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# Gaurav Moghe

Assistant Professor in Biochemical Genomics  
Plant Biology Section, School of Integrative Plant Science, Cornell University

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## ***Research in the Moghe lab@Cornell***

Plants make hundreds of thousands of compounds, many of which are important for humanity. Projects in the lab address four broad questions: (i) how can we better identify compounds from complex plant metabolite extracts? (ii) what are the biosynthetic networks and evolutionary processes that produce the spectacular plant metabolic diversity? (iii) what are the impacts of this diversity on plant biotic and abiotic interactions? and (iv) how can we use this metabolic diversity for societal applications? We work with a number of model systems such as tomato, sweet potatoes, Euphorbias and grasses as well as with a number of techniques including molecular biology and biochemistry, mass spectrometry, protein structure analysis, computational biology, and field work.

## ***Contact information***

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## ***Appointments***

Assistant Professor (2017-current)

Plant Biology Section, School of Integrative Plant Sciences, Cornell University  
Member, Computational Biology Field, Cornell University

Postdoctoral Research Associate (2013-2017)

Dept. of Biochemistry and Molecular Biology, Michigan State University, USA

Lecturer, Masters Course in Bioanalytical Sciences (2006-2007)

Dept. of Bioanalytical Sciences, Ramnarain Ruia College, University of Mumbai, India

## ***Education***

Doctor of Philosophy, Genetics and Quantitative Biology (2007-2013)

Dept. of Plant Biology, Michigan State University, USA

Master of Science, Biochemistry (2004-2006)

Dept. of Biochemistry, The Maharaja Sayajirao University of Baroda, India

Bachelor of Science, Microbiology and Biotechnology (2001-2004)

Dept. of Microbiology, Ramnarain Ruia College, University of Mumbai, India

## **Awards and scholarships**

- 2018 Early Career Award, The American Society of Plant Biologists
- 2017 BMB Postdoctoral Independent Career Potential Award, MSU
- 2016 13<sup>th</sup> Annual Solanaceae Meeting Travel Award (Speaker)
- 2016 Gordon Research Seminar on Plant Molecular Biology Speaker Award
- 2013 Outstanding Genetics Graduate Student Award, MSU
- 2013 Dissertation Completion Fellowship, MSU
- 2012 Dissertation Continuation Fellowship, MSU
- 2009 Research Fellowship, Quantitative Biology Program, MSU
- 2008 Research Fellowship, Gene Expression in Development and Disease, MSU
- 2006 Research Fellowship, Council for Scientific and Industrial Research (CSIR), India (*similar in scope to NSF Graduate Research Fellowship*)
- 2006 Research Fellowship, General Aptitude Test in Engineering (GATE), India

## **Awards and Honors for trainees**

- 2022 Elizabeth Mahood, ASPB Travel Award  
2021 Elizabeth Mahood, USDA NIFA predoctoral fellowship  
2021 Se Jin Park, Finalist, Undergraduate Research – Plant Sciences  
2021 Elizabeth Mahood, Best Oral Talk, Botany: Phytochemistry Section  
2020 Elizabeth Mahood, Third Prize, Cornell Institute for Digital Ag. Hackathon  
2019 Lars Kruse, German DFG postdoctoral fellowship

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# **Research**

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## **Publications**

- Squiggly line: Moghe Lab members
- Highlighted in **blue**: Research manuscript (vs. reviews)

### **Peer reviewed publications ([Google Scholar link](#))**

1. [Gaurav Moghe](#), [Lars Kruse](#), [Maike Peterson](#), [Federico Scossa](#), [Alisdair Fernie](#), [Emmanuel Gacquerel](#), [John C. D’Auria](#) (accepted, 2023 issue) BAHD Company – the ever-expanding roles of the BAHD acyltransferase gene family in plants. *Annual Reviews in Plant Biology*
2. Valerie de Crecy-Lagard and 59 authors (2022) A roadmap for the functional annotation of protein families: a community perspective. *Databases* doi: 10.1093/database/baac062
3. [Lars Kruse](#), [Austin Weigle](#), [Mohammad Irfan](#), [Jesus Martinez-Gomez](#), [Jason Chobirko](#), [Jason Schaffer](#), [Alexandra Bennett](#), [Joe Jez](#), [Chelsea Specht](#), [Diwakar Shukla](#), [Gaurav Moghe\\*](#) (2022) Orthology-based analysis helps map evolutionary diversification and predict substrate class use of BAHD acyltransferases *The Plant Journal* doi: 10.1111/tpj.15902
4. Bryan Leong, Steven Hurney, Paul Fiesel, TM Anthony, [Gaurav Moghe](#), A Daniel Jones, Robert Last (2022) Identification of BAHD acyltransferases associated with acylinositol biosynthesis in *Solanum quitoense* (naranjilla) *Plant Direct* doi: 10.1002/pld3.415
5. [Lars Kruse](#), [Alexandra Bennett](#), [Elizabeth Mahood](#), [Elena Lazarus](#), [Se Jin Park](#), Frank Schroeder, [Gaurav Moghe\\*](#) (2021) Illuminating the lineage-specific diversification of resin glycoside acylsugars

in the morning glory (Convolvulaceae) family using computational metabolomics *Horticulture Research* doi: 10.1093/hr/uhab079

6. Honglin Feng, Lucia Acosta-Gamboa, Lars Kruse, Alba Ruth Nava Ferreira, Sara Shakir, Hongxing Xu, Garry Sunter, Michael Gore, Gaurav Moghe, Georg Jander (2021) Acylsugars protect *Nicotiana benthamiana* against insect herbivory and desiccation. *Plant Molecular Biology* doi: 10.1007/s11103-021-01191-3
7. Alexandra Bennett, Elizabeth Mahood, Kai Fan, Gaurav Moghe\* (2021) Untargeted metabolomics of purple and orange-fleshed sweet potatoes reveals a large structural diversity of anthocyanins and flavonoids *Scientific Reports* 11:16408 doi: 10.1038/s41598-021-95901-y
  - o [SIPS faculty team up for sweet potato improvement \(CALs newsletter\)](#)
8. Arielle Johnson, Gaurav Moghe, Margaret Frank (2021) Growing a glue factory: Open questions in laticifer cell biology. *Current Opinion in Plant Biology* 64:102096. doi: 10.1016/j.pbi.2021.102096
9. Mohammad Irfan, Benjamin Chavez, Paride Rizzo, John D'Auria, Gaurav Moghe\* (2021) Evolution-aided engineering of plant specialized metabolism *aBiotech* doi: 10.1007/s42994-021-00052-3
10. Jacob Landis, Christopher Miller, Amanda Broz, Alexandra Bennett, Robert Last, Patricia Bedinger, Gaurav Moghe\* (2021) Migration through a major Andean ecogeographic disruption as a driver of genetic and phenotypic diversity in a wild tomato species *Molecular Biology and Evolution* 38(8): 3202-3219 doi: 10.1093/molbev/msab092
  - o Jacob Landis is a collaborator at Cornell
11. Elizabeth Mahood, Lars Kruse, Gaurav Moghe (2020) Machine learning: A powerful tool for gene function prediction in plants *Applications in Plant Sciences* e11376 doi: 10.1002/aps3.11376
12. Bryan Leong, Steven Hurney, Paul Fiesel, Gaurav Moghe, A. Daniel Jones, Robert Last (2020) Specialized Metabolism in a Nonmodel Nightshade: Trichome Acylinositol Biosynthesis *Plant Physiology*, 183(3): 915-924 doi: 10.1104/pp.20.00276
13. Shayne Wierbowski, Tommy Vo, Pascal Falter-Braun, Timothy Jobe, Lars Kruse, Xiaomu Wei, Jin Liang, Michael Meyer, Nurten Akturk, Christen Rivera-Erick, Nicolas Cordero, Mauricio Paramo, Elnur Shayhidin, Marta Bertolotti, Nathaniel Tippens, Kazi Akther, Rita Sharma, Yuichi Katayose, Kourosh Salehi-Ashtiani, Pamela Ronald, Joseph Ecker, Peter Schweitzer, Shoshi Kikuchi, Hiroshi Mizuno, David Hill, Marc Vidal, Gaurav Moghe, Susan McCouch, Haiyuan Yu (2020) *Proceedings of the National Academy of Sciences* A massively parallel barcoded sequencing pipeline to generate the first single colony ORFeome and high-quality protein-protein interaction interactome for rice. doi: 10.1073/pnas.1918068117
14. John Lloyd, Megan Bowman, Christina Azodi, Gaurav Moghe, Kevin Childs, Shin-Han Shiu (2019) Evolutionary characteristics of intergenic transcribed regions indicate widespread noisy transcription in the Poaceae. *Scientific Reports*, 9, 12122 doi: 10.1038/s41598-019-47797-y
15. Stacey Smith, Ruthie Angelovici, Karolina Heyduk, Hiroshi Maeda, Gaurav Moghe, Chris Pires, Joshua Widhalm, Jennifer Wisecaver (2019) The renaissance of comparative biochemistry. *American Journal of Botany*, 106(1): 3-13 doi: 10.1002/ajb2.1216
16. Gaurav Moghe and Lars Kruse (2018) The study of plant specialized metabolism: Challenges and prospects in the genomics era *American Journal of Botany*, 105(6): 1-4 doi:10.1002/ajb2.1101

17. Haiyang Xu, [Gaurav Moghe](#), Krystle Wiegert-Rininger, Anthony Schillmiller, Cornelius Barry, Robert Last, Eran Pichersky (2018) Identification of dehydrogenases involved in the biosynthesis of the monoterpene moiety of pyrethrin *Plant Physiology* doi: 10.1104/pp.17.01330
18. [Gaurav Moghe](#) and Stacey Smith (2018) The push and pull of plant specialized metabolism underlies a long-standing, colorful mystery. *New Phytologist*, 217(2) doi: 10.1111/nph.14914

### **Pre-2017 publications:**

1. [Gaurav Moghe](#), Bryan Leong, Steven Hurney, A. Daniel Jones, Robert Last (2017) Evolutionary routes to biochemical innovation revealed by integrative analysis of a plant-defense related specialized metabolic pathway. *eLife*, 6:e28468
  - [New study sheds light on mysterious plant compounds](#). *Cornell Chronicle*
  - [Tomatoes' crystal ball reveals evolutionary secrets](#). *MSU Today*
  - [Tomato hair holds clues to evolution](#). *Futurity*
2. Pengxiang Fan, [Gaurav Moghe](#), Robert Last (2016) Comparative biochemistry and *In Vitro* pathway reconstruction as powerful partners in studies of metabolic diversity. *Methods in Enzymology*, Synthetic Biology and Metabolic Engineering in Plants and Microbes Part A. vol. 575. (Book chapter)
3. [Gaurav Moghe](#), Robert Last (2015) Something old, something new: Conserved enzymes and the evolution of novelty in plant specialized metabolism. *Plant Physiology*, 169 (3):1512-1523
  - [The genesis of plant languages: How plants evolve new metabolic pathways from existing ones](#). *Invited article, Atlas of Science*
4. Melissa Lehti-Shiu, Sahra Uygun, [Gaurav Moghe](#), David Hufnagel, Hannah Jasicki, Vivian Fang et al. (2015) Molecular evidence for functional divergence and decay of a transcription factor derived from whole genome duplication in *Arabidopsis thaliana*. *Plant Physiology*, 168(4):1712-1734
5. Jing Ning, [Gaurav Moghe](#), Bryan Leong, Jeongwoon Kim, Itai Ofner et al. (2015) A feedback insensitive isopropylmalate synthase affects acylsugar composition in cultivated and wild tomato. *Plant Physiology*, 169(3):1821-1835
6. John Lloyd, Alexander Seddon, [Gaurav Moghe](#), Matthew Simenc, Shin-Han Shiu (2015) Characteristics of plant essential genes allow for within-and between-species prediction of lethal mutant phenotypes. *The Plant Cell*, 27(8):2133-2147
7. Anthony Schillmiller, [Gaurav Moghe](#), Pengxiang Fan, Banibrata Ghosh, Jing Ning, A. Daniel Jones, Robert Last (2015) Functionally divergent alleles and duplicated loci encoding an acyltransferase contribute to acylsugar metabolite diversity in *Solanum* trichomes. *The Plant Cell*, 27(4):1002-1017
8. [Gaurav Moghe](#), David Hufnagel, Haibao Tang, Yongli Xiao, Christopher Town, Ian Dworkin et al. (2014) Consequences of whole genome triplication as revealed by comparative genomic analyses of the wild radish *Raphanus raphanistrum* and three other Brassicaceae species, *The Plant Cell*, 26(5):1925-1937.
  - Featured as a [Research Highlight](#) in Nature Reviews Genetics (July 2014), doi:10.1038/nrg3774
9. [Gaurav Moghe](#), Shin-Han Shiu (2014) The causes and molecular consequences of polyploidy in flowering plants. *Annals of the New York Academy of Sciences*, 1320: 16-34
10. Michael Campbell, MeiYee Law, Carson Holt, Joshua Stein, [Gaurav Moghe](#), David Hufnagel, et al. (2014) MAKER-P: a tool-kit for the rapid creation, management, and quality control of plant genome annotations. *Plant Physiology*, 164 (2): 513-524

11. Gaurav Moghe, Melissa Lehti-Shiu, Alexander Seddon, Shan Yin, Yani Chen, Piyada Juntawong, et al. (2013) Characteristics and significance of intergenic polyA transcription in *Arabidopsis thaliana*. ***Plant Physiology***, 161(1):210-224
12. Rebecca Davidson\*, Malali Gowda\*, Gaurav Moghe, Haining Lin, Brieanne Vaillancourt, Shin-Han Shiu et al. (2012) Comparative transcriptomics of three Poaceae species reveals patterns of gene expression evolution. ***The Plant Journal***, 71(3):492-502.
13. Haining Lin, Gaurav Moghe, Shu Ouyang, Shin-Han Shiu, Xun Gu, C. Robin Buell (2010) Comparative analyses reveal distinct sets of lineage-specific genes within *Arabidopsis thaliana*. ***BMC Evolutionary Biology***, 10:41.

## **Talks and posters**

### **Talks (invited; as faculty):**

1. *University of Toronto – Scarborough (Nov 2022)*
2. *Zhejiang University, China (Sep 2022)*
3. Predictive analysis of plant metabolomes and metabolic enzymes *Purdue University Department of Plant Biology (Sep 2022)*
4. Convolvulaceae Seminar Series (**June 2022**)
5. Challenges of functional propagation in plant enzyme families. ***NSF-sponsored workshop on protein function annotation, Orlando (Feb 2022)***.
6. Using Information theory and machine learning to analyze plant metabolomes ***Plant and Animal Genome Conference XXIX (Jan 2022, conference cancelled due to Covid)***
7. ***Gordon Conference in Plant Metabolic Engineering (June 2021 – postponed to 2023)***
8. Enzyme families and the evolution of plant metabolic diversity ***Iowa State University (Sep 2021)***
9. Evolution of the diversity of defensive sugar metabolites in the morning glory (Convolvulaceae) family ***Botany 2021, colloquium on Phytochemistry***
10. Evolution of the diversity of defensive sugar metabolites in Solanaceae and Convolvulaceae ***Solanaceae Seminar Series*** (virtual seminar; January 2021)
11. Emergence of innovation in plant metabolism ***University of California – San Diego*** (virtual seminar; May 2020)
12. Dissecting the structure and evolution of plant metabolic networks using a multi-disciplinary toolbox ***Rutgers University, New Brunswick*** (Jan 2020)
13. High-value metabolites in sweet potato ***Empire State Producers Expo***, Syracuse, NY (Jan 2020)
14. Chipping away at plant metabolic complexity using a multi-disciplinary toolbox ***University of Nebraska - Lincoln Plant Sciences annual symposium*** (Oct 2019)
15. The emergence of novelty in plant specialized metabolism. ***American Society of Plant Biologists Annual Meeting (Presidential Session)*** (July 2019)
16. Plant metabolic diversity: Evolution and Applications. ***Plant Breeding and Genetics Section, Cornell University*** (Feb 2019)
17. The evolution of novelty in plant metabolism. ***Plant Biology Department, University of Massachusetts – Amherst*** (Oct 2018)
18. *Botany meeting, Rochester, MN (July 2018) – missed due to immigration appointment*
19. Teasing apart the complexity of plant metabolic networks using integrative approaches. ***Computational Biology field, Cornell University*** (2018)
20. All in the family: The emergence of biochemical novelty in plant specialized metabolism. ***Boyce Thompson Institute annual symposium*** (2017)

### **Talks (invited; pre-faculty):**

1. Phylogenetics meets biochemistry: Unraveling plant specialized metabolism using multi-omic strategies. **Cornell University** (2017)
2. High-throughput approaches and the study of natural metabolic variation in plants. **iCER NextGen talks, MSU** (2015)
3. Plant molecular evolution in the genomics era: How omic strategies can inform evolutionary studies of biological phenomena. **Indian Institute of Science, Education & Research (IISER), Pune, India** (2015)
4. An early look at the genome of wild radish *Raphanus raphanistrum* genome. **iCER NextGen talks, MSU** (2012)
5. Intergenic Dark Matter transcripts: Insights from the analyses of the *Arabidopsis thaliana* transcriptome. **Genetics Retreat\*, MSU** (2011)

### **Talks (contributed):**

1. Improving the interpretability of LC-MS data using computational metabolomics approaches. **Phytochemical Society of North America annual meeting** (2022)
2. Evolution of the diversity of defensive sugar metabolites in the Solanaceae and Convolvulaceae families. **Botany meeting** (2021)
3. Classification of lipids and other compounds into structural categories using supervised machine learning. **American Society of Plant Biologists annual meeting** (2020)
4. Acylsugar biosynthesis and the evolutionary dynamics of specialized metabolic pathways. **Cold Spring Harbor Plant Biotechnology symposium** (2017)
5. Comparative biochemical genomics of Solanaceae acylsugars illustrates the mechanisms of evolutionary diversification in plant specialized metabolism. **13th Annual Solanaceae Conference, UC-Davis** (2016)
6. The emergence of biological complexity: An investigation of acylsugar biosynthesis using comparative biochemical genomics. **Gordon Research Seminar on Plant Molecular Biology, Holderness School** (2016)
7. All in the family: The origins and evolution of acylsugar biosynthesis in Solanaceae. **PRL Tuesday noon seminar, MSU BEACON seminar** (2016)
8. Insights into genome evolution post-polyploidization in Brassicaceae using the newly sequenced genome of Wild Radish (*Raphanus raphanistrum*). **American Society of Plant Biology Conference, Austin, TX** (2012), **MSU-BEACON Centre** (2013)
9. Characteristics and significance of intergenic polyA transcripts in *Arabidopsis thaliana*. **Great Lakes Bioinformatics Conference, Ann Arbor, MI** (2012)
10. Discovery and analyses of novel RNA genes in *Arabidopsis thaliana*. **Genetics Forum, MSU** (2010), **Society for Molecular Biology and Evolution Conference, Iowa City** (2009)

### **Posters:**

1. A family that sticks together: The origins and evolution of acylsugar biosynthesis in Solanaceae. **Gordon Research Conference on Ecology and Evolution**, University of New England (2015).
2. Characteristics and Significance of Intergenic PolyA RNA Transcription in *Arabidopsis thaliana*. **MSU Summer Symposium on Transcriptional Dynamics**, MSU (2011).
3. Strand-specific transcription in *Arabidopsis thaliana* T87 suspension culture cells. **International Conference on Arabidopsis Research**, University of Wisconsin-Madison (2011)
4. Can cis-regulatory mutations affect fitness? **MSU-BEACON conference**, MSU (2010)



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## Teaching and Mentoring

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### **Courses taught**

#### **As faculty:**

- PLBIO 4000/6000: Concepts and techniques in computational biology (Spring 2019-); 4 credits
- PLSCI 7202: Applications of machine learning to plant sciences (Fall 2020-); 8 lectures/year
- PLBIO 6410: Introduction to LC-MS: Data acquisition and analysis (Fall 2018-); 2 lectures/year
- PLBIO 7410: Introduction to research literature in plant biology (Spring 2018-); 1 lecture/year
- Guest lecture: BTRY 4950: Gene Expression Clustering: Methodological considerations (2019)

#### **Pre-faculty:**

- Guest lecture: Next generation sequencing approaches for transcriptome sampling (PLB856, MSU, 2015-2017)
- TA, Theories and Practices in Bioinformatics (Dept. of Plant Biology, MSU, 2011, 2013)
- Guest lecture: Differential expression analysis using edgeR (Cold Spring Harbor Laboratories, 2013)
- TA, Frontiers in Plant Sciences (Cold Spring Harbor Laboratories, 2010, 2013)
- Guest lecture: Introduction to Python Programming (Theories and Practices in Bioinformatics, 2011)
- TA, Fundamental Genetics (Dept. of Zoology, MSU, 2009)
- Instructor, Masters in Bioanalytical Sciences (Ramnarain Ruia College, Mumbai, 2006)
- Instructor, Diploma in Molecular Biology (Ramnarain Ruia College, Mumbai, 2006)

### **Mentoring:**

#### **As faculty:**

- Graduate students:
  - Elizabeth Mahood (2018-)
  - Arielle Johnson (co-mentored with Margaret Frank, 2020-)
- Postdoctoral researchers:
  - Lars Kruse (2017-2021)
  - Mohammad Irfan (2020-)
- Lab technicians:
  - Alexandra Bennett (2017-2020)
- Undergraduate students:
  - Jacob Novozhenets (2022-)
  - Mac Flannagan (2022-)
  - Jiho Lee (2021-)
  - Arden Lee (2021-)
  - Nandita Nagarajan (2021-2022)
  - Chinmaey Kelkar (Masters in Biostatistics; 2021)
  - Sonia Lulla (2020-2021)
  - Se Jin Park (2018-2021) – Honor's thesis, CURB finalist for best thesis
  - Chenab Khakh (2017-2019)
- Rotating graduate students: Gordon Younkin (2019), Nicole Szeluga (2019), Michael Miller (2019), Ben Fehr (2020), Alexandre Miaule (2021), Bryce Askey (2021)
- REU Undergraduate visitors: Elena Lazarus (2018), Jason Chobirko (2019)
- High-school summer students: Nandita Nagarajan (2020)
- Postgraduate visitors:

- Kanza Arshad, Fulbright Scholar Masters in Professional Sciences program (2022-)
- Bhaswati Sarmah, Indian Council of Agricultural Research Fellowship (2021-2022)
- Anna-Lena Sprick (2018)
- Postdoctoral visitors:
  - Kai Fan, China Scholars Council Fellowship (2018-2019)
- Over 30 students from CALS and CAS, through the BIO Advising program (2018-)
- 2 students in the Plant Sciences major

#### ***Pre-faculty:***

- Graduate students: Christina Azodi, Bryan Leong (collaborative/supervisory role)
- REU undergraduate: Nicholas Karavolias (Cornell), Ashley Wright (Jackson State University)
- MSU undergraduates: Noah Last, Grady Colnon, Alex Seddon, David Hufnagel
- High school students: Meiyi Cheng (Honolulu, HI), Andy Lin (Okemos, MI)

#### ***Graduate student committees:***

1. Sarah Jenson (primary mentor: Ed Buckler) – graduated summer 2021
2. Gordon Younkin (primary mentor: Georg Jander)
3. Lance Courtney (primary mentor: Jim Giovannoni) – leave of absence
4. Jacob Toth (primary mentor: Larry Smart)
5. Shuyao Kang (primary mentor: Adrienne Roeder)
6. Savannah Dale (primary mentor: Michael Gore)
7. Hongrui Wang (primary mentor: Jason Londo)
8. Caylyn Railey (primary mentor: Andrew Nelson)
9. Anna Hermanns (primary mentor: Jim Giovannoni)

## **Service**

### ***Committees***

#### ***External:***

1. Founding member, #PhytochemTalks – a biweekly online seminar series organized on behalf of the BSA Phytochemistry section. The goal of this series is to highlight early career plant biochemists including graduate students, postdocs and early career faculty (starting Oct 15, 2021).
2. Founding member, Botanical Society of America Phytochemistry section (2020, 2021); Current President (2022)
3. Co-organizer (with Rob Raguso) of a Botany 2021 colloquium “Phytochemistry: From atoms to ecosystems”
4. *Ex-officio* member, ASPB Early Career Award Committee (2019)

#### ***At Cornell:***

1. Member, Graduate students admissions committee (2020, 2021)
2. Member, Synthetic Plant Biology faculty search committee (2019)
3. Member, Cornell Institute of Biotechnology Metabolomics Advisory Board (2017-)
4. Faculty co-founder, Cornell Ents Club (monthly plant biology journal club)
5. Started the CornellPlantFaculty Slack channel for early career faculty from SIPS. The channel now has 19 Assistant/Associate Professors as members and an active place to seek opinion, share grant opportunities, share news, and generally connect with other early career faculty in real time.

#### ***Pre-faculty:***

- Member, Biochemistry Department Awards Committee (2015)



- President of Genetics Student Organization (2012)
- Member of Genetics Director Search Committee (2012), Genetics Program Executive Committee (2012), Genetics Student Organization (2011), Genetics Admissions Committee (2010)
- Representative for Dean's Student Advisory Council and Faculty Advisory Council (2011)

***Manuscript editorship and peer-review:***

- Associate Ed., Frontiers in Plant Sciences, Section: Plant Metabolism and Chemodiversity (2021-)
- Editorial Board, Plant Direct (2017-)
- Manuscript review – PNAS, Nature Plants, Plant Physiology, Molecular Biology and Evolution, New Phytologist, PLoS ONE, BMC Genomics, BMC Evolutionary Biology, Gene, Frontiers in Plant Sciences, 3Biotech, Ecology and Evolution, Phytochemistry, Molecular Phylogenetics and Evolution

***Other service:***

- Guest lectures, SIPS Postdoctoral Association (2019, 2020)
- Grant review – NSF, ANR, ERC
- Member, AAAS (2010-12, 2013-2014), ISCB (2012), ASPB (2012, 2015-), BSA (2019-)