

NAN JIANG, Ph.D.
CURRICULUM VITAE

FTE distribution: 40% instruction and 60% research

PRESENT ADDRESS

Department of Molecular Biosciences and Bioengineering
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University of Hawai'i at Manoa, Honolulu, HI 96822
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EDUCATION

2008-2015 Ph.D., Molecular and Cellular Biology, Ohio University, Athens, OH
2004-2008 B.S., Biology, Capital Normal University, Beijing, China

RESEARCH EXPERIENCE

2023 **Research Specialist**
Department of Biochemistry and Molecular Biology
Michigan State University, East Lansing, MI
Mentor: Dr. Erich Grotewold

2017-2023 **Postdoctoral Researcher**
Department of Biochemistry and Molecular Biology
Michigan State University, East Lansing, MI
Mentor: Dr. Erich Grotewold

2015-2017 **Postdoctoral Researcher**
Center for Applied Plant Sciences and Department of Molecular Genetics
The Ohio State University, Columbus, OH
Mentor: Dr. Erich Grotewold

ACADEMIC APPOINTMENT

2023- Assistant Professor, Department of Molecular Biosciences and Bioengineering,
University of Hawai'i at Manoa, Honolulu, HI

PEER REVIEWED PUBLICATIONS (Google Scholar *h*-index 11; total citations 907)

1. **Jiang N**, Dillon FM, Silva A, Gomez-Cano L, Grotewold E. (2021) Rhamnose in plants – from biosynthesis to diverse functions. *Plant Sci*, 302: 110687.
2. **Jiang N**, Gutierrez-Diaz A, Mukundi E, Lee YS, Meyers BC, Otegui MS, Grotewold E. (2020) Synergy between the anthocyanin and RDR6/SGS3/DCL4 siRNA pathways expose hidden features of *Arabidopsis* carbon metabolism. *Nat Commun*, 11: 2456.
3. **Jiang N**, Lee YS, Mukundi E, Gomez-Cano F, Rivero L, Grotewold E. (2020) Diversity of genetic lesions characterizes new *Arabidopsis* flavonoid pigment mutant alleles from T-DNA collections.

Plant Sci, 291: 110335.

4. Silva GFF, Silva EM, Correa JPO, Vicente MH, **Jiang N**, Notini MM, Junior AC, De Jesus FA, Castilho P, Carrera E, López-Díaz I, Grotewold E, Peres LEP, Nogueira FTS. (2019) Tomato floral induction and flower development are orchestrated by the interplay between gibberellin and two unrelated microRNA-controlled modules. *New Phytol*, 221: 1328-1344.
5. Cao P, Kim SJ, Xing AQ, Schenck CA, Liu L, **Jiang N**, Wang J, Last RL, Brandizzi F. (2019) Homeostasis of branched-chain amino acids is critical for the activity of TOR signaling in *Arabidopsis*. *eLife*, 8: e50747.
6. Yang F, Li W, **Jiang N**, Yu H, Morohashi K, Ouma WZ, Morales-Mantilla DE, Gomez-Cano FA, Mukundi E, Prada-Salcedo LD, Velazquez RA, Valentin J, Mejía-Guerra MK, Gray J, Doseff AI, Grotewold E. (2017) A Maize gene regulatory network for phenolic metabolism. *Mol Plant*, 10: 498-515.
7. Casas MI, Falcone-Ferreyra ML, **Jiang N**, Mejía-Guerra MK, Rodríguez E, Wilson T, Engelmeier J, Casati P, Grotewold E. (2016) Identification and characterization of maize *salmon silks* genes involved in insecticidal maysin biosynthesis. *Plant Cell*, 28: 1297-1309.
8. **Jiang N**, Doseff AI, Grotewold E. (2016) Flavones: From biosynthesis to health benefits. *Plants*, 5: E27.
9. **Jiang N**, Wiemels RE, Soya A, Whitley R, Held M, Faik A. (2016) Composition, assembly, and trafficking of a wheat xylan synthase complex. *Plant Physiol*, 170: 1999-2023.
10. Zeng W, **Jiang N**, Nadella R, Killen TL, Nadella V, Faik A. (2010) A glucurono(arabino)xylan synthase complex from wheat contains members of the GT43, GT47, and GT75 families and functions cooperatively. *Plant Physiol*, 154: 78-97.

INVITED PUBLICATIONS, EDITORIALS, BOOK CHAPTERS AND REVIEWS

1. Held M, **Jiang N**, Basu D, Showalter A, Faik A. (2015) Plant cell wall polysaccharides: structure and biosynthesis. In *Polysaccharides*. Ramawat KG and Mérillon JM. (eds). Springer, New York, NY. pp. 3-54.
2. Faik A, **Jiang N**, Held A. (2014) Xylan biosynthesis in plants, simply complex. In *Plants and Bioenergy. Advances in Plant Biology*. Carpita NC, Buckner MS, and McCann MC. (eds). Springer, New York, NY. 4: 153-181.

ORAL PRESENTATIONS

- 2022 **Invited speaker:** “Synergy between the anthocyanin and RDR6/SGS3/DCL4 siRNA pathways expose hidden features of *Arabidopsis* carbon metabolism”. 3rd International Conference on Cell & Experimental Biology (CEB-2022), Newton, MA (Biochemistry and Molecular Biology session)
- 2021 “The effect of an ACT-like domain on the regulatory activity of maize basic helix-loop-helix (bHLH) transcription factor R”. SM meeting, Michigan State University
- 2020 “Synergy between the anthocyanin and RDR6/SGS3/DCL4 siRNA pathways expose hidden features of *Arabidopsis* carbon metabolism”. Plant Biology 2020 Worldwide Summit
- 2020 “Synergy between the anthocyanin and RDR6/SGS3/DCL4 siRNA pathways expose hidden features of *Arabidopsis* carbon metabolism”. BMB Summer Seminar Series, Michigan State

- University
- 2018 “Investigation *Arabidopsis* TT19 function in flavonoid accumulation by genetic screening *tt19* mutant suppressors”. Summer Research Seminars, Michigan State University
- 2018 “Investigation *Arabidopsis* TT19 function in flavonoid accumulation by genetic screening *tt19* mutant suppressors”. SM meeting, Michigan State University
- 2017 “More than a metabolic enzyme in flavonoid biosynthesis-chalcone isomerase as a moonlighting protein”. Center for Applied Sciences (CAPS) seminar, The Ohio State University
- 2015 “Characterization of TaXPol-1, a Wheat Xylan Synthase Complex, Reveals New Insights on Enzyme Activities and Trafficking of the Complex”. American Society of Plant Biologists (ASPB), Minneapolis, MN (Minisymposium 7: Biochem: Bioenergy)
- 2015 “Characterization of TaXPol-1, a Xylan Synthase Complex from Wheat”. Doctoral Dissertation Defense, Ohio University
- 2013 “Proteomic analysis of a glucuronoarabinoxylan synthase complex from wheat, and *in vitro* reconstitution of the activity”. American Society of Plant Biologists (ASPB), Providence, RI (Minisymposium-Cell Walls I)
- 2012 “Subfunctionalization of the MADS-box transcription factor genes in floral organ development”. Molecular and Cellular Biology (MCB) seminar, Ohio University
- 2010 “The key step of autophagy: the autophagosome biogenesis”. Molecular and Cellular Biology (MCB) seminar, Ohio University
- 2009 “*Coxiella burnetii* as a biological weapon”. Molecular and Cellular Biology (MCB) seminar, Ohio University

POSTER PRESENTATIONS

- 2023 **Jiang N**, Lee YS, Morohashi K, Tacderas A, Kuehn S, Grotewold E. “Combinatorial effects of the ACT-like domain and small molecule on the regulatory activity of the maize bHLH transcription factor R1”. Annual Meeting of the American Society for Biochemistry and Molecular Biology (ASBMB) 2023, Seattle, WA
- 2023 **Jiang N**, Lee YS, Morohashi K, Grotewold E. “The effect of an ACT-like domain on the regulatory activity of the basic helix-loop-helix (bHLH) transcription factor R1”. 65th Annual Maize Genetics Meeting, St. Louis, MO
- 2022 **Jiang N**, Gutierrez-Diaz A, Mukundi EM, Lee YS, Meyers BC, Otegui MS, Grotewold E. “Synergy between the anthocyanin and RDR6/SGS3/DCL4 siRNA pathways expose hidden features of *Arabidopsis* carbon metabolism”. Plant Biotech for Health and Sustainability (PBHS) Symposium, East Lansing, MI
- 2021 **Jiang N**, Grotewold E. “The effect of an ACT-like domain on the regulatory activity of the basic helix-loop-helix (bHLH) transcription factor R1”. 63th Annual Maize Genetics Conference
- 2020 **Jiang N**, Gutierrez-Diaz A, Mukundi EM, Lee YS, Meyers BC, Otegui MS, Grotewold E. “The interaction between defects in the RDR6-SGS3-DCL4 small RNA system and the flavonoid pathway exposes hidden features controlling metabolic fluxes in *Arabidopsis*”. Plant Biology 2020 Worldwide Summit

- 2020 **Jiang N**, Lee YS, Gomez-Canoa F, Grotewold E. “Modulation of basic helix-loop-helix (bHLH) transcription factor combinatorial control by small molecules”. 62th Annual Maize Genetics Conference
- 2019 **Jiang N**, Lee YS, Gomez-Canoa F, Mukundi EM, Grotewold E. “Fine-tuning different transcriptional complexes to regulate anthocyanin pigmentation genes”. ASBMB Symposium on Evolution and Core Processes in Gene Expression, East Lansing, MI
- 2019 **Jiang N**, Lee YS, Gomez-Canoa F, Mukundi EM, Grotewold E. “Fine-tuning different transcriptional complexes to regulate anthocyanin pigmentation genes”. 61th Annual Maize Genetics Conference, St. Louis, MO
- 2019 **Jiang N**, Lee YS, Gomez-Canoa F, Mukundi EM, Grotewold E. “Fine-tuning different transcriptional complexes to regulate anthocyanin pigmentation genes”. Plant Biotech for Health and Sustainability (PBHS) Symposium, East Lansing, MI
- 2019 **Jiang N**, Lee YS, Gomez-Canoa F, Mukundi EM, Grotewold E. “Fine-tuning different transcriptional complexes to regulate anthocyanin pigmentation genes”. Biochemistry and Molecular Biology (BMB) Faculty Retreat, Bath, MI
- 2017 **Jiang N**, Abdollahzadeh A, Cruz M, Gómez-Cano LA, Grotewold E. “Identification and characterization of candidate genes involved in flavonoid biosynthesis and regulation”. 28th International Conference on Arabidopsis Research, St. Louis, MO
- 2017 **Jiang N**, Abdollahzadeh A, Cruz M, Gómez-Cano LA, Grotewold E. “Identification and characterization of candidate genes involved in flavonoid biosynthesis and regulation”. Plant Biotech for Health and Sustainability (PBHS) Symposium, East Lansing, MI
- 2017 **Jiang N**, Yang F, Li W, Yu H, Morohashi K, Ouma WZ, Morales-Mantilla DE, Gomez-Cano F, Mukundi EM, Prada-Salcedo LD, Velazquez RA, Valentin J, Mejía-Guerra MK, Gray J, Doseff AI, Grotewold E. “A Maize Gene Regulatory Network for Phenolic Metabolism”. 59th Annual Maize Genetics Conference, St. Louis, MO
- 2016 **Jiang N**, Casas MI, Falcone-Ferreyra ML, Rodriguez E, Casati P, Grotewold E. “Maysin biosynthesis in maize: identification and characterization of genes related to *salmon silks* mutants”. 58th Annual Maize Genetics Conference, Jacksonville, FL
- 2015 **Jiang N**, Wiemels R, Faik A. “Characterization of TaXPo1-1: the first xylan synthase complex from bread wheat”. American Society of Plant Biologists (ASPB), Minneapolis, MN
- 2014 **Jiang N**, Whitley R, Jyothi P, Held M, Faik A. “Characterization of glucuronoarabinoxylan synthase complex from bread wheat”. American Society of Plant Biologists (ASPB) Midwest section meeting, Columbus, OH
- 2013 **Jiang N**, Whitley R, Jyothi P, Held M, Faik A. “Characterization of glucuronoarabinoxylan synthase complex from bread wheat”. Ohio Plant Biotechnology Consortium (OPBC), Columbus, OH
- 2013 **Jiang N**, Whitley R, Jyothi P, Held M, Faik A. “Proteomic analysis of a glucuronoarabinoxylan synthase complex from wheat, and *in vitro* reconstitution of the activity”. American Society of Plant Biologists (ASPB), Providence, RI
- 2012 **Jiang N**, Whitley R, Jyothi P, Held M, Faik A. “Characterization and topology of a glucuronoarabinoxylan synthase complex from bread wheat”. Ohio Plant Biotechnology Consortium (OPBC), Columbus, OH

- 2012 **Jiang N**, Whitley R, Jyothi P, Held M, Faik A. “Characterization and topology of a glucuronoarabinoxylan synthase complex from bread wheat”. Gordon Conference-Plant Cell Walls, Waterville, ME
- 2012 **Jiang N**, Whitley R, Jyothi P, Held M, Faik A. “Characterization and topology of a glucuronoarabinoxylan synthase complex from bread wheat”. American Society of Plant Biologists (ASPB), Austin, TX
- 2011 **Jiang N**, Whitley R, Held M, Faik A. “Characterization and topology of a glucuronoarabinoxylan synthase complex from bread wheat”. Ohio Plant Biotechnology Consortium (OPBC), Columbus, OH
- 2010 **Jiang N**, Zeng W, Faik A. “Glucurono(arabino)xylan synthase complex from bread wheat: composition, mechanism, product analysis, and functional reconstitution”. Ohio Plant Biotechnology Consortium (OPBC), Columbus, OH
- 2010 **Jiang N**, Zeng W, Faik A. “Glucurono(arabino)xylan synthase complex from bread wheat: composition, mechanism, product analysis, and functional reconstitution”. American Society of Plant Biologists (ASPB), Montreal, Canada
- 2009 **Jiang N**, Zeng W, Faik A. “Biochemical and genetic approaches to investigate glucurono(arabino)xylan synthase complex composition in wheat and *Brachypodium distachyon*”. Ohio Plant Biotechnology Consortium (OPBC), Columbus, OH
- 2009 **Jiang N**, Zeng W, Faik A. “Biochemical and genetic approaches to investigate glucurono(arabino)xylan synthase complex composition in wheat and *Brachypodium distachyon*”. Gordon Conference-Plant Cell Walls, Smithfield, RI
- 2008 **Jiang N**, Zeng W, Faik A. “Biochemical approach to investigate glucurono(arabino)xylan synthase complex composition in wheat”. Ohio Plant Biotechnology Consortium (OPBC), Columbus, OH

WORKSHOPS & TRAINING CERTIFICATIONS

- 2022 Metabolic Modeling Workshop, Michigan State University, MI
- 2022 Let's Learn Python Course, Michigan State University, MI
- 2020 R Skills for Data Science Course, Michigan State University, MI
- 2020 What Do Your Data Say? Online Course, Northwestern University, Evanston, IL
- 2019 GNPS Metabolomics Workshop, Michigan State University, MI
- 2019 Bioinformatics Audit Workshops, Michigan State University, MI
- 2017 The Art of Science Communication Course, American Society for Biochemistry and Molecular Biology (ASBMB), Rockville, MD
- 2017 ATAC-Seq Analysis in Plants Workshop, the International Conference on Arabidopsis Research (ICAR), St. Louis, MO
- 2017 Data Carpentry Workshop, the International Conference on Arabidopsis Research (ICAR), St. Louis, MO

TEACHING

- 2020 BMB462 – Advanced Biochemistry II, Postdoctoral Teaching Internship Program (PTIP), Michigan State University

- 2013 P BIO501 – Lab in Cell and Molecular Plant Physiology, Teaching Assistant, Ohio University
 2013 P BIO210 – Plant Physiology, Teaching Assistant, Ohio University
 2012 P BIO501 – Lab in Cell and Molecular Plant Physiology, Teaching Assistant, Ohio University
 2012 P BIO210 – Plant Physiology, Teaching Assistant, Ohio University
 2011 P BIO501 – Lab in Cell and Molecular Plant Physiology, Teaching Assistant, Ohio University
 2011 P BIO101 – Principles of Biology, Teaching Assistant, Ohio University
 2011 P BIO114 – Foundations of Plant Biology, Teaching Assistant, Ohio University
 2010 P BIO501 – Lab in Cell and Molecular Plant Physiology, Teaching Assistant, Ohio University
 2010 P BIO210 – Plant Physiology, Teaching Assistant, Ohio University
 2009 P BIO501 – Lab in Cell and Molecular Plant Physiology, Teaching Assistant, Ohio University
 2009 P BIO101 – Principles of Biology, Teaching Assistant, Ohio University
 2008 P BIO210 – Plant Physiology, Teaching Assistant, Ohio University

MONITORING

Undergraduate student training

- 2022-2023 Luke Benedict, Michigan State University
 2022-2023 Sara Hasegawa, Michigan State University
 2021-2022 Spencer Kuehn, Michigan State University
 2021-2022 Audrey Tacderas, Michigan State University
 2018-2019 McKenzie Babcock, Michigan State University
 2018-2019 Hakim Mohd Azhan, Michigan State University
 2018-2019 Jared Hudson, Michigan State University
 2018-2019 Jordan Haber, Michigan State University
 2017-2019 Rachel Warkentien, Michigan State University
 2017-2018 Rachael Smith, Michigan State University
 2017-2018 Jacqline Wangui Njeri, Michigan State University
 2017-2018 Kevin Schmidt, Michigan State University
 2017-2018 Drew Levine, Michigan State University
 2017-2018 Brendan Lienau, Michigan State University
 2017-2018 Evan Harrison, Michigan State University
 2016-2017 Anna Podber, The Ohio State University
 2016-2017 Brian O'Connor, The Ohio State University
 2012-2014 Aaron Soya, Ohio University
 2012-2014 Travis Johnson, Ohio University
 2011-2013 John Elmore, Ohio University
 2011-2013 Johnny Rader, Ohio University
 2011-2012 Theresa Condo, Ohio University
 2011-2012 Jonathan Lucas, Ohio University
 2009-2010 Josh Herzer, Ohio University
 2009-2010 Michael Schwager, Ohio University

Research technician training

2016-2018 Tekkil Endalew, The Ohio State University
2016-2017 Leidy Mariel Cruz Gomez, The Ohio State University
2016-2017 Lina Andrea Gomez Cano, The Ohio State University
2016-2017 Azam Abdollahzadeh, The Ohio State University
2011-2014 Rebekah Whitley, Ohio University

Graduate student training

2021 Nick Moreno, Ph.D. candidate, Michigan State University
2018 Dalton de Oliveira Ferreira, Ph.D. candidate, Michigan State University
2017 Paul Fiesel, Ph.D. candidate, Michigan State University
2012-2014 Yunyi Feng, Master of Science, Ohio University
2012-2014 Yuli Hu, Master of Science, Ohio University
2011-2013 Chi Zhang, Master of Science, Ohio University
2010-2012 Richard Wiemels, Master of Science, Ohio University

OUTREACH

2021 Responsible Conduct of Research (RCR) training committee, Michigan State University
2019-2022 F1000 Prime Associate Faculty Member, London, UK
2017- Arabidopsis Gene Regulatory Information Server (AGRIS) contributor, Michigan State University

SERVICE

Scientific Publication Reviewer

2023- Bioresource Technology
2023- Journal of Visualized Experiments
2023- Plant Cell Reports
2023- Plant, Cell & Environment
2022- BMC Plant Biology
2022- International Journal of Molecular Sciences
2022- Frontiers in Plant Science
2021- The Plant Journal
2021- Botany Letters
2021- Peer J
2021- Applied Sciences
2020- Plant Science
2020- Plants
2020- Scientific Reports
2020- Genes
2020- Molecules
2019- New Phytologist
2018- PLOS One

2017- Plant & Cell Physiology

MEMBERSHIPS IN SCIENTIFIC SOCIETIES

2017- Member, American Association for the Advancement of Science (AAAS)

2017- Member, American Society for Biochemistry and Molecular Biology (ASBMB)

2016- Maize Genetic Cooperation

2010- Member, American Society of Plant Biologists (ASPB)