



PSNA News

Phytochemical Society of North America
Sociedad Fitoquímica de América del Norte
Société Phytochimique de L'Amérique du Nord

Volume 59, Number 1

Fall 2021

Message from Dorothea Tholl, PSNA President



Dear Colleagues,

I hope this message finds you healthy and well. On July 26, I officially took office as the 57th president of the PSNA after serving as president-elect since fall 2019. As you know, the pandemic caused past-president Argelia Lorence and me to extend our service for an additional year and I am grateful for Argelia's commitment and leadership during this difficult time. I would like to thank the PSNA members for instilling their trust in me to lead the society in the coming months. I am excited to work with the executive and advising committee on new initiatives

and welcome our new president-elect Li Tian, secretary Sangeeta Dhaubhadel, and treasurer Philipp Zerbe. Many thanks to Li Tian for serving as secretary from 2018-2021 and a special thank you to Dharendra Kumar for his excellent service as past PSNA treasurer over more than six years. I would also like to thank Bjoern Hamberger for continuing his service as chair of the PSNA awards committee and Armando Alcazar, chair of the young members committee, for building a community for our young and early career members, organizing career workshops, and staying on top of social media.

Looking back, the past 18 months have challenged us professionally and privately in many ways. It was therefore all the more enjoyable to join our 60th Anniversary Meeting at the end of July this year. Although we could not meet in person, it was exciting to listen to excellent talks from young and established members of our society and the phytochemistry community at large. The meeting highlighted the many dis-

coveries and latest developments in phytochemical research. My particular thanks go to Soheil Mahmoud, Thuy Dang, and the entire conference team at the UBC Okanagan Campus for organizing an excellent virtual meeting after a hard-made decision in 2020 to postpone the meeting for another year.

With our society entering its 61st year since its foundation, phytochemical research remains stronger than ever by integrating advanced system level, computational, and analytical approaches. Thanks to the engagement of past presidents David Gang and Argelia Lorence, the PSNA joined the Plant Science Research Network (PSRN) together with 14 other scientific and professional societies to develop the Plant Science Decadal Vision 2020-2030 (<https://plantae.org/wp-content/uploads/2020/11/DECADAL-VISION-2020-FINAL-sm.pdf>), which identifies major goals in plant research, technology, training and education over the next decade.

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In this issue:

- New Executive Officers
- 2022 Meeting in Blacksburg, Virginia, USA
- Post Review 2021 Virtual Meeting, Kelowna, Canada
- Publication highlights
- Awards Update

The web PDF version can be downloaded from the website: www.psna-online.org.



WWW.PSNA-ONLINE.ORG



ADVISORY BOARD FALL 2021

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Soheil Mahmoud
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UC Davis
Philipp Zerbe
UC Davis

The Advisory Board includes Past
Presidents of the PSNA

The Phytochemical Society of North America

The Phytochemical Society of North America (PSNA) is a nonprofit scientific organization whose membership is open to anyone with an interest in phytochemistry and the role of plant substances in related fields. Annual membership dues are U.S. \$60 for regular members and \$30 for student members. Annual meetings featuring symposium topics of current interest and contributed papers by conference participants are held throughout the United States, Canada, and Mexico. PSNA meetings provide participants with exposure to the cutting-edge research of prominent international scientists, but are still small enough to offer informality and intimacy that are conducive to the exchange of ideas. This newsletter is circulated to members to keep them informed of upcoming meetings and developments within the society, and to provide a forum for the exchange of information and ideas. If you would like additional information about the PSNA, or if you have material that you would like included in the newsletter, please contact the PSNA Secretary or visit our website at www.pсна-online.org. Annual dues and changes of address should be sent to the PSNA Treasurer. Also check the PSNA website for regular updates.

The PSNA is an all volunteer organization which depends on its membership to run the organization. We appreciate the time and effort these volunteers are putting in to keep the organization up and running. As a member, please consider volunteering to serve on one of these committees. The PSNA can always use more help!

PSNA EXECUTIVES

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The PSRN and PSNA are committed to engaging and serving a diverse community of scientists. This year, the PSNA has, for the first time, granted financial support to graduate students and postdocs from Mexico, who otherwise would have not been able to attend our annual meeting. We plan on expanding our support to students in the Americas in the form of PSNA scholarships, which will help kick-start research projects and build networks with mentors of our society. We also continue recognizing diverse groups of students, early career scientists and newly established PIs with our travel grants, the *Plant Journal*-PSNA Early Career Award, and the Arthur Neish Young Investigator Award. Exciting research by our awardees and meeting presenters keeps being published in *Phytochemistry Reviews* and *The Plant Journal*, while new opportunities for focus-issue contributions will be facilitated together with *Frontiers in Plant Science*.

As another development, we are in the process of designing a brand new website to provide a better service to our members for staying connected and informed about latest news, developments, and job opportunities. Looking forward, next year's meeting will be held on July 24-28 at the Virginia Tech campus in Blacksburg, Virginia (see below). The meeting is currently planned as a hybrid meeting to hopefully allow us to finally meet again in person while providing access to the international phytochemistry community.

While the past months have been demanding, we are aware that bigger global challenges lie ahead of us. As I keep telling the students in my Plant Biology class, plants and their associated biological systems are key to the future well-being of the planet and crucial for human food security and health. Phytochemistry remains central to all of these challenges and our commitment and passion for phytochemistry research are more important than ever. In this

spirit, I wish you an enjoyable fall, a peaceful winter break, and a great start in 2023.

Be well!

Dorothea Tholl, PSNA President

2022 PSNA Meeting:

Save the date: The 61st Annual Meeting of the PSNA will be held on July 24-28, 2022 at the Skelton Conference Center and the Inn at Virginia Tech in Blacksburg, Virginia. The meeting is currently planned by Brenda Winkel and Dorothea Tholl (Department of Biological Sciences) as a hybrid meeting with in-person and virtual attendance. Please consider bringing your family and friends to enjoy the Virginia Tech Campus and the beautiful nature and music of the Appalachian Mountains. Stay tuned for more information on keynote speakers, registration, abstract submission, and travel on our soon to come conference website. For questions, contact Dorothea Tholl (tholl@vt.edu) or Brenda Winkel (winkel@vt.edu).

61st Phytochemical Society of North America
ANNUAL MEETING
July 24-28, 2022, Blacksburg, Virginia, US

Save the date!

Photo: iStock

VT VIRGINIA TECH

Skelton Conference Center

Photo: Ray Meese SmartFarm Innovation

VT TRANSLATIONAL PLANT SCIENCES

THE CROOKED ROAD VIRGINIA'S HERITAGE MUSIC TRAIL

Current PSNA Executive Committee Members

President: Dorothea Tholl



Research interests: My research group investigates the metabolism, function, and biosynthetic evolution of plant and animal specialized metabolites (primarily volatile terpenes) in intra- and inter-specific interactions. Applied aspects of our research include determining the metabolism and function of volatile aroma compounds and defense metabolites in root crops and engineering insect pheromones in plants for developing novel pest management strategies.

President Elect: Li Tian



Research interest: My research group is interested in understanding how phytonutrients (e.g. phenolics) are made in plants using molecular, genetic, and biochemical tools. We also examine how accumulation of

phytonutrients in plants is controlled by different factors under various environmental conditions. Our long-term goal is to apply the knowledge obtained from these investigations to improve the nutritional value and agronomic performance of crop plants.

Past President: Argelia Lorence



Research interests: Vitamin C metabolism, redox biology, phenomics, crop resilience to abiotic stresses, equity diversity and inclusion in STEM

Secretary: Sangeeta Dhaubhadel



Research interests: Seed quality and defense-related traits in legume crops such as soybean, pea and common bean. Our research goal is to understand the molecular mechanisms underlying the synthesis of specialized metabolites involved in those traits and identify the regulators that control the synthesis/accumulation of these beneficial compounds in legumes.

Treasurer: Philipp Zerbe



Research interests: functional genomics, metabolomics, biochemical and genetic approaches to investigate the biosynthesis, regulation and function of specialized terpenoid metabolites in bioenergy, food and medicinal plants with the goal to develop resources for crop optimization and natural product engineering.

Editor-in-Chief, Phytochemistry Reviews: Reinhard Jetter



Research interests: Reinhard Jetter's research group is studying the surface waxes of various model plants and crops, spanning a wide range of metabolites from fatty acid derivatives to terpenoids, phenolics and polyketides. Current projects focus on the chemical analysis of the complex wax mixtures and the characterization of key enzymes involved in their formation.

Publication Highlights

Aaron S. Birchfield, Ph. D. student,, East Tennessee State University, Department of Biological Sciences



Aaron's research interests are in X-ray crystallography, plant enzymology, and secondary metabolite pathway engineering. Aaron published a research and a review article in 2020 together with his mentor Cecilia McIntosh.

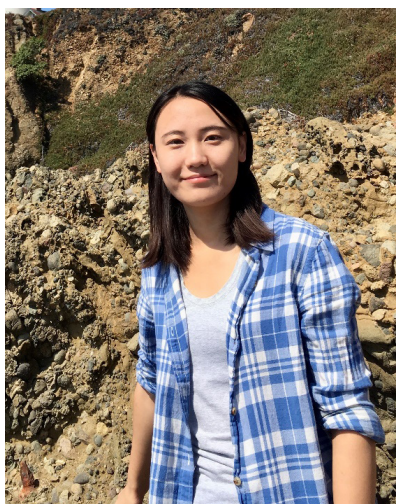
Birchfield, A. and C.A. McIntosh. 2020. The Effect of Recombinant Tags on *Citrus paradisi* Flavonol-Specific 3-O-Glucosyltransferase Activity. *Plants*. 2020, 9(3), 402. doi:10.3390/plants9030402 <https://www.mdpi.com/2223-7747/9/3/402> Recombinant tags are routinely attached to proteins of interest in cell expression systems to facilitate isolation and identification. The effect of these tags on the structure and function of proteins is not always explored, despite evidence that the presence of tags can alter protein function in some cases. Here, the effect of a c-myc/6x Histidine tag

on a flavonol glucosyltransferase from grapefruit (Cp3GT) was investigated. We assayed Cp3GT with and without tags for activity under a range of conditions to determine if the presence of tags alters optimal pH, kinetics, substrate preference, or inhibition by metal cations. No significant differences in pH optima, kinetic values, or metal cation inhibition were observed between tagged and untagged samples. However, we found that Cp3GT without tags had greater activity with preferred substrates quercetin and kaempferol over tagged Cp3GT. These findings indicate that normal Cp3GT function is not adversely affected by the presence of recombinant tags. This is usually the case when recombinant tags are used and supports the assertion that their impact on proteins of interest should be evaluated on a case by case basis.

Birchfield, A. and C.A. McIntosh. 2020. Metabolic Engineering and Synthetic Biology of Plant Natural Products – A Minireview. *Current Plant Biology*, doi:10.1016/j.cpb.2020.100163 <https://www.sciencedirect.com/science/article/pii/S21466282030044X?via%3Dihub#!>

Shu Yu

I am a Postdoctoral Researcher in Department of Plant Sciences at University of California, Davis



under the mentorship of Professor Li Tian. I received my Ph.D. in Horticulture and Agronomy from University of California, Davis in 2019, specialized in plant breeding and biochemistry. My research has focuses on investigating carotenoid metabolism and enhancing provitamin A accumulation in major cereal crops (e.g. wheat and rice) using mutation breeding and genome-editing techniques. Besides the above-mentioned studies on LCYE and HYD2, I have also characterized a carotenoid cleavage dioxygenase that catalyzes the cleavage of carotenoids in tetraploid wheat which was recently published on *Frontiers in Nutrition* (<https://doi.org/10.3389/fnut.2021.740286>). In addition to grain crops, I hold a long-standing interest and am well-versed in trait improvement of multiple agronomically and economically important woody plants, using genetic, biochemical, physiological, and multi-omics approaches. We recently reviewed the challenges, advances, and opportunities of metabolic engineering in woody plants in *aBIOTECH* (<https://doi.org/10.1007/s42994-021-00054-1>).

Mutant combinations of lycopene ϵ -cyclase and β -carotene hydroxylase 2 homoeologs increased β -carotene accumulation in endosperm of tetraploid wheat (*Triticum turgidum* L.) grains Shu Yu, Michelle Li, Jorge Dubcovsky, and Li Tian (2021) *Plant Biotechnology Journal* <https://doi.org/10.1111/pbi.13738>

Provitamin A biofortification that is to generate staple foods with high provitamin A content presents a promising long-term and more sustainable solution to vitamin A deficiency. β -carotene is the most effective form of provitamin A carotenoid and is targeted for provitamin A biofortification. The major

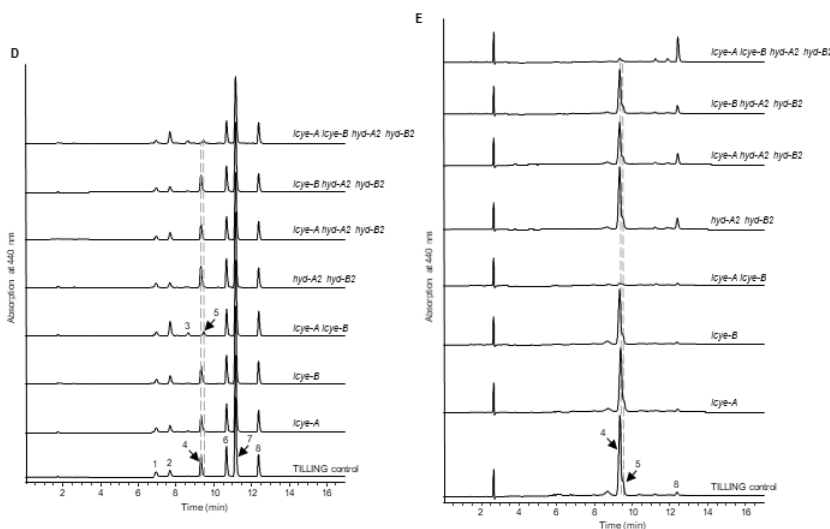
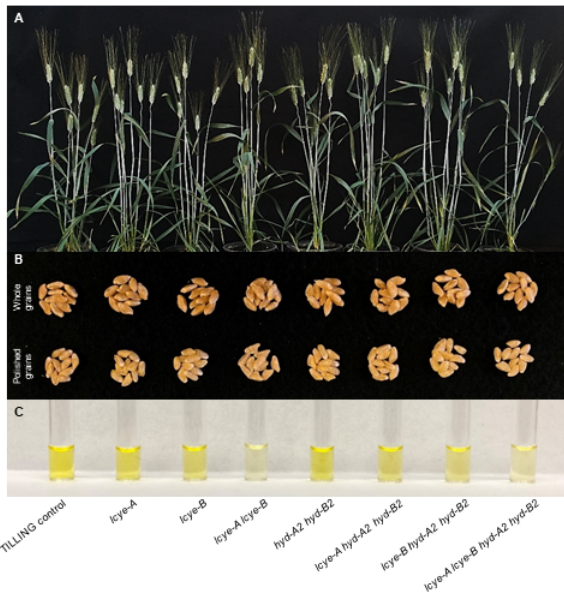
Your Publication Highlights in the PSNA Newsletter

The PSNA newsletter (also shared on Twitter and Facebook) highlights your recent publications and features first authors that are current PSNA members. Interested? Then, please send us a brief non-technical summary of your paper including the title and authors, and a publication link and graphical abstract or image, if possible. In addition, provide a photo and a brief statement including the first author's affiliation and research interests.

Please send your contributions (text as word document; images as pdf or jpg files) by email to Dorothea Tholl (tholl@vt.edu) or Armando Alcazar Magana (alcazara@oregonstate.edu).

We look forward to hearing from you!

Dorothea Tholl (PSNA President)
Armando Alcazar Magana (Chair, PSNA Young Members Committee)



carotenoid accumulated in grains of tetraploid wheat is lutein, a non-provitamin A carotenoid competing with β -carotene for their common precursor, lycopene. Here, we isolated TILLING mutants to block the activities of lycopene ϵ -cyclase (LCYe) which diverts carbons from β -carotene to lutein biosynthesis, and β -carotene hydroxylase 2 (HYD2) which catalyzes the turnover of β -carotene to xanthophylls. Higher order mutant combinations of lcy-A, lcy-B, hyd-A2, and hyd-B2 were generated and. Up to 6-fold increase of β -carotene in grains of tetraploid wheat was achieved by blocking lcy-A, lcy-B, hyd-A2, and hyd-B2 simultaneously. The comprehensive biochemical and

physiological characterization enabled us to select the mutant combinations with enriched β -carotene in endosperm and exhibiting comparable photosynthetic performance and light response to control plants. The selected mutant combinations can be directly incorporated in breeding provitamin A biofortified tetraploid wheat.



60th Annual Meeting of the Phytochemical Society of North America July 25-30 UBC Okanagan Campus, Kelowna, British Columbia, Canada

The 60th Annual Meeting of the Phytochemical Society of North America was hosted by University of British Columbia Okanagan Campus in Kelowna, BC Canada, and held virtually during July 25-30, 2021.

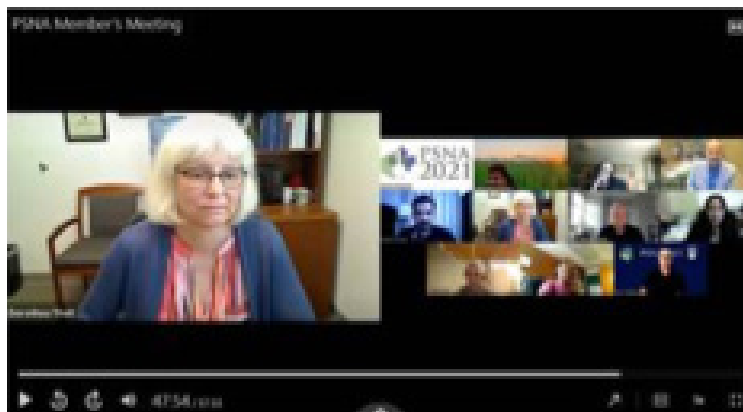
With over 200 conference participants, attendance was record-breaking for recent years. A total of ten symposia were held with topics spanning a wide range of research topics related to plant metabolism. These included New Advances in Integrated Omics and Phytochemistry Research, Chemistry and Biochemistry of Therapeutic Plants, Chemical Ecology, Natural Products Discovery, synthesis, and Biosynthesis in the Omics Era, Breakthrough Approaches in Elucidating Phytochemical Biosynthesis, Evolution of Plant Specialized Metabolism, Enzymology and Organization of Plant Metabolism, Phytochemistry of the Forest, the Far North and Underutilized Plants, Biochemistry and Production of High-Value Phytochemicals, and Synthetic Biology and Metabolic Engineering of Plant Metabolism. In addition, there were two excellent and well-attended events including the Early Career Researcher workshop, and the Young Members Trivia Game workshop.



Soheil Mahmoud,
Chair of Local Organizing
Committee



Thuy Dang,
Chair, Scientific Program Committee



President Dorothea Tholl addressing the conference attendees and a screen shot of zoom meeting attendees

Congratulations to all the award winners:

Best Poster and Presentation

Student Category

Emily Carroll, State University of New York, Foxglove, *Digitalis lanata*, transcriptome and genome leads to identity of digoxin biosynthesis enzymes including a putative cholesterol monooxygenase P450scc

Jacob D. Bibik, Michigan State University, Terpenoid bioproduction in plants using product compartmentalization via lipid droplet scaffolds and engineered plastid pathways.

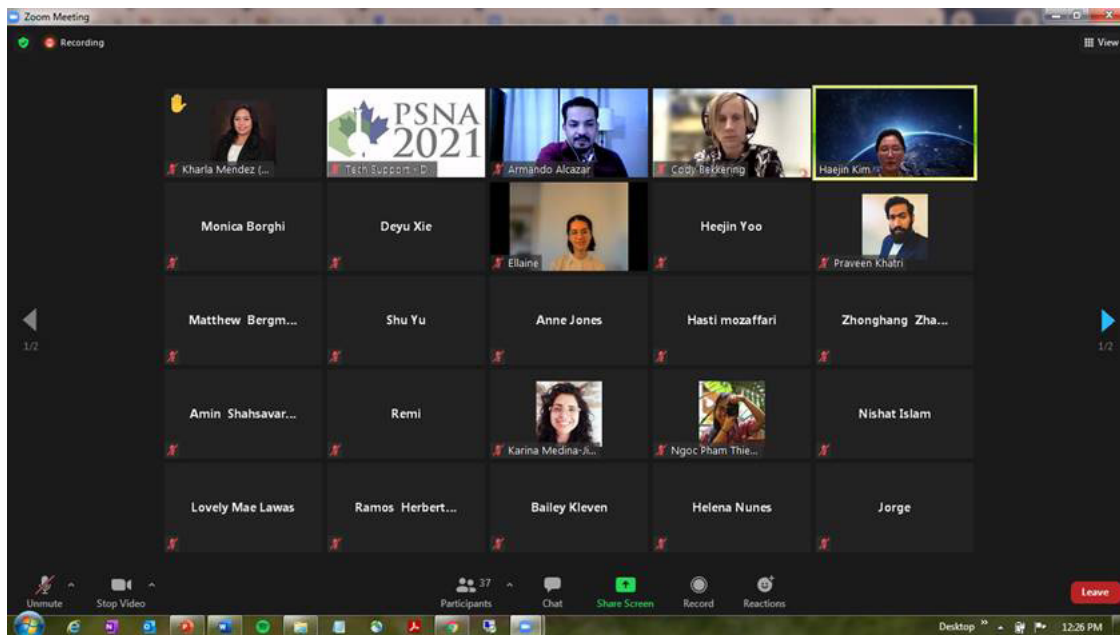
The Plant Journal-PSNA Early Career Award

Lucas Busta, University of Minnesota

Mehran Dastmalchi, McGill University

Armando Alcazar-Magana, Oregon State University





Screen shots of best poster and oral presentation awards

Juan F. Tamez-Fernández, Universidad Autónoma de Nuevo León, Semisynthetic studies of diterpenoid riolozatrione and biological evaluation of its derivatives

Postdoctoral Fellow Category

Armando Alcazar-Magana, Oregon State University, Establishing a characterization strategy for *Withania somnifera* extracts using LC-HRMS/MS in combination with GNPS networking analysis

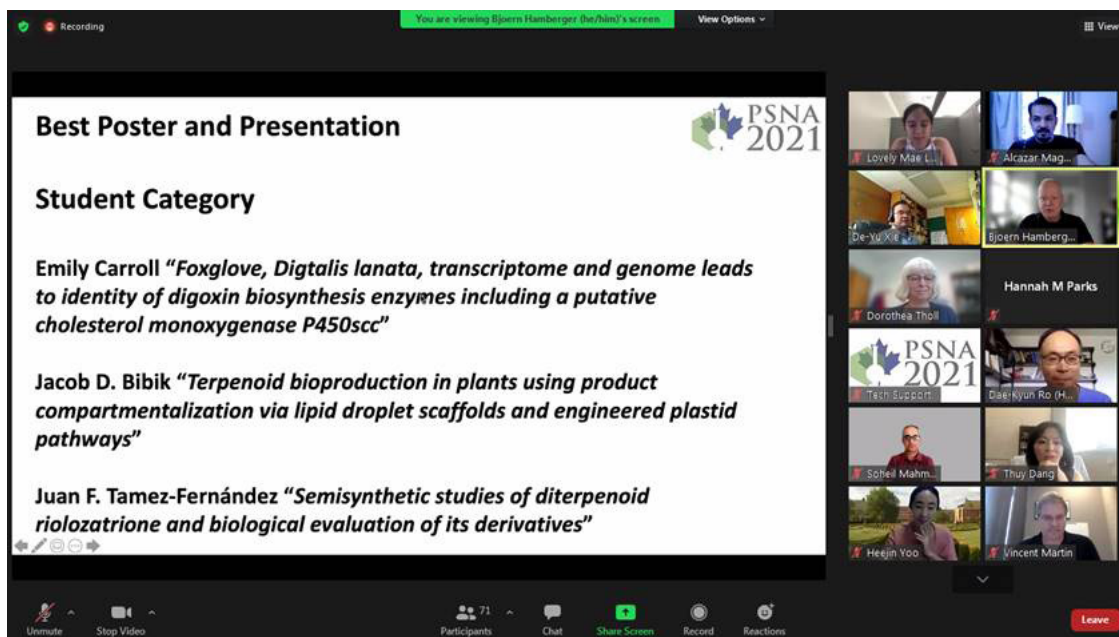
Bailey Kleven, University of Wisconsin, Madison, Redundant roles of 3-deoxy-D-arabino-heptulosonate 7-phosphate synthase isoforms of the shikimate pathway during *Sclerotinia sclerotiorum* infection in *Arabidopsis thaliana*

Best Flash Talk Award

Lovely Mae F. Lawas, Auburn University, Unravelling iridoid production in blueberry: using omics to investigate plant natural products for human health

Hannah M. Parks, Michigan State University, Expanding the tropane alkaloid metabolic network: Metabolite discovery in *Atropa belladonna*

Congratulations to the following students and postdocs from Mexican Universities for receiving the Elsevier (Current Plant Biology)/ PSNA scholarships for the conference registration:



Elsevier (Current Plant Biology):

Student

Alejandra Ortiz Gonzalez, Benemérita Universidad Autónoma de Puebla

Fernando Villegas-Acosta, Centro de Investigacion Cientifica De Yucatan

Postdoctoral Fellow

Moises Guerrero Esperanza, University of Guanajuato

PSNA Scholarship:

Student

Jesus Ramos-Herbert, Autonomous University of San Luis Potosí

Rocio Esmeralda Hernández-Rubio, Autonomous University of San Luis Potosí

Lina Fernanda Silva, Centro de Investigacion Cientifica De Yucatan

Karla Fernanda González Pedroza, Centro de Investigaciones Químicas, IICBA,UAEM

Paulina H. González Fierro, Colegio de Postgraduados, Montecillo

Juan F. Tamez-Fernández, Universidad Autónoma de Nuevo León

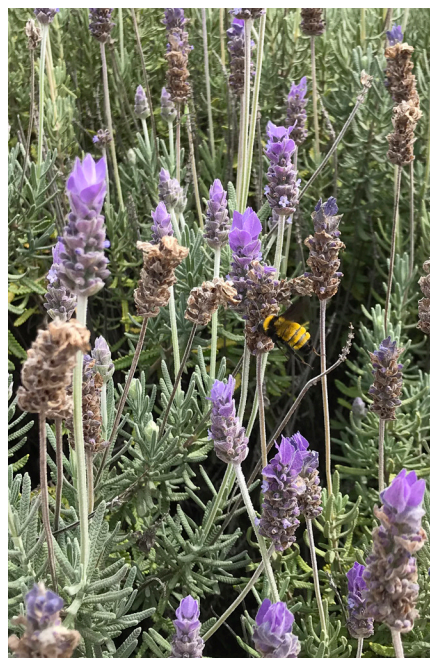
Postdoctoral Fellow

Missael Antonio Arroyo Negrete, University of Guanajuato

Alan Alexander Gonzalez, University of Guanajuato

On behalf of the local organization committee, PSNA would like to thank all those who helped to hold such an excellent and memorable event including the Volunteers Committee, sessions chairs, all attendees, outstanding oral and poster presenters, volunteers, and last but not least the crew at UBC IT and conference services. Thanks to conference financial supporters, which included Chromadex, Current Plant Biology, MDPI Plants, ThermoFisher Scientific, and UBC Okanagan (Departments of Biology and Chemistry, Office of the Dean of Science, and Office of the Vice Vice-Principal of Research and Innovation).

Thanks to the Local Organizing Committee; Soheil Mahmoud (chair), Ayelign Adal, Thuy Dang, Michael Deyholos, Lauren Erland, Susan Murch, T. Don Neuyen; Scientific Program Committee; Thuy Dang (chair), Peter Constabel, Björn Hamberger, Reinhard Jetter, Susan Murch, Dorothea Tholl and Philipp Zerbe; Fund Raising and Sponsorship Committee; Soheil Mahmoud (Chair), Michael Deyholos, Susan Murch, Lauren Erland, Li Tian, Dharendra Kumar and Deyu Xie.



PSNA 2021 Arthur Neish New Investigator Symposium

→ “Cold tolerance of membranes is a matter of timing and metabolic state – not just a saturation story”

Rebecca Roston

University of Nebraska, Lincoln,
USA



Rebecca did graduate work with Kentaro Inoue at UC Davis on protein targeting in chloroplasts, and then worked with Christoph Benning at Michigan State University on plant lipid metabolism. She moved to University of Nebraska-Lincoln as an assistant professor in 2014, and was promoted to associate in 2020.

At UNL, Rebecca and her team research membrane remodeling of plant membranes that improve plant health. We use state-of-the-art microscopy and membrane lipid analyses combined with standard biological fractionation and molecular biology techniques to determine needed lipid changes and the molecular mechanisms through which they occur. We are also exploring new directions in plant redox biology that affect plant health.

→ “Structural insights into strigolactone signaling regulation by the ubiquitin system”

Nitzan Shabek

University of California – Davis



Dr. Nitzan Shabek is a professor and principal investigator in the department of Plant Biology at the University of California - Davis. His research group integrates approaches from the fields of structural biology, biochemistry, and plant biology to elucidate plant signaling pathways and revealing their regulation by the ubiquitin proteasome system. More specifically, the Shabek Lab investigates the mechanism of Strigolactone and Karrikin perception and signal transduction pathways. In addition, the lab is studying light signaling regulations and plant immune responses.

Dr. Shabek is also a member of the Scientific Advisory Board of Oerth-Bio LLC (an agricultural biotech company and a joint venture between Bayer and Arvinas). As a faculty member at UC Davis College of Biological Sciences, he has been teaching Biochemistry classes as well as developing new educational approaches via Virtual Reality. Before joining UC Davis, Dr. Shabek worked with Dr. Ning Zheng at the University of Washington as an HHMI postdoctoral fellow, where he studied the regulations of phytohormone signaling pathway by the ubiquitin system. Prior to that, Nitzan obtained his PhD in Biochemistry with the mentorship of Dr. Aaron Ciechanover (Nobel Laureate

in Chemistry) at the Technion-Israel Institute of Technology, where he focused on studying the mechanistic regulation of cellular ubiquitin pools. Since joining UC Davis, Dr. Shabek received several distinct awards including the UC Davis Award for Innovation and Creativity, the NSF CAREER Award, and most recently, the 2021 Neish Award.

→ “Uncovering regulatory mechanisms of salicylic acid biosynthesis for plant immunity in Arabidopsis and Brassicaceae oilseed crops”

Heejin Yoo

Oklahoma State University, USA



Dr. Heejin Yoo earned her B.S. in Plant Biology from Seoul National University in South Korea, and received her Ph.D. in Plant Biochemistry at Purdue University for studying phenylalanine biosynthetic pathways in plants. Heejin received a Hargitt postdoctoral fellowship from Department of Biology at Duke University and studied her postdoctoral research about understanding circadian regulation of plant defense hormone salicylic acid and translational regulatory mechanism in plant immunity. In 2019, Heejin joined the Department of Plant Biology, Ecology, and Evolution at Oklahoma State University as an assistant professor. Her lab is mainly interested in understanding transcriptional, translational, and metabolic regulatory mechanisms of plant immunity and growth-to-defense transition with the goal of developing disease-

resistant and high yield crop plants.

→ “Bitter and sweet: Molecular basis for branched steviol glucoside biosynthesis”

Soon Goo Lee

University of North Carolina,
Wilmington, USA



Soon Goo Lee is an Assistant Professor in the Department of Chemistry and Biochemistry at the University of North Carolina Wilmington (NC, USA), where he has been since 2018. He received his Ph.D. from Washington University in St. Louis (MO, USA). His research focuses on understanding the molecular basis of how enzymes, regulatory proteins, and key signaling molecules function in a variety of metabolic pathways and regulatory networks using biochemical and biophysical research tools, especially protein X-ray crystallography. In his laboratory, he introduces the ‘Genomic identification - Structure-based functional study - Protein/Metabolic engineering’ strategies to understand and engineer the production of plant specialized metabolites, thus increasing the nutritional and pharmaceutical values of plants for human health. In addition to research, Dr. Lee has collaborated with art educators to develop the STEAM

(STEM+Art) education projects for science education and has published research papers in the integrated education and book chapters.

The Plant Journal- PSNA Early Career Awards

Deadline for application:

March 14, 2022

Amount of the award: \$1000/per

Numbers of awards to be given each year: up to three awards (The number of awards will depend on the availability of funds).

Any unused funds will be used for the following year's award.

Eligibility:

The applicant must be a current and active member of the PSNA for at least one year. Active participation in PSNA meetings and activities will be an important evaluation criteria of the applications.

This award is for postdocs/research scientists who are ready to start an independent position in an academic/research institute/government labs.

The applicant should have at least 3-4 peer-reviewed paper published as first author preferably in the field of phytochemistry or a related area.

The applicant should not have received an award from PSNA in the same category.

The awardee will not be eligible for the PSNA travel award and the poster award.

Application package:

Applicants will apply directly (no nomination) and provide the following information with their application package.

Current membership in the PSNA.

The number of PSNA meetings previously attended.

Copy of relevant publications.

Letter of support from the postdoc advisor/s confirming that the applicant is ready to start their own lab.

Abstract of the oral presentation for the potential topic for the invited review.

Research Statement (limit three pages) describing their significant contributions to date, future goal, and perspective on phytochemical research.

Expectations from the awardee:

The applicant must give an oral presentation (30 min).

The awardee should acknowledge the support of sponsors of the award in their talks.

The *Plant Journal* will extend an invitation to the awardee and their supervisor to contribute a TPJ Focused Review for publication.

The outcome of the application:

The PSNA awards committee will be responsible for all the decisions related to the awards.

All applicants will be notified about the outcome of their application.

PSNA Newsletters Back Issue Catalog

Dr. John Romeo, a Past PSNA President and a Life Time Member of the PSNA, sent his collection of back issues of the *PSNA Newsletter* dating back to 1976 to the current editor. These have now been scanned to PDF digital format and have recently been posted on the PSNA website. This expands our collection of back issues that had only gone back to 2000 or so. This is a unique collection that catalogs the events and proceedings of the PSNA meetings as well as providing some interesting articles on the state of phytochemical research over the years. If you get a chance go to the PSNA website and click the publications link, download some of the newsletter sets and enjoy!

Future Meeting Committee

Dorothea Tholl (Chair),
Sangeeta Dhaubhadel (Vice Chair),
Philipp Zerbe (member),
Denisse Atenea de Loera Carrera (member)

Membership Committee

Dhirenda Kumar (Chair),
Daniel Owens (member)

Young Members Committee

Armando Alcazar (Chair)
Cody Bekkering (member)
Lucas Busta (member)
Monica Borghi (member)

Awards & Recognition Committee

Björn Hamberger (Chair)
Argelia Lorence (member)
Deyu Xie (member)
Aruna Kilaru (member)
Hiroshi Maeda (member)

Website Updates and Newsletter

Mark Berhow
(berhowma@comcast.net)
Mark Lange (lange-m@wsu.edu)



Phytochemical Society of North America
Sociedad Fitoquímica de América del Norte
Société Phytochimique de L'Amérique du Nord

New Member Application Form

Please fill in the following application and return to the Treasurer with your dues payment. Once your application has been processed, you will receive newsletters and special mailings. You are also eligible for PSNA member discounts on the Recent Advances in Phytochemistry series (See Website).

Payments should be made by one of the following: check drawn on a US checking account, US travelers check, or US money order, International Money Order, Credit Card on the PSNA Website or Paypal payment to psnatreasurer@gmail.com. Please make check or money order payable to the Phytochemical Society of North America.

Credit Card Payment: Paying membership dues online via credit card has now been established. Please select the link from the PSNA homepage to pay by credit card. A paypal account is NOT required but will expedite the process. If using a paypal account, send directly to psnatreasurer@gmail.com

Advance Payment: It is now possible to pay dues in advance. If you wish to take advantage of this feature, please indicate above the years for which you would like to pay in advance.

Dues schedule: Regular member - \$60.00 per year
 Student member - \$30.00 per year

Return this statement along with your payment to:

Philip Zerbe, Ph.D.
Department of Plant Biology
College of Biological Sciences
University of California, Davis
605 Hutchison Drive, Davis, CA 95616
Phone: 530-754-9652
pzerbe@ucdavis.edu

Name (Dr., Mr., Mrs., Ms.):

Mailing Address: Line 1:

Line 2:

City: State/Province: Zip/Postal Code:

Phone: Fax:

E-Mail: