2017 PROGRAM

44TH ANNUAL MEETING OF THE
PLANT GROWTH REGULATION SOCIETY OF AMERICA

AUGUST 6 - 10, 2017

HILTON DOWNTOWN ANCHORAGE
ANCHORAGE, ALASKA
<table>
<thead>
<tr>
<th>Time</th>
<th>Sunday 6-Aug-17</th>
<th>Monday 7-Aug-17</th>
<th>Tuesday 8-Aug-17</th>
<th>Wednesday 9-Aug-17</th>
<th>Thursday 10-Aug-17</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7:30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:00</td>
<td></td>
<td></td>
<td>Attende Breakfast</td>
<td>Attende Breakfast</td>
<td></td>
</tr>
<tr>
<td>8:30</td>
<td></td>
<td></td>
<td>(Bristol Bay Ballroom)</td>
<td>(Bristol Bay Ballroom) Sustaining</td>
<td></td>
</tr>
<tr>
<td>9:00</td>
<td>PGRSA Steering Committee</td>
<td>Keynote: Meriam Karlsson,</td>
<td>Keynote: Alok Adholeya,</td>
<td>Attendee Breakfast</td>
<td></td>
</tr>
<tr>
<td>9:30</td>
<td>Meeting (Cook Inlet Board Room)</td>
<td>Locally grown: Food security</td>
<td>Production technologies of</td>
<td>(Bristol Bay Ballroom)</td>
<td></td>
</tr>
<tr>
<td>10:00</td>
<td></td>
<td>Session I (Aleutian/Alaska)</td>
<td>mycorrhizae: A global</td>
<td>Member Breakfast (Spruce)</td>
<td></td>
</tr>
<tr>
<td>10:30</td>
<td>PGRSA Steering Committee</td>
<td>Break</td>
<td>comparison and future</td>
<td>Break</td>
<td></td>
</tr>
<tr>
<td>11:00</td>
<td>Poster Session Setup</td>
<td>Keynote: Emily Merewitz, New approaches and uses of PGRs in turfgrasses</td>
<td>Keynote: Maria Herrero, Registering PRGs: global policies worldwide &amp; how to work within them; Session V</td>
<td>Break</td>
<td></td>
</tr>
<tr>
<td>11:30</td>
<td>Registration (Promenade)</td>
<td>Session II (con’t) (Aleutian/Alaska)</td>
<td>Session VI (con’t) (Aleutian/Alaska)</td>
<td>Break</td>
<td></td>
</tr>
<tr>
<td>12:00</td>
<td>Lunch (Bristol Bay Ballroom)</td>
<td>Session III (Aleutian/Alaska)</td>
<td>Lunch (Bristol Bay Ballroom)</td>
<td>Business Luncheon &amp; Awards Presentation (Top of the World)</td>
<td>Post-conference Tour (Hilton Lobby)</td>
</tr>
<tr>
<td>12:30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13:30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14:30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15:30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17:30</td>
<td>Welcome Reception</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18:00</td>
<td>Welcome Reception</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19:00</td>
<td>Dinner on your own</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20:00</td>
<td>Dinner on your own</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21:00</td>
<td>Dinner on your own</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22:00</td>
<td>Dinner on your own</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Message from the President

Welcome to Anchorage!

I am sure you are looking forward to a fun and educational Plant Growth Regulation Society of America meeting for 2017. This year we welcome keynote speakers, presenters and attendees from all over the world. This is our 44th annual meeting of the PGRSA and on behalf of the steering committee we thank you all for being part of the Society. The meeting this year covers the scientific breadth of research in plant growth regulation. We are also very encouraged to note the continued appropriation of travel awards for student participants in the meeting. Our goal as a committee is to always to encourage participation of young members and to maintain a high degree of relevancy across the breadth of the plant growth regulation community.

PGRSA’s annual meeting will give you a unique opportunity to network with academic, industry, and governmental researchers from around the world. These researchers share a common interest in plant growth regulation! Through the series of exciting keynote speakers, contributed papers and posters, we feel confident that you will get a sense of the fantastic work that is happening in the field of plant growth regulation!

On behalf of the PGRSA, thank you for attending the 2017 PGRSA meeting and enjoy.

Chris Gunter
2017 PGRSA President
Message from the Conference Chair

On behalf of the Plant Growth Regulation Society of America, I would like to welcome you at our 2017 Annual Conference in Anchorage, AK. The Steering Committee has chosen this location for this year’s meeting because of the unique location and the beauty of the environment. I hope this Conference will serve as a great learning and networking opportunity for all participants. This Conference has an outstanding group of invited speakers to set the stage for a dynamic program with presentations from academic, government and private company research and outreach programs.

The conference hotel is in the heart of historic downtown Anchorage, surrounded by restaurants and plenty of entertainment opportunities, all within walking distance. Besides the local attractions, the area provides a great opportunity for exploring the natural beauty of Alaska and several outdoor activities. I hope you will take advantage of these opportunities either on your own or through our organized conference tours.

I personally thank you for attending the 2017 Annual Conference and being part of this great Society!

Jozsef Racsko
PGRSA 1st Vice President
2017 Conference Chair
To all presenters:

You are expected to submit a proceedings paper or expanded abstract as part of your presentation.

PGRSA conference Proceedings Submissions are due September 1, 2017

Please submit your completed proceedings paper or expanded abstract online by logging on to your PGRSA Portal and uploading your contribution at:

https://register.pgrsa.org/

If your paper is not submitted by this deadline, it will not be published in the 2017 conference proceedings.
2017 PGRSA Program

Sunday 6 August 2017

8:00 to 12:00  PGRSA Steering Committee Meeting: **Cook Inlet Board Room**

12:00 to 5:00  Registration: **Promenade**

1:00 to 5:00  Pre-conference Tour (meet in hotel lobby)

6:00 to 9:00  Welcome Reception: **Top of the World**

Monday 7 August 2017

7:00 to 8:00  Attendee Breakfast: **Bristol Bay Ballroom**

7:30 to 5:00  Registration: **Promenade**

8:00 to 8:10  Opening Remarks: **Aleutian/Alaska**
Chris Gunter and Jozsef Racsko

**General Session I**

*Plant Production in Extreme Environments*

**Moderator: Dave Barcel, OHP**

8:10 to 9:10  **Keynote Presentation: Miriam Karlsson, University of Alaska, Fairbanks**
Locally Grown: Food Security And Horticulture In Alaska

9:10 to 9:30  **Bingru Huang, Rutgers University**
Metabolic And Molecular Factors For Hormonal Regulation Of Heat-Induced Leaf Senescence
9:30 to 9:50  **Daniel Leskovar, Texas A&M University**  
Efficacy Of 1-Mcp In Growth Modulation Of Tomato And Pepper Transplants Exposed To Heat Stress

9:50 to 10:10  **Hong-Wei Xue, Shanghai Institutes for Biological Sciences**  
Receptor-Like Protein Elt1 Regulates Br Signaling And Rice Growth

10:10 to 10:20  **Sustaining Member Spotlight: OHP**

10:20 to 10:40  **Break**

**General Session II**  
**Use of PGRs in Landscapes and Ornamentals**

**Moderator: John Immaraju, AMVAC**

10:40 to 11:40  **Keynote Presentation: Emily Merewitz, Michigan State University**  
New Approaches And Uses Of Plant Growth Regulators In Turfgrasses

11:40 to 12:00  **Nicole Waterland, West Virginia University**  
Transcriptome Analysis Of Petunia Grown Under Water Deficit

12:00 to 12:20  **Josh Henry, North Carolina State University**  
Growth Control Of Seven Floriculture Species Using Paclobutrazol Liner Soaks

12:20 to 1:20  **Lunch: Bristol Bay Ballroom**

1:20 to 2:20  **Historical Perspectives: James Barrett, University of Florida**  
The Evolution Of The Use Of Plant Growth Regulators On Poinsettias (*Euphorbia pulcherrima*)

2:20 to 2:40  **Muhammad Akbar Abdul Ghaffar, The Ohio State University**  
Potential Use Of Ethephon To Enhance Rubber Production In *Taraxacum kok-saghyz* Roots
2:40 to 2:50  Sustaining Member Spotlight: AMVAC

2:50 to 3:10  Break

**General Session III**

*Conducting Experiments with PGRs*

**Moderator: Marcus Jones, WinField United**

3:10 to 4:10  **Keynote Presentation: Steve West, Research Designed for Agriculture**
Plant Growth Stimulator Trials: Trial Design, Evaluation, Conduct And The Inevitability Of Failure—Experience Makes You Better

4:10 to 4:30  **Marcus Jones, WinField United**
Investigation Of The Optimum Plot Size For Accurate Yield Evaluations In Agriculture

4:30 to 4:50  **Ute Albrecht, University of Florida**
Exploring Plant Growth Regulators To Reduce Bolting In Cilantro Grown In Greenhouse Conditions And Open Field Production

4:50 to 5:00  Sustaining Member Spotlight: WinField United

---

**Tuesday 8 August 2017**

7:00 to 8:30  Sustaining Members Breakfast: **Spruce**

7:00 to 8:30  Attendee Breakfast: **Bristol Bay Ballroom**

7:30 to 17:00  Registration: **Promenade**
**General Session IV**  
**Beneficial Microbials in Agriculture**

*Moderator: Jozsef Racsko, Mycorrhizal Applications*

8:30 to 9:30  
**Keynote Speaker: Alok Adholeya, Mycorrhizal Applications**  
Production Technologies Of Mycorrhizae: A Global Comparison And Future Potential

9:30 to 9:50  
**Jozsef Racsko, Mycorrhizal Applications**  
Use Of Arbuscular Mycorrhizal Fungi To Improve Salinity Stress Tolerance Of Transplanted Citrus Trees

9:50 to 10:50  
**Young Scientist Award: Caroline Gutjahr, LMU**  
Phytohormone Signaling In Arbuscular Mycorrhiza Development

10:50 to 11:00  
**Sustaining Member Spotlight: Mycorrhizal Applications**

11:00 to 11:20  
**Break**

**General Session V**

**Plant Growth Regulator Industry and PGRS Use**

*Moderator: Kevin Forney, Valent USA, LLC*

11:20 to 12:20  
**Keynote Speaker: Maria Herrero, Valent BioSciences**  
Registering Plant Growth Regulators: Global Policies Worldwide And How To Work Within Them

12:20 to 12:40  
**Richard Woodward, Stoller USA**  
Mineral-Based Modulation Of PGR Pools In Kiwifruit Improves Production And Yield Metrics Over Cytokinin Oxidase Inhibitors

12:40 to 1:00  
**Gurreet Brar, California State University, Fresno**  
Citrus Rootstocks Exhibit Different Scion Growth Responses To Pre-Budding Deficit Irrigation
1:00 to 2:00  Lunch: **Bristol Bay Ballroom**

2:00 to 2:20  **Tripti Vashisth, University of Florida**  
Global Transcriptomic Analysis Of Hydrogen Cyanamide-Treated Peach Trees

2:20 to 2:40  **Joshua Klein, ARO-Volcani Center**  
Blossom Thinning Of Stonefruit And Apples Using Organosilicone Surfactants With Ethephon

2:40 to 3:00  **Poliana Francescatto, Cornell University**  
S-Abscisic Acid (S-ABA) Treatments Control Bitter Pit In Honeycrisp Apples

3:00 to 3:20  **Alisson P. Kovaleski, Cornell University**  
Exogenous Aba Reduces Loss Of Cold Hardiness In Ecodormant Buds Of *Vitis Vinifera*

3:20 to 3:30  **Sustaining Member Spotlight: Valent BioSciences**

3:30 to 3:50  **Break**

3:50 to 5:30  **Poster Session: Bristol Bay Ballroom**

**Dennis Dayton, University of Tennessee**  
Foliar Application Of Abscisic Acid To Two Day-Neutral Strawberry Cultivars To Influence Fruit Production

**Guochen Yang, North Carolina A&T State University**  
In Vitro Shoot Initiation Of Pearlbush Under Pgr Treatments

**Emiliyan Dzhustov, Sofia University**  
Physiological Effect Of Rhizospherical Bacterial Strans In Products Voodoo Juice And Tarantula

**Josh B. Henry, North Carolina State University**  
Hosta Shoot Enhancement With Benzyladenine Sprays And Drenches
Joyce Latimer, Virginia Tech
Tank Mixing Configure (BA) With Plant Growth Retardants Improves Branching

Michael D. Rethwisch, University of Nebraska - Lincoln
Smooth Brome (Bromus inermis) Growth Response To Ryzup Smartgrass Application Is Effected By Surfactant

Muhammad Akbar Abdul Ghaffar, The Ohio State University
Rubber Production Under Cold Induction Treatment And Over-Wintering Practice In Taraxacum kok-saghyz Roots

Paul Cockson, North Carolina State University
Comparison Of Foliar Sprays For Coleus Growth Control

Sanliang Gu, California State University, Fresno
Interactive Effects Of Abscisic Acid (Aba) And Temperatures On Skin Anthocyanins In Cabernet Sauvignon Berries (Vitis vinifera L.)

Sonja Maki, University of Wisconsin – River Falls
Living Greenwalls: Substrate Feedback In A Model Plant

Thomas Mueller, Tennessee State University
Gibberellic Acid Effects On Agronomic Crops In Tennessee

Valentin Savov, Sofia University
Testing Of New Cloning Gel For Plant Cuttings Rooting

Josh Henry, North Carolina State University
Comparison Of Ornamental Pepper Ripening Enhancement With Ethephon Applied As A Spray Or Drench

Paul Cockson, North Carolina State University
Shooting For A Fuller Plant: Analyzing The Use Of Benzyladenine And Ethephon To Increase Rhyzome Production In Sanseveria
**Jozsef Racsko, Mycorrhizal Applications**  
Performance Of Transplanted Apple Trees Increased By *In Vivo* And *In Vitro* Produced Arbuscular Mycorrhizal Fungi

**Zhongjie Ji, Purdue University**  
Effects Of Plant Growth Regulators On Growth And Physiological Responses Of Perennial Ryegrass Under Salinity Stress

**Vijay Joshi, Texas A&M**  
Cross Talk Between Citrulline Accumulation And Abscisic Acid (Aba) Biosynthesis In Watermelons

**James J. Campanella, Montclair State University**  
Characterization Of The First Auxin Conjugate Hydrolase-Like Homologue To Be Isolated From Liverwort (Marchantia Polymorpha) And Its Implications For The Evolution Of Auxin Regulation In Plantae

**Wednesday 9 August 2017**

7:00 to 8:00  Attendee Breakfast: **Bristol Bay Ballroom**

7:30 to 10:00  Registration: **Promenade**

**General Session VI**  
**Biostimulants and PGRs**

**Moderator: Jim Scruggs, Fine Americas**

8:00 to 9:00  **Keynote Speaker: David Beaudreau, DC Legislative and Regulatory Services**  
Biostimulants: The Regulatory Outlook In The U.S.

9:00 to 9:20  **Michael Rethwisch, University of Nebraska - Lincoln**  
Crop Responses To Gibberellic Acid Application: Interactions Of Crop, Surfactant And Fertility
9:20 to 9:40 Paul Silverman, Valent BioSciences
Ryzup Smartgrass: A New Tool For Drought Protection Of Corn
(Zea mays)

9:40 to 10:00 Break

10:00 to 10:20 Brian Whipker, North Carolina State University
Application Of Fresco Foliar Sprays To Counteract
Paclobutrazol Residue In Irrigation Water: And The
Implications Of Utilizing Micro-Drenches To Control Plant
Growth

10:20 to 10:40 Maria Macias, Texas A&M University
Effects Of Plant Growth Regulators On Seed Germination And
Root Growth Traits Of Red And Yellow Onion

10:40 to 11:00 Gary Stutte, SyNRGE, LLC
Sustainability On Long Duration Space Missions: Plants,
Microbes And A Controlled Environment

11:00 to 11:10 Sustaining Member Spotlight: Fine Americas

11:10 to 11:30 Closing Remarks; Preview of 2018 PGRSA Annual
Conference

12:00 to 1:30 Business Luncheon and Awards Presentations: Top of the
World

2:00 to 6:00 PGRSA Steering Committee Meeting: Cook Inlet Board Room

Thursday 10 August 2017

7:45 to 6:30 Post-conference Tour (meet in hotel lobby)
A SPECIAL THANK YOU TO THE FOLLOWING COMPANIES FOR FINANCIAL SUPPORT OF THE MEETING

PLATINUM SPONSORS

GOLD SPONSOR

SILVER SPONSORS

BRONZE SPONSORS
We look forward to seeing you next year in beautiful
San Juan, Puerto Rico
June 10-14, 2018
for the
45th Annual Meeting of the PGRSA
at the
Sheraton Hotel & Casino