

**2019 Annual Meeting  
Midwestern Section  
American Society of Plant Biologists**

**March 16 – 17, 2019  
South Agricultural Sciences Building  
and Agricultural Sciences Building  
West Virginia University  
Morgantown, WV**



# Thanks to our Sponsors!



**United States Department of Agriculture  
National Institute of Food and Agriculture**

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## American Society of Plant Biologists Midwestern Section

### Section Officers 2018 – 2019

Chair	Kathrin Schrick (kschrick@ksu.edu) Kansas State University
Vice Chair	Harkamal Walia (hwalia2@unl.edu) University of Nebraska-Lincoln
Secretary-Treasurer	Sen Subramanian (senthil.subramanian@sdstate.edu) South Dakota State University
Meeting Organizer	Michael Gutensohn (michael.gutensohn@mail.wvu.edu) West Virginia University
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Past Chair, ex officio	David Rosenthal (rosentha@ohio.edu) Ohio University
Publications Manager	Jennifer Robison (jenrobis@uemail.iu.edu ) Indiana University Purdue University Indianapolis

### Short Program

#### **Friday, March 15**

2:00 – 4:00 .....	Guided Tour of the WVU Evansdale Greenhouse and the International Culture Collection of (Vesicular) Arbuscular Mycorrhizal Fungi (INVAM) (Meet in Greenhouse Lobby)
2:00 – 4:00 .....	Guided Tour of the WVU Arboretum (Meet at Coliseum Parking Lot)

#### **Saturday, March 16**

7:00 – 8:00 .....	Registration/Check-in/Poster Set-up/Breakfast
8:00 – 8:15 .....	Welcoming Remarks
8:15 – 8:45 .....	Featured Speaker Dr. Gregg Howe
8:45 – 10:15 .....	Oral Session I (T1-T6)
10:15 – 11:30 .....	Poster Session I (Even #s)/Refreshments
11:30 – 1:00 .....	Oral Session II (T7-T12)
1:00 – 2:30 .....	Lunch
1:30 – 2:30 .....	Career Panel
2:30 – 3:00 .....	Featured Speaker Dr. Steve DiFazio
3:00 – 4:30 .....	Oral Session III (T13-T18)
4:30 – 4:45 .....	Coffee Break

4:45 – 5:45 .....	Keynote Speaker Dr. Elizabeth Haswell
5:45 – 7:15 .....	Poster Session II (Odd #s) / Appetizers
7:30 – 10:00 .....	Banquet Dinner

### Sunday, March 17

7:00 – 8:00 .....	Registration/Check-in/Breakfast
8:00 – 9:30 .....	Oral Session IV (T19-T24)
9:30 – 10:00 .....	Morning Refreshments/ Remove Posters
10:00 – 10:30 .....	Featured Speaker Dr. Jean-Michel Ané
10:30 – 12:00 .....	Oral Session V (T25-T30)
12:00 – 12:30 .....	Business Meeting, Announcements, Awards

### Meeting Locations

Registration .....	South Ag Sciences Bldg
All Presentations including Keynote Address .....	James H. Arbuckle Lecture Hall
Saturday Career Panel Discussion .....	Lecture Hall G006
Poster Viewing .....	Agricultural Sciences Bldg
Saturday and Sunday Breakfast .....	South Ag Sciences Bldg
Saturday Lunch.....	Agricultural Sciences Bldg
Saturday Coffee Break .....	South Ag Sciences Bldg
Saturday Dinner.....	Evansdale Crossing Bldg

***Vegetarian options will be available as part of all meals provided; however, preference will be given to individuals who requested vegetarian meals during meeting registration.***

**Posters:** Posters need to be mounted on poster boards between 7:00 am and 9:30 am on Saturday, March 16. Due to space limitations, poster dimensions should be NO larger than 36 in. (width) by 42 in. (height). Pins will be available on-site. Posters need to be removed from poster boards on Sunday, March 17, between 9:30 am and 1 pm. Items remaining on display after 1 pm on Sunday will be discarded.

Photographing, videotaping, or recording of any kind is prohibited (including but not limited to camera phones and digital devices).

**Notice to Oral Presenters:** The preferred format for presentations is PowerPoint. In order to expedite sessions and remain on schedule, we ask you, if possible, to email your presentations to Michael Gutensohn (michael.gutensohn@mail.wvu.edu) by 5 pm on Thursday, March 15th. Alternatively, you may bring a copy of the presentation with you on a USB Flashdrive (labeled with your name) to present at the registration check-in desk. Please name your presentation file with your name, the date you are speaking and the presentation number as listed in the meeting program. For example: Barbara Smith March 16 Talk 10. This will assist us further in making sure your presentation is uploaded to the correct session on the lecture hall computer. We ask all oral presenters to arrive 10 minutes prior to the start of their session to ensure their presentations are loaded and ready. The presentation room will have a computer, projector, screen, remote control and laser pointer for your use.

## 2019 Annual MW ASPB Meeting, West Virginia University

Friday, March 15

**2:00 – 4:00      Guided Tour of the WVU Evansdale Greenhouse and the International Culture Collection of (Vesicular) Arbuscular Mycorrhizal Fungi (INVAM).....Meet in the Greenhouse Lobby**

The tour will include a visit to the new 18,615 square-foot Evansdale Greenhouse built in 2012 (<https://www.davis.wvu.edu/about-davis-college/centers-initiatives/wvu-evansdale-greenhouse>). The 16 bay greenhouse is conveniently located next to the Agricultural Sciences Building. The tour will also include an introduction to the INVAM (<https://invam.wvu.edu/>), the world's largest collection of vesicular-arbuscular mycorrhizal fungi. Parking will be available in lot 43 across from the main entrance to the greenhouse.

**2:00 – 4:00      Guided Tour of the WVU Arboretum .....Meet at Coliseum Parking Lot**

The WVU Core Arboretum is a 91 acre tract of mesophytic hardwood forest located along the bluffs and bottomlands of the Monongahela River near the WVU campus (<https://arboretum.wvu.edu/>). The tour will cover a ~2 mile loop, involving some rough and possibly muddy terrain. Parking is available at the WVU Coliseum, and the tour will depart from the Arboretum parking lot at 2 pm. Directions are available here: <https://arboretum.wvu.edu/#map>

## Schedule of Sessions and Speakers

Saturday, March 16

- 7:00 – 8:00    **Registration/Check-in/Poster Set-up/Continental Breakfast.....South Ag Sci Bldg**
- 8:00 – 8:15    **Welcoming Remarks .....James H. Arbuckle Lecture Hall**
- 8:15 – 8:45    **Featured Speaker – Dr. Gregg Howe, Michigan State University**  
Plant Immunity to Insect Herbivores: The Dilemma to Grow or Defend
- 8:45 – 10:15   **Oral Session I.....Moderator – Dr. Zhihua Hua, Ohio University**
- 8:45    T1.    Studying the metabolic crosstalk in the plant terpenoid biosynthetic network  
*Erin Hartzell, Division of Plant and Soil Sciences, West Virginia University*
- 9:00    T2.    Acylglucose biosynthesis: Specialized metabolic diversity in wild tomato  
*Daniel Lybrand, Dept. of Biochemistry and Molecular Biology, Michigan State University*
- 9:15    T3.    Transporting polyamines, amino acids and GABA from the chloroplast  
*Menaka Ariyaratne, Dept. of Biological Sciences, Bowling Green State University*
- 9:30    T4.    Application of CRISPR-Cas9 genome editing technology to discover biological functions of plant cell wall proteins in *Arabidopsis*  
*Yuan Zhang, Dept. of Environmental and Plant Biology, Ohio University*
- 9:45    T5.    Developing a novel protein expression system: Expression of lignolytic enzymes from white-rot fungi in *Physcomitrella patens*  
*Parul Singh, Dept. of Biology, University of Louisville*
- 10:00    T6.    The biological function of Rab-GTT in *Physcomitrella patens*  
*Hyun Jin Jung, Dept. of Biology, University of Louisville*
- 10:15 – 11:30   **Poster Session I (Even # Posters) and Refreshments.....Agricultural Sciences Bldg.**
- 11:30 – 1:00    **Oral Session II.....Moderator – Dr. Susanne Hoffmann-Benning, Michigan State University**
- 11:30    T7.    PLAFP as a phosphatidic acid dependent signal for systemic stress response  
*Amanda Koenig, Dept. of Biochemistry and Molecular Biology, Michigan State University*
- 11:45    T8.    Persistent water stress inhibits stomatal development in *Betula nigra* and *Cercis canadensis*  
*Noel Mano, Dept. of Botany and Plant Pathology, Center for Plant Biology, Purdue University*
- 12:00    T9.    Selection of Rhizobacteria with the ability to enhance plant growth under drought and low-nutrient conditions  
*Nathan Nordstedt, Dept. of Horticulture and Crop Science, Ohio State University*
- 12:15    T10.   *In vitro* functional analyses of the root-associated bacterial endophytes predict their impact in supporting plant growth in tomato  
*Tri Tien Tran, Dept. of Botany and Plant Pathology, Center for Plant Biology, Purdue University*

12:30 T11. Maize and cotton primary root growth responses to water deficit: Comparative physiological and metabolic analysis  
*Jian Kang, Interdisciplinary Plant Group, University of Missouri, Columbia*

12:45 T12. Determining and comparing hydraulic responses between trees with different wood types  
*Kelsey Bryant, Dept. of Environmental and Plant Biology, Ohio University*

**Lunch and Afternoon, March 16**

1:00 – 2:30 **Lunch**..... **Agricultural Sciences Bldg.**

1:30 – 2:20 **Career Panel Discussion**.....**Lecture Hall G006**

2:30 – 3:00 **Featured Speaker - Dr. Steve DiFazio, West Virginia University**  
Sex in the Salicaceae

3:00 – 4:30 **Oral Session III** .....**Moderator –Dr. Sen Subramanian, South Dakota State University**

3:00 T13. Transcriptomics identifies modules of differentially expressed genes and novel cyclotides in *Viola pubescens*  
*Anne Sternberger, Dept. of Environmental and Plant Biology, Ohio University*

3:15 T14. Essential roles of *Chlamydomonas* galactoglycerolipid lipase PGD1 thylakoid membrane remodeling in response to adverse environmental conditions  
*Zhi-Yan Du, Dept. of Biochemistry and Molecular Biology, Michigan State University*

3:30 T15. Functional characterization of nutrient mobilization-related genes in petunia petal senescence  
*Yiyun Lin, Dept. of Horticulture and Crop Science, Ohio State University*

3:45 T16. Profiling genome-wide DNA methylation in identical twin almonds to explore aging and non-infectious bud-failure  
*Katherine D'Amico-Willman, Dept. of Horticulture and Crop Science, Ohio State University*

4:00 T17. Mapping downy mildew resistance QTL in the progeny of two native North American grapevines  
*Gaurab Bhattarai, Dept. of Biology, Missouri State University*

4:15 T18. The subcellular localization of *Ralstonia solanacearum* K60 Type III Effectors  
*Rachel Hiles, Dept. of Botany and Plant Pathology, Center for Plant Biology, Purdue University*

4:30 – 4:45 **Coffee Break**

4:45 – 5:45 **KEYNOTE SPEAKER**

**Dr. Elizabeth Haswell, Washington University, St. Louis**  
A Feeling for the Organism: Mechanoperception in the Green Lineage

5:45 – 7:15 **Poster Session II (Odd # Posters) and Appetizers**.....**Agricultural Sciences Bldg.**

7:30– 10:00 **Banquet Dinner and Networking**.....**Evansdale Crossing Bldg.**

## Sunday, March 17

- 7:00 – 8:00 Registration/Check-In/Continental Breakfast.....South Ag Sci Bldg**
- 8:00 – 9:45 Oral Session IV.....Moderator – Dr. Nicole Waterland, West Virginia University**
- 8:00 T19.** An evolutionary perspective on recent duplications in the ubiquitin-26S proteasome system  
*Alexander Bochenek, Dept. of Environmental and Plant Biology, Ohio University*
- 8:15 T20.** Biocontrol fungi in the genus *Metarhizium* produce ergot alkaloids in a conditionally dependent manner  
*Caroline Leadmon, Division of Plant and Soil Sciences, West Virginia University*
- 8:30 T21.** Deletion and truncation mutants to probe functional domains of Compromised Hydrolysis of Triacylglycerols 7 (CHT7) protein in *Chlamydomonas reinhardtii*  
*Chase Lindeboom, Dept. of Biochemistry and Molecular Biology, Michigan State University*
- 8:45 T22.** Optimizing GmDGAT1b for increasing oil in soybean  
*Kayla Flyckt, Corteva Agriscience, Johnston, Iowa*
- 9:00 T23.** Development of enzymes for robust aryloxyphenoxypropionate and synthetic auxin herbicide tolerance traits in maize and soybean crops  
*Clayton Larue, Bayer Crop Science*
- 9:15 T24.** Hormonal regulation of defense-related secondary metabolism in polyamine-enriched tomato fruit field-tested in contrasting ecosystems  
*Tahira Fatima, Dept. of Horticulture and Landscape Architecture, Purdue University*
- 9:30 – 10:00 Refreshment Break.....South Ag Sci Bldg**
- 10:00 – 10:30 Featured Speaker, Dr. Jean-Michel Ané, University of Wisconsin, Madison**  
Discoveries to Improve Nitrogen Fixation in Cereals
- 10:30 – 12:00 Oral Session V.....Moderator – Dr. Gustavo MacIntosh, Iowa State University**
- 10:30 T25.** Exome sequencing highlights the role of historic wild relative introgression in broadening the adaptive potential of modern bread wheat  
*Fei He, Dept. of Plant Pathology, Kansas State University*
- 10:45 T26.** Insights into the genetic architecture of growth-defense tradeoffs in a foundation forest tree species  
*Jennifer Riehl, Dept. of Entomology, University of Wisconsin, Madison*
- 11:00 T27.** Novel components of plastids with potential roles in plant stress and defense  
*Zeeshan Bandy, Dept. of Molecular Genetics and Cell Biology, University of Chicago*
- 11:15 T28.** Light-induced stabilization of ACS contributes to hypocotyl elongation during the dark-to-light transition in *Arabidopsis* seedlings  
*Dong Hye Seo, Dept. of Botany and Plant Pathology, Center for Plant Biology, Purdue University*
- 11:30 T29.** Control of multicellularity in the moss *Physcomitrella patens* through modifying ROP-GTPase activity  
*Liang Bao, Dept. of Biology, University of Louisville*



11:45 T30. Natural fumigation as a mechanism for volatile transport between flower organs  
*Joseph Lynch, Dept. of Biochemistry, Purdue University*

12:00 – 12:30 Business Meeting, Announcements, Award Presentations .....James H. Arbuckle Lecture Hall

12:30 pm Meeting ends. Safe travels.

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## Poster Titles

- P1. A Scanning Electron Microscopy Technique for Viewing Plant-Microbe Interactions at Tissue and Cell Type Resolution  
*Denise Caldwell, Department of Botany and Plant Pathology, and Center for Plant Biology, Purdue University*
- P2. What is the role of auxin in root-mediated resistance to *Ralstonia solanacearum*?  
*Katherine Rivera-Zuluaga, Department of Botany and Plant Pathology, and Center for Plant Biology, Purdue University*
- P3. A Regional Education Program in Sustainable Land Reclamation Management in Central Appalachia  
*Nan Nan, Division of Forestry and Natural Resources, Renewable Materials and Bioenergy Research Center, West Virginia University*
- P4. The role of trichome-derived monoterpenes and sesquiterpenes in the interaction of cultivated tomato and potato aphid  
*Fumin Wang, Division of Plant and Soil Sciences, West Virginia University*
- P5. MiR156 Regulation of Flowering Time of Elevated CO<sub>2</sub>-Grown Plants  
*Giavonna Picknally, Department of Biology, Saint Joseph's University*
- P6. Characterizing the Function of PP2-A13 F-box Protein in Plant Development  
*Abigail G. Moore, Department of Environmental and Plant Biology, Ohio University*
- P7. Quantitative Expression Reduction of Differentiation and Green Like by iCRISPRi Reveals It's Function in Multiple Metabolic Pathways  
*Paymon Doroodian, Environmental and Plant Biology Department, and Interdisciplinary Program in Molecular and Cellular Biology, Ohio University*
- P8. Epigenetic Modifications are Essential for the Rhythmic Control of volatile Organic Compounds Emission in *Petunia hybrida*  
*Shannon Stirling, Department of Biochemistry, and Purdue Center for Plant Biology, Purdue University*
- P9. Time-Course Transcriptomic Analysis of *Petunia × hybrida* 'Mitchell Diploid' under Water Deficit Stress Using RNA Sequencing  
*Suejin Park, Division of Plant and Soil Sciences, West Virginia University*
- P10. Using a Poplar Hybrid to Investigate Genetic Control of Associating Insect and Fungal Communities  
*Sandra Simon, Department of Biology, West Virginia University*
- P11. Analysis of RIN4 homologs in regulating R-mediated immunity in Important Crop Species

*Maheen Alam, Department of Biology, Lahore University of Management Sciences*

- P12.** Elucidation of Genetic Components for Acidity Tolerance Using Arabidopsis GWAS Panel  
*Menuka Bhandari, Department of Biology West Virginia State University*
- P13.** Compartmentation of Putrescine Synthesis in Plants  
*Kumud Joshi, Department of Biological Sciences, Bowling Green State University*
- P14.** Nucleic Acid Programmable Protein Array (NAPPA) Technology as a Functional Genomics Tool for Plant Cell Wall Biosynthesis  
*Matrika Bhattarai, Department of Environmental and Plant Biology, Ohio University*
- P15.** Natural Variation in *Arabidopsis thaliana* to Discover Candidate Genes in Response to Aluminum Toxicity  
*Arjun Ojha Kshetry, Gus R. Douglass Institute and Department of Biology, West Virginia State University*
- P16.** The Metabolic and Nutritional Response of *Salix* spp. to Aluminum Stress  
*Phillip Agosti, Biology Department, West Virginia University*
- P17.** Exploration into Natural Variation for Detecting Novel QTLs for Arsenic Effects in *Arabidopsis thaliana*  
*Yadira Peña-García, Department of Biology, Gus R. Douglass Institute, West Virginia State University*
- P18.** Are timber management practices impacting the insect pollinators in the Allegheny National Forest?  
*Craig Larcenaire, Division of Plant and Soil Sciences, West Virginia University*
- P19.** Higher order knock-out mutants of Arabidopsis galactosyltransferases: A reverse genetic approach to reveal functional roles of O-galactosylation of arabinogalactan-proteins (AGPs)  
*Dasmeet Kaur, Molecular and Cellular Biology Program, Department of Environmental and Plant Biology, Ohio University*
- P20.** Impact of Simulated Climate Change on Flower Development of Petunia  
*Sarah A. Mills, Division of Plant and Soil Sciences, West Virginia University*
- P21.** Genetic regulation of anticancer and neuroprotective glyceollins in soybean  
*Asraful Jahan, Division of Plant and Soil Sciences, West Virginia University*
- P22.** Quantitative Expression Reduction of Differentiation and Green Like by iCRISPRi Reveals Its function in a Novel Stress Responsive Pathway  
*Paymon Doroodian, Environmental and Plant Biology Department, and Interdisciplinary Program in Molecular and Cellular Biology, Ohio University*
- P23.** Cuticular Composition and Gene Expression Analysis of Cutin Genes by RNA-seq in Habanero Pepper Fruits  
*Tolulope Akinmoju, Department of Biology, Gus R. Douglass Institute, West Virginia State University*
- P24.** Candidate Genes for Gravity Signal Transduction Identified from Spaceflight Proteomics  
*Proma Basu, Department of Environmental and Plant Biology, Interdisciplinary Program in Molecular and Cellular Biology, Ohio University*
- P25.** Role of Lipid Binding Proteins and Phosphatidic Acid on Stress Response and Plant Development  
*Briaunna Murray, Department of Biochemistry and Molecular Biology, Michigan State University*
- P26.** Root-Fungal Associations Enhance the Plant Performance of the Invasive Plant Species, Lesser Celandine  
*Allison Paolucci, Department of Environmental and Plant Biology, Ohio University*
- P27.** Three beta-Glucuronosyltransferases impact physiological and biochemical functions of plant cell wall arabinogalactan-proteins in *Arabidopsis thaliana*

*Oyeyemi O. Ajayi, Molecular and Cellular Biology Program, Department of Environmental and Plant Biology, Ohio University*

- P28.** De Novo Domestication of *Solanum cheesmaniae* by Genome Editing Via CRISPR/Cas9: Harnessing Salinity Tolerance from a Wild Tomato Species  
*Estefania Tavares Flores, Division of Plant and Soil Sciences, West Virginia University*
- P29.** Caffeine Transport in the Coffee Plant: Understanding Caffeine Distribution and Accumulation at the Subcellular Level  
*Renan T. Pinto, Federal University of Lavras, Brazil, and Division of Plant and Soil Sciences, West Virginia University*
- P30.** Identification of Mobile Transcripts Across the Reciprocal Grafts Involving Watermelon and Bottle gourd by RNA-seq Analysis  
*Marleny Garcia-Lozano, Department of Biology, Gus R. Douglass Institute, West Virginia State University*
- P31.** A Battle of the Regulators: Contrasting Effects of ABA and Transcription Factors on Glyceolin Biosynthesis  
*Kiersten Jacobs, Department of Biology, West Virginia University*
- P32.** Investigating Floral Transition and Optimizing Germination in *Viola pubescens*  
*Brett L. Kalfas, Department of Biological Sciences, Ohio University*
- P33.** Genetic Improvement of Switchgrass for Energy Production  
*Sanju Sanjaya, Energy and Environmental Science Institute, Department of Biology, Agriculture Experimental Research Station, West Virginia State University*
- P34.** Plant Response Across a Gravitational Gradient Aboard the International Space Station  
*Alexander Meyers, Department of Environmental and Plant Biology, and Interdisciplinary Program in Molecular and Cellular Biology, Ohio University*
- P35.** The Effect of Metal Composition and Particle Size on Nanostructure-Toxicity in Plants  
*Natalie Smith, Department of Biology, Missouri State University*
- P36.** Molecular Comparison of the Glyceraldehyde 3-Phosphate Dehydrogenase Gene in Common Ragweed and Cuman Ragweed  
*Dave L. Robinson, Department of Biology, Bellarmine University*
- P37.** Towards an improved metric of *Cryptophonectria parasitica* infection to quantify species based responses to infection  
*Sam Kukor, Department of Environmental and Plant Biology, Ohio University*
- P38.** Gene Expression at the Intersection of Microgravity and Reorientation Implicates New Regulators of Gravity Signaling  
*Calvin M. Coffin, Department of Environmental and Plant Biology, and Interdisciplinary Program in Molecular and Cellular Biology, Ohio University*
- P39.** Patterns of Recombination and Segregation Distortion in the Populus Genome  
*Chanaka Roshan Abeyratne, Department of Biology, West Virginia University*
- P40.** Evolutionary history and diverse functions of NODULE INCEPTION-LIKE proteins (NLPs) in root development  
*Narender Kumar, Department of Botany and Plant Pathology, Purdue University*
- P41.** Comparative GWAS for Seedling Root Variation in Acidic Conditions across the Pepper Species Complexes  
*Tosin Akinsipe, Department of Biology, Gus R. Douglass Institute, West Virginia State University*

- P42.** Functional analysis of MtMATE30, a nodule-specific membrane effluxer in the model legume *Medicago truncatula*  
**Lina Yang**, *Division of Plant and Soil Sciences, West Virginia University*
- P43.** The Effects of Carbon-Based Nanoparticles on Tomato Germination and Growth  
**Susan Eiben**, *Department of Environmental and Plant Biology, Ohio University*
- P44.** Understanding genetic and environmental factors to enable cultivation of winter malting barley in Ohio and across the Midwest  
**Ben Eggers**, *Department of Horticulture and Crop Science, Ohio State University*
- P45.** Physiological and Metabolomic Responses of Black Cottonwood to Water Stress  
**Marvin W. Wright**, *Department of Biology, West Virginia University*
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## *List of Presenters*

<b>Last Name</b>	<b>First Name</b>	<b>Talk or Poster</b>	<b>Last Name</b>	<b>First Name</b>	<b>Talk or Poster</b>
Abeyratne	Roshan	P39	Kumar	Narender	P40
Agosti	Phillip	P16	Larcenaire	Craig	P18
Ajayi	Oyeyemi	P27	Larue	Clayton	T 23
Akinmoju	Tolulope	P23	Leadmon	Caroline	T 20
Akinsipe	Tosin	P41	Lin	Yiyun	T 15
Alam	Maheen	P11	Lindeboom	Chase	T 21
Ariyaratne	Menaka	T 3	Lybrand	Daniel	T 2
Banday	Zeeshan	T 27	Lynch	Joseph	T 30
Bao	Liang	T 29	Mano	Noel	T 8
Basu	Proma	P24	Meyers	Alexander	P34
Bhandari	Menuka	P12	Mills	Sarah	P20
Bhattarai	Gaurab	T 17	Moore	Abigail	P6
Bhattarai	Matrika	P14	Murray	Briaunna	P25
Bochenek	Alexander	T 19	Nan	Nan	P3
Bryant	Kelsey	T 12	Nordstedt	Nathan	T 9
Caldwell	Denise	P1	Ojha Kshetry	Arjun	P15
Coffin	Calvin	P38	Paolucci	Allison	P26
D'Amico-Willman	Katherine	T 16	Park	Suejin	P9
Doroodian	Paymon	P7, P22	Pena Garcia	Yadira	P17
Du	Zhi-Yan	T 14	Picknally	Giavonna	P5
Eggers	Ben	P44	Pinto	Renan	P29
Eiben	Susan	P43	Riel	Jennifer	T 26
Fatima	Tahira	T 24	Rivera-Zuluaga	Katherine	P2
Flyckt	Kayla	T 22	Robinson	Dave	P36
Garcia-Lozano	Marleny	P30	Sanjaya	Sanju	P33
Hartzell	Erin	T 1	Seo	Dong Hye	T 28
He	Fei	T 25	Simon	Sandra	P10
Hiles	Rachel	T 18	Singh	Parul	T 5
Jacobs	Kiersten	P31	Smith	Natalie	P35
Jahan	Asraful	P21	Sternberger	Anne	T 13
Joshi	Kumud	P13	Stirling	Shannon	P8
Jung	Hyun Jin	T 6	Tavares Flores	Estefania	P28
Kalfas	Brett	P32	Tran	Tri	T 10
Kang	Jian	T 11	Wang	Fumin	P4
Kaur	Dasmeet	P19	Wright	Marvin	P45
Koenig	Amanda	T 7	Yang	Lina	P42
Kukor	Sam	P37	Zhang	Yuan	T 4

## *List of Registrants*

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