadian clock regulation and heterosis in maize using functional genomics

M.S. Biological Sciences | Seoul National University, Seoul, South Korea. 2006 – 2008

- Advisor: Dr. Choo Bong Hong

- Thesis: *Submergence-Inducible and Circadian Rhythmic Transcriptional Networks in Nicotiana tabacum*
- Research: Characterizing clock-regulated transcription factor genes in response to abiotic stress in *Nicotiana tabacum*

B.S. Crop Science | Konkuk University, Seoul, South Korea. 2000 – 2006

Publications

Peer-Reviewed Articles (20 total: 10 first author, 1 corresponding, 9 co-author)

1. **Ko DK**, Brandizzi F (2025). A network-enabled pipeline for gene discovery and validation in non-model plant species. ***Cell Reports Methods*** 5(1):100963.
   - Highlighted in MSU-PRL bulletin (https://rb.gy/gbti3k)
   - Highlighted in GLRBC bulletin (https://rb.gy/a7qjsg)
2. Adhikari B, Verchot J[#], Brandizzi F, **Ko DK**[#] (2025). Advances in plant UPR: mechanisms, implications, and future directions in viral defense. ***Journal of Biological Chemistry*** 301(4):108354. [#]Co-corresponding author.
3. **Ko DK**, Brandizzi F (2024). Dynamics of ER stress-induced gene regulation in plants. ***Nature Reviews Genetics*** 25(7):513-525.
4. Choi D, **Ko DK**, Kim DH (2024). Transcriptome analysis revealed that Arabidopsis model plant invokes the activation of heat shock proteins and ER stress response against cesium stress. ***Plant Biotechnology Reports*** 18(3):385-399.
5. **Ko DK**, Kim JY, Thibault EA, Brandizzi F (2023). An IRE1-proteasome system signalling cohort controls cell fate determination in unresolved proteotoxic stress of the plant endoplasmic reticulum. ***Nature Plants*** 9(8):1333-1346.
   - Featured in Spotlight by Varshney et al., *Trends in Plant Science* 2023 Dec 14:S1360-1385(23)00388-6.
   - Highlight in MSUTODAY (https://rb.gy/7oapjq)
   - Interview video (https://rb.gy/ao6p53)
6. Bhandari DD, **Ko DK**, Kim SJ, Nomura K, He SY, Brandizzi F (2023). Defense against phytopathogens relies on efficient anti-microbial protein secretion mediated by the microtubule-binding protein TGNap1. ***Nature Communications*** 14(1):6357.
7. **Ko DK**, Brandizzi F (2022). Transcriptional competition shapes proteotoxic ER stress resolution. ***Nature Plants*** 8(5):481-490.
   - Highlight in MSU-PRL Bulletin (https://rb.gy/kw41ig)
8. **Ko DK**, Brandizzi F (2022). Advanced genomics identifies growth effectors for proteotoxic ER stress recovery in *Arabidopsis thaliana*. ***Communications Biology*** 5(1):16.
   - Highlight in MSU-PRL Bulletin (https://rb.gy/oq2ve2)
   - Interview video (https://rb.gy/0p794v)
9. York LM, Cumming JR, Trusiak A …. **Ko DK** …. Yang WH (2022). Bioenergy Belowground: challenges and opportunities for phenotyping roots and the microbiome for sustainable bioenergy crop production. ***Plant Phenome Journal*** 5: e20028.
10. Plant Cell Atlas Consortium, Ghosh Jha S, Borowsky AT …. **Ko DK** … Rhee SY (2021). Vision, challenges and opportunities for a Plant Cell Atlas. ***eLife*** 10:e66877.
11. Angelos E, **Ko DK**, Zemelis-Durfee S, Brandizzi F (2021). Relevance of the Unfolded Protein Response to Spaceflight-Induced Transcriptional Reprogramming in Arabidopsis. ***Astrobiology*** 21(3):367-380.
12. **Ko DK**, Brandizzi F (2021). A temporal hierarchy underpins the transcription factor-DNA interactome of the maize UPR. ***The Plant Journal*** 105(1):254-270.
    - Highlight in MSU-PRL Bulletin (https://rb.gy/m4ypc8) lllsdfsf

13. **Ko DK**, Brandizzi F (2020). Network-based approaches for understanding gene regulation and function in plants. ***The Plant Journal*** Oct;104(2):302-317.
    - Featured in the Society for Experimental Biology's Spring Bulletin (https://rb.gy/lhwrhu)
14. Rice S, Fryer E, Ghosh Jha S…The Plant Cell Atlas Consortium (including **Ko DK**) (2020). First plant cell atlas workshop report. ***Plant Direct*** 00:1–10.
15. Pastor-Cantizano N, **Ko DK**, Angelos E, Pu Y, Brandizzi F (2019). Functional diversification of ER stress responses in Arabidopsis. ***Trends in Biochemical Sciences*** 18;45(2):123-136.
16. Nadakuduti SS, Starker CG, **Ko DK**, Jayakody TB, Buell CR, Voytas DF, Douches DS (2019). Evaluation of Methods to Assess in vivo Activity of Engineered Genome-Editing Nucleases in Protoplasts. ***Frontiers in Plant Science*** 8;10:110.
17. **Ko DK**, Nadakuduti SS, Douches DS, Buell CR (2018). Transcriptome profiling of transgenic potato plants provides insights into variability caused by plant transformation. ***PLoS One*** 13(11):e0206055.
18. ***Ko DK**, *Rohozinski D, Song Q, Taylor SH, Juenger TE, Harmon FG, *Chen ZJ (2016). Temporal shift of circadian-mediated gene expression and carbon fixation contributes to biomass heterosis in maize hybrids. ***PLoS Genetics*** 12(7):e1006197. *These authors contributed equally.
19. Shi X, Zhang C, **Ko DK**, Chen ZJ (2015). Genome-wide dosage-dependent and -independent regulation contributes to gene expression and evolutionary novelty in plant polyploids. ***Molecular Biology and Evolution*** 32(9):2351-66.
20. **Ko DK**, Lee MO, Hahn JS, Kim BG, Hong CB (2009). Submergence-inducible and circadian rhythmic basic helix-loop-helix protein gene in Nicotiana tabacum. ***Journal of Plant Physiology*** 166(10):1090-100.

Book Chapters & Editorial (3 total)

1. **Ko DK**, Brandizzi F (2023). Multi-omics resources for understanding gene regulation in response to ER stress in plants. In: Kriechbaumer, V. (eds) The Plant Endoplasmic Reticulum. ***Methods in Molecular Biology***, vol 2772. Humana, New York, NY.
2. **Ko DK**[#], Sanchez-Ballesta MT (2023). Editorial: methods, applications, and protocols in plant science: network modeling-guided understanding of gene regulation in plants. ***Frontiers in Plant Science*** 14:1171846. [#]Corresponding author.
3. **Ko DK**, Brandizzi F (2022). Coexpression network construction and visualization from transcriptomes underlying ER stress responses. In: Lois, L.M., Trujillo, M. (eds) Plant Proteostasis. ***Methods in Molecular Biology***, vol 2581. Humana, New York, NY.

In Review/In Revision

1. **Ko DK**, Brandizzi F. Decoding abiotic stress resilience in sorghum: A transcriptomic framework for climate-ready Crops. *In review* (The Plant Journal).
2. Danieli R***, Ko DK***, Thomson J, Ruberti C, Brandizzi F. miRNA processing and UPR signaling converge on ER stress recovery through the bZIP28–SAID1 axis. *These authors contributed equally. *In review* (Nature Plants).
3. Kim JK, **Ko DK**, Brandizzi F. The MAP kinase scaffold MORG1 shapes cell death in unresolved ER stress in Arabidopsis. *In revision* (Nature Communications; bioRxiv, 2025.01. 08.632046).

In Preparation

1. **Ko DK***, Danieli R*, Brandizzi F. Unfolded protein response in physiological recovery from ER stress. *These authors contributed equally. Anticipated submission in Nov 2025.
2. **Ko DK**[#]**,** Thibivilliers S, Libault M[#], Brandizzi F[#]. A DAP-seq atlas of abiotic stress-responsive transcription factor networks in sorghum. [#]Co-corresponding author. Anticipated submission in Dec 2025.

Grants & Fellowships

- **(Pending) NSF MCB**
  - Project title: *Unveiling Systems-Level Mechanisms of Arabidopsis bZIP Transcription Factors for Resilience to Virus Infection*
  - Role: Initially Co-PI (PI: Dr. Jeanmarie Verchot). Transitioned to Key Personnel under Dr. Federica Brandizzi (Co-PI) to comply with NSF's two-month salary support policy. If funded, I will supervise project activities and budget management and serve as co-corresponding author on resulting publications.
  - Budget: $1,907,929 (of which $1,313,728 is allocated to my portion, if funded)
  - Duration: 4 years
- **DOE-JGI Bioenergy Research Center grant** (Proposal ID: 509513) 2023
  - Project title: *The DNA Binding Landscape of Sorghum TFs in Response to Abiotic Stress*
  - Description: Profiling DNA-binding sites of 142 abiotic stress-responsive sorghum TFs using DNA Affinity Purification sequencing (DAP-seq).
  - Role: PI (Co-PI: Federica Brandizzi)
- **MSU Project GREEEN** 2022 – 2023
  - Project title: *Accessing the Impact of Abiotic Stress on Activities of Gene Regulatory DNA Sequences in Sorghum at Single-cell Resolution*
  - Role: PI
  - Amount: $30,000
- **DOE-JGI Bioenergy Research Center grant** (Proposal ID: 508271) 2021
  - Project title: *Transcriptome Analysis Under Abiotic Stress in Sorghum*
  - Description: Support for RNA-seq library construction and next-generation sequencing of 104 sorghum samples under abiotic stress conditions.
  - Role: PI
- **MSU Cloud Computing Fellow** 2020 – 2021
  - Description: Supported cloud computing infrastructure (Microsoft Azure) for research projects; participated in hands-on training and public engagement activities.
  - Public Announcement: https://rb.gy/q5gpwx
- **Fellowships & Awards**
  - ASPB Travel Award 2025
  - MSU-PRI Travel Grant 2020
  - NSF Plant Cell Dynamics Travel Grant 2019
  - Bennett Memorial Graduate Fellowship, UT-Austin 2015
  - Graduate School Travel Award, UT-Austin 2014
  - Summer Research Fellowship, UT-Austin 2013 – 2014
  - Pre-emptive Fellowship, UT-Austin (full scholarship) 2009 – 2010

Honors

- The 2nd place prize for Best Poster, the 2nd Plant Cell Atlas Symposium 2022
- Nomination for Teaching Assistant Award, The University of Texas at Austin 2013
- Honor in Great Teaching Assistant, School of Biological Sciences, Seoul National University 2007

Service & Outreach

- GLBRC Ambassador 2024

    - Disseminating GLBRC's research and promoting bioenergy careers to students from diverse backgrounds
    - Attended the Society for Advancement of Chicanos/Hispanics & Native Americans in Science (SACNAS) conference in Phoenix, AZ (Oct 31 – Nov 2, 2024)
- Seminar Host, MSU and UT-Austin
    - Speaker: Dr. Samuel Leiboff (Oregon State University) Oct 2024
    - Speaker: Dr. Vladimir Gligorijevic (Flatiron Institute) Dec 2019
    - Speaker: Dr. Zachary B. Lippman (Cold Spring Harbor Laboratory) Apr 2012
- NASA Open Science Data Repository Workshop
    - Invited participant, Washington D.C. Nov 2003
- Core Member of the Plant Cell Atlas (https://www.plantcellatlas.org) 2021 – Present
- Active Member, NASA GeneLab Working Groups
    - Plants Analysis Working Group 2023 – Present
    - Multi-omics Analysis Working Group 2023 – Present
- Organizer for Crop Engineering Community of Practice in GLBRC 2023 – 2024
    - Organized monthly webinars for the GLBRC community
    - Invited speakers and moderated discussions
- GLBRC Annual Science Meeting Committees
    - 2024 Planning Committee 2023 – Present
    - 2023 Session Organizing Committee 2022 – 2023
    - 2022 Session Organizing Committee 2021 – 2022
- DOE-BRC Workshop on AI-ML for Biosystems Design
    - Invited participant, Washington D.C. Feb 2020
- Public Outreach Events
    - Organized Grade-1 Plant Day, MSU, East Lansing, MI Sept 2023
    - Participated in Family Day Weekend, UT-Austin, Austin, TX Oct 2012
- Panel Reviewer
    - JGI panel reviewer: Community Science Program (CSP) Functional Genomics 2024
    - DOE panel reviewer: DOE SBIR/STTR 2020
- Journal Peer Reviewer
    - Average 2 manuscripts/month
    - Journals include: *Nature Communications, PNAS, Developmental Cell, Science Advances, New Phytologist, Current Opinion in Plant Biology, Plant Communications, The Plant Journal, Science Signaling, Communications Biology, Plant Genomes, BMC Genomics, BMC Plant Biology, FEBS Letters, Frontiers in Plant Science, IEEE/ACM Transactions on Computational Biology and Bioinformatics, Heliyon, Genes, Plants, International Journal of Molecular Sciences, Cells, Agronomy, Data in Brief*
- Topic Editor
    - *Frontiers in Plant Science* (https://rb.gy/gnrbou)

Teaching

UT-Austin Teaching Assistant

- BIO327 Genomics Spring 2016
    - Graduate lecture course (30 students)
    - Instructor – Dr. Z. Jeffrey Chen
    - Responsibilities: Conducted weekly discussion sessions where I delivered concise 10-minute lecture summaries. Evaluated exams containing diverse question formats, including multiple choice, short answer, and essays. Assisted group presentations. Facilitated office hours by appointment.

- BIO395 Genetics Spring 2014
  - Upper division lecture course (23 students)
  - Instructors – Drs. Jeffrey Gross & Z. Jeffrey Chen
  - Responsibilities: Conducted weekly discussion sessions where I delivered concise 10-minute lecture summaries. Evaluated exams containing diverse question formats, including multiple choice, short answer, and essays. Facilitated office hours by appointment.
- BIO325 Genetics Fall 2010, Spring/Summer 2011, Spring/Summer/Fall 2012, Spring/Fall 2013
  - Sophomore lecture course (121, 83, 56, 77, 52, 109, 49, or 35 students in each semester)
  - Instructor (one per semester): Drs. Inder M. Saxena, Sibum Sung, and Beverly Finklea
  - Responsibilities: Conducted weekly discussion sessions where I delivered concise 10-minute lecture summaries. Evaluated exams containing diverse question formats, including multiple choice, short answer, and essays. Facilitated office hours by appointment.
- BIO205L Laboratory Experiments in Cell and Molecular Biology Spring 2011
  - Introductory laboratory course (29 students)
  - Instructors – Dr. A. William Allen
  - Responsibilities: Conducted weekly lab sessions where I delivered concise 10-minute lecture for specified experiments and demonstrated hands-on experiments. Collaborated with the instructor and undergraduate helpers in designing lab experiments and assessed weekly reports, exams, and term papers.

Seoul National University Teaching Assistant

- 010.323-003 General Biology Experiment Fall 2007
  - Introductory laboratory course (52 students)
  - Responsibilities: Conducted weekly lab sessions where I delivered concise 10-minute lecture for specified experiments and demonstrated hands-on experiments. Assessed weekly reports, exams, and term papers.

Guest Lectures

- Gene Network Workshop, Chung-Ang Univ., South Korea. Virtual. Apr 2023
- Coexpression Network Workshop, Chung-Ang Univ., South Korea. Virtual. Oct 2022
- ChIP-seq Workshop, Chung-Ang Univ., South Korea. Virtual. Apr 2022
- PLB801 Foundation of Plant Biology (graduate course), MSU. Virtual. Oct 2020
  - Instructor: Dr. Jiming Jiang
- Guest speaker for BIO325 Genetics, UT-Austin Oct 2012
  - Instructor: Dr. Inder M. Saxena

Mentoring

Mentored 12+ Undergraduate & Research Assistants at MSU, GLBRC, and UT-Austin

- Samantha Waite, GLBRC Research Technician 2024 – present
- Ashlyn Savoie, GLBRC Research Technician 2024 – 2025
- Zachary Smith, GLBRC Research Technician 2023 – 2024
- Joshua Deradoorian, GLBRC Research Technician 2022 – 2023
- Chloe Hollidays, MSU Undergraduate Student. 2022 – 2023
- Rita E. Barr, MSU Undergraduate Student. 2021 – 2022
- Sara Knapp, GLBRC Research Assistant. 2020 – 2021
- Elizabeth Selby, MSU Research Assistant. 2019 – 2020

- Rebecca Selby, MSU Research Assistant. 2018 – 2019
- Michael Cadell, UT-Austin Undergraduate Student. 2012 – 2014

SURP & REU Participants

- Xiaohe (Sherry) Sun, GLBRC Summer Undergraduate Research Program May – Jul 2022
  - Online Blog describing her experiences with my mentorship (https://rb.gy/erul98)
- Krystal Chi-Shuan Chang, UT-Austin NSF REU. May – Jun 2014

Seminar Presentations

Invited Seminars

- GLBRC Crop Engineering Community of Practice. Virtual. Apr 2025
  - Title: *Decoding the Abiotic Stress-Inducible Cistrome of Sorghum*
- Department of New Biology, DGIST, Daegu, South Korea. Virtual. Dec 2024
  - Title: *Decoding Plant UPR Gene Regulation: Insights from Genetics, Genomics, and Network Analysis*
- GLBRC Bioinformatics Community of Practice. Virtual. Sept 2023
  - Title: *Decoding the Abiotic Stress-Inducible Cistrome of Sorghum*
- Biological Research Information Center (BRIC) Webinar Series. South Korea. Virtual. Oct 2023
  - Title: *Unleashing Cellular Destiny: IRE1-Proteasome Signaling Governs Plant ER Proteotoxic Stress*
- Department of Horticulture, Chung-Ang University, South Korea. Virtual. Jul 2021
  - Title: *Network-Enabled Understanding of Gene Regulation in Response to Abiotic Stress*
- Department of Horticulture, Chung-Ang University, South Korea. Jul 2019
  - Title: *Systems-Level Approach to Understand UPR Gene Regulation in Arabidopsis*
- Systems/Synthetic Agrobiotech Center, Gyeongsang National University, South Korea. Jul 2019
  - Title: *Systems-Level Approach to Understand UPR Gene Regulation in Arabidopsis*
- Monsanto Company, Chesterfield, MO Aug 2017
  - Title: *Genome Editing Methods in Potato*

Contributed Seminars

- Center for Sorghum Improvement 2024 Seminar Series. Virtual. Mar 2024
  - Title: *Network-Enhanced Gene Discovery Pipeline (NEEDLE) for Non-Model Plant Species*
- NASA GeneLab Plants AWG meeting. Virtual. Nov 2023
  - Title: *Network-Enhanced Gene Discovery Pipeline (NEEDLE) for Non-Model Plant Species*
- Tuesday Noon Seminar, MSU-DOE Plant Research Laboratories, East Lansing, MI. Feb 2020
  - Title: *A Temporal Hierarchy Underpins the Transcription Factor-DNA Interactome of the Maize UPR*
- Plant Resilience Brown Bag, MSU, East Lansing, MI. Virtual. Dec 2019
  - Title: *A Systems-Level Approach to Understand Transcriptional ER Stress Response in Plants*
- Tuesday Noon Seminar, MSU-DOE Plant Research Laboratories, East Lansing, MI. Apr 2019
  - Title: *Systems-Level Approach to Discover Architecture and Dynamics of ER Stress Gene Networks*
- Plant Luncheon Seminar Series, UT-Austin Mar 2014
  - Title: *Early Establishment of Growth Vigor in Maize Hybrids by Circadian Regulators*

Conference Presentations

Invited Talks

- GLBRC Annual Science Meeting, Milwaukee, WI. May 2025
  - Title: *Mapping the abiotic stress-responsive cistrome in sorghum*
- KSEA Midwest Regional Conference, Urbana-Champaign, IL. Mar 2025
  - Title: *Decoding abiotic stress resilience in sorghum: A transcriptomic framework for climate-ready Crops*
- GLBRC - Annual Science Meeting, Geneva, WI. May 2023
  - Title: *Network-Enabled Gene Discovery Pipeline (NEEDLE) for Bioenergy Research*
- Biotechnology and Environmental Technology Symposium, South Korea. Virtual. Dec 2022
  - Title: *Network-Enabled Regulatory Dissection of the Mixed-Linkage Glucan Synthase Genes in Grasses*
- Conference for the Recent Advances in New Agro Food Research. Virtual. July 2022
  - Title: *Transcriptional Competition Shapes Proteotoxic ER Stress Resolution*
- GLBRC Sustainability Meeting. Virtual. Feb 2022
  - Title: *Network Modeling of Dynamic Transcriptomes Underlying the Development of B. distachyon and S. bicolor*

Selected Contributed Talks

- Phytochemical Society of North America (PSNA) Annual Meeting, East Lansing, MI. Jul 2023
  - Title: *Unleashing Cellular Destiny: IRE1-Proteasome Signaling Governs Plant ER Proteotoxic Stress*
- ASPB Midwest Conference, Ames, IA. Apr 2023
  - Title: *A Signaling Cohort of IRE1 and Proteasome System Controls Cell Fate Determination in Unresolved Proteotoxic Stress of the Plant Endoplasmic Reticulum*
- Plant Cell Dynamics VIII 22nd Plant Biology Symposium, State College, PA. Jun 2019
  - Title: *Gene Networks in the Endoplasmic Reticulum Stress*

Poster Presentations

- Plant Biology 2025, Milwaukee, WI. July 2025
  - Title: *Decoding Abiotic Stress Resilience in Sorghum: A Transcriptomic Framework for Climate-Ready Crops*
- AGBT Agricultural Meeting, Phoenix, AZ. Apr 2024
  - Title: *Unraveling Gene Expression Dynamics in Bioenergy Crops Under Environmental Stress Challenges*
- Genomic Science Program Annual Principal Investigator Meeting, Washington D.C. Apr 2023
  - Title: *Defining Transcriptomic Dynamics in Sorghum in Multiple Abiotic Stresses*
- KSEA Midwest Regional Conference, Chicago, IL. Mar 2023
  - Title: *Defining gene expression dynamics in bioenergy crop under environmental stress*
- International Conference on Arabidopsis Research, Virtual. Jun 2022
  - Title: *Transcriptional competition shapes proteotoxic ER stress resolution*
- Plant Cell Atlas Symposium, Virtual Dec 2022
  - Title: *Network-Enabled Regulatory Dissection of the Mixed-Linkage Glucan Synthase Genes in Grasses*
- Joint Genome Institute User Meeting, Virtual Aug 2022
  - Title: Network-Enabled Dissection of Conserved and Diverged Regulation of the Mixed-Linkage Glucan Synthase Gene in Bioenergy Crops

- Plant Cell Atlas Symposium, Virtual Dec 2021
  - Title: *Understanding Gene Regulatory Networks Underlying Plant ER Stress: Insights from Bulk Cells to Single Cell*
- Plant Biology Worldwide Summit, Virtual. July 2021
  - Title: *Gene-Regulatory Network-Enabled Identification of Effectors Controlling Organ Growth During Recovery from Endoplasmic Reticulum Stress*
- ICAR 2021, Virtual. Jun 2021
  - Title: *Gene-Regulatory Network-Enabled Identification of Effectors Controlling Organ Growth During Recovery from Endoplasmic Reticulum Stress*
- EMBO Workshop - International Plant Systems Biology, Virtual. Apr 2021
  - Title: *Gene-Regulatory Network-Enabled Identification of Effectors Controlling Organ Growth During Recovery from Endoplasmic Reticulum Stress*
- BRC Workshop: AI and Machine Learning for Biosystems Design, Washington D.C. Feb 2020
  - Title: *Systems-Level Analysis of ER Stress Gene Networks in Plants*
- 59th Annual Maize Genetics Conference, Saint Louis, MO. Mar 2017
  - Title: *Expansion of the Wisconsin Diversity Panel to Further Document the Maize Pan-Transcriptome*
- CSHL Meeting - Plant Genomes & Biotechnology, Woodbury, NY. Dec 2021
  - Title: *Circadian-Mediated Regulation of Morning-Phased Genes Contributes to Biomass Heterosis in Maize Hybrids*
- ASPB 2007, Chicago, IL. Jul 2007
  - Title: *Functional Analysis of Heat Shock Protein 70 in Flooding-Stressed Nicotiana tabacum*

Professional Societies

- American Society of Plant Biologists (ASPB), Active Member
- Korean American Scientists and Engineers Association (KSEA), Active Member