



2023 ASP Annual Meeting  
July 22 – 26, 2023  
Bethesda North Marriott Hotel & Convention Center  
Short Program



**Saturday July 22, 2023**

8:00 AM – 8:00 PM	<b>Registration – Ballroom Foyer</b>
9:00 AM – 4:00 PM	<b>Executive Committee Meeting</b> (Invitation Only) – <i>Lindon Oak Room</i>
9:00 AM – 12:00 PM	<b>AMWS1 – Forest Glen Room</b> <b>Botanical Drugs: A Regulatory Approach on how FDA reviews a Botanical Application</b> <b>Rajiv Agarwal</b> (DNNDP1/ONDP/OPQ/CDER/FDA), <b>Donna Christner</b> (DNDAPI, ONDP/OPQ/CDER/FDA), <b>Margaret M. Kober</b> (DRORDPUM/ORO/OND/CDER/FDA), <b>Mark Hirsch</b> (DUOG/ORPUM/OND/CDER/FDA), <b>Charles Wu</b> (ONDP IO, ONDP/OPQ/CDER/FDA)
9:00 AM – 11:00 PM	<b>AMWS2 - White Flint Amphitheatre</b> <b>Biochemical and Biophysical Assay Design for Natural Product Discovery Campaigns</b> <b>Shilpa Shenoy Kurian</b> (National Cancer Institute, National Institutes of Health) and <b>Brice A. P. Wilson</b> (National Cancer Institute, National Institutes of Health)
1:30 PM – 4:30 PM	<b>PMWS1 – Forest Glen Room</b> <b>Current Topics in Botanical Safety</b> Presenters - <b>Michelle Embry</b> (HESI), <b>Josh Kellogg</b> (Penn State), <b>Robin Marles</b> , <b>Barbara Sorkin</b> (NIH), <b>Charles Wu</b> (USFDA)
1:30 PM – 4:30 PM	<b>PMWS2 – White Flint Amphitheatre</b> <b>Fungal Identification Using Molecular Tools</b> <b>Huzefa Raja</b> (University of North Carolina at Greensboro)
1:30 PM – 4:30 PM	<b>PMWS3 – Glen Echo</b> <b>Public Speaking for Scientists</b> <b>Nicholas Oberlies</b> (University of North Carolina at Greensboro)
6:00 PM – 9:00 PM	<b>President's Opening Reception – Salon E-H (Ticketed Event)</b>

**Sunday July 23, 2023**

7:30 AM – 3:30 PM	<b>Registration – Salon Foyer</b>
	<b>Welcoming Remarks and Announcements – Salon A-D</b>
8:00 AM – 8:30 AM	<b>Craig Hopp</b> (NCCIH), <b>Nandakumara Sarma</b> (USP) and <b>Amy Wright</b> (ASP President)

**Symposium I – Where Chemistry Meets Biology – Salon A-D**  
Chairs: **Carole Bewley** (NIDDK, NIH) and **Barry O'Keefe** (National Cancer Institute)

8:30 AM – 9:15 AM	<b>Jay Keasling</b> (University of California Berkeley) <i>Production of Supply-Limited Natural Product Therapeutics Using Engineered Yeast</i>
9:15 AM – 10:00 AM	<b>Bonnie Bassler</b> (Princeton University) <i>Quorum Sensing Across Domains: From Viruses to Bacteria to Eukaryotes</i>

10:00 AM – 10:30 AM

Break – **Ballroom Foyer**

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**Symposium II – NP that modifies Macromolecular Interactions: PPI, RNA-Prot, DNA-Prot etc. –  
Salon A-D**

Chairs: **Carole Bewley** (NIDDK, NIH) and **Barry O’Keefe** (National Cancer Institute)

10:30 AM – 11:15 AM **Anna Mapp** (University of Michigan)  
*Writing the Rules for Targeting Dynamic Transcriptional Coactivators with Natural Products*

11:15 AM - 11:45 AM **Oleg Tsodikov** (University of Kentucky)  
*Structural Insight into Antagonism of Oncogenic Transcription Factors by Mithramycin Analogues*

11:45 AM – 12:15 PM **Roberto DeGuzman** (University of Kansas)  
*Bacterial Nanoinjectors as Target for New Antimicrobials*

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12:15 PM – 1:30 PM Journal of Natural Products Board Meeting (Invitation Only) – **Forest Glen Room**

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12:15 PM – 2:30 PM Presenters for Poster Session I Set up Posters  
**Salon E-H**

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**Session S-PM1 – Old Molecules/New Purposes – Salon A-C**  
Chair: **Wendy Strangman** (University of North Carolina Wilmington)

1:15 PM – 1:45 PM **Patrick Grohar** (Children’s Hospital of Philadelphia, University of Pennsylvania)  
*Development of Mithramycin and Analogs as Targeted Therapy for Pediatric Solid Tumors*

1:45 PM – 2:05 PM **Cole Gannett** (Virginia Tech)  
*Derivatives of the Antimicrobial Natural Product Blasticidin S Enhance its Antibiotic Activity*

2:05 PM – 2:25 PM **Mark Hamann** (Medical University of South Carolina)  
*The Unique Potential of the Platanosides as a New Class of Antibiotics with an Unreported MoA targeting a Protein Involved in Cell-Wall Biosynthesis as well as Providing Significant Ecological Implications Regulating Microbiome of the Tree Platanus Occidentalis*

2:25 PM – 2:45 PM **Benjamin Blackburn** (Virginia Tech)  
*Repurposing of Medicinal Plant Metabolites, and Plant Metabolite-Inspired Compounds to Further Optimize Renewable Energy Technologies*

2:45 PM – 3:05 PM **Savannah Pierce** (University of the Pacific)  
*Rivularia spp. Cyanobacterial Fractions Selectively Regulate the Ubiquitin-Proteasome System*

3:05 PM – 3:25 PM **William Gerwick** (Scripps Inst Oceanography/UCSD)  
*Development of an Artificial Intelligence-Based Tool for Predicting Cancer Cell Cytotoxicity of Natural Products*

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**Session S-PM2 – Microbiome/Probiotics Interactions – Salon D**  
Chair: **Barbara C. Sorkin** (NIH Office of Dietary Supplements)

1:15 PM – 1:45 PM **Yasmin Belkaid** (NIAID)  
*Microbiome Control of Host Immunity*

1:45 PM – 2:05 PM **Lois Kwane Kyei** (Virginia Tech)  
*Bioassay-Guided Isolation of Pseudocheilin A from Marine Egg Mass Microbiome*

2:05 PM – 2:25 PM **Jakub Piwowarski** (Medical University of Warsaw)  
*Revision of Current Concepts of Tannins Impact on Gastrointestinal Tract Homeostasis in Piglets*

2:25 PM – 2:45 PM **Yeong-Bae Yun** (National Institute of Forest Science)  
*Growth Characteristics of 10-Year-Old Wild-Simulated Ginseng (Panax ginseng C.A. Meyer) and Rhizosphere Soil Properties at Cultivation Sites*

2:45 PM – 3:05 PM **George Neuhaus** (Oregon State University)  
*Specialized Metabolites of the Herptile Gut Fungus, Basidiobolus*

3:05 PM – 3:25 PM **Margaret Hill** (University of Rhode Island)  
*Pseudoalteromonas rubra* Package Prodiginine Antibiotics as Cargo in Membrane Vesicles

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3:30 PM – 5:30 PM **Poster Session I – Salon E-H**  
**Poster #'s: P-001 – P-127**  
**All posters need to be picked up by Monday 9:00 AM**  
*ASP is not responsible for lost or damaged posters.*

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6:00 PM – 9:00 PM **Younger Members Event (Ticketed Event) – Pinstripes**

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## Monday July 24, 2023

8:00 AM – 3:30 PM **Registration – Ballroom Foyer**

**Symposium III – Bridging the Gap: Collaborations with Predominately Undergraduate Institutions and HBCU's - Salon A-D**  
Chair: **Timothy Ramadhar** (Howard University)

8:30 AM – 9:15 AM **Jiangnan Peng** (Morgan State University)  
*SFC and NMR Methods for the Authentication of Botanical Raw Materials*

9:15 AM – 10:00 AM **Katherine Maloney** (Point Loma Nazarene University)  
*Cryptic Species Membership as the Primary Driver of Secondary Metabolism in *Sarcophyton glaucum*: Leveraging Interdisciplinary Collaborations to Get Research Done at a PUI*

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10:00 AM – 10:30 AM **Break – Ballroom Foyer**

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**Symposium IV – Public/Private Partnerships**  
Chair: **Craig Hopp** (NCCIH)

10:30 AM – 11:15 AM **John Bencich** and **Rick Stewart** (Achieve Life Sciences)  
*Kicking the Habit: Development of Cytisinicline for Smoking Cessation*

11:15 AM – 11:45 AM **Stephanie Fertig** (NIH)  
*SEEDing Biomedical Innovation: Support for Small Businesses at NIH*

11:45 PM – 12:15 PM **Sharad Verma** (NCI)  
*Programs for Helping Extramural Investigators Develop Small Molecules for the Clinic: NCI Developmental Therapeutics Program*

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12:15 PM – 1:15 PM **Fellows Meeting (Invitation Only) – Forest Glen Room**

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12:15 PM – 2:30 PM **Presenters for Poster Session II - Set up Posters**  
**Salon E-H**

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**Session M-PM1 – Unique Environments – Salon A-C**  
Chair: **Lesley-Ann Giddings** (Smith College)

1:15 PM – 1:45 PM **Andrew Lowell** (Virginia Tech)  
*Enhanced Enzyme Stability: Extremophile Biosynthesis of Thermorubin*

1:45 PM – 2:05 PM **Joseph P. (J. P.) Gerdt** (Indiana University–Bloomington)  
*Chemical Signaling Regulates Aggregation and Chemotaxis in a Predator of a Human Pathogen*

- 2:05 PM – 2:25 PM **Joshua P. Torres** (University of Copenhagen, Denmark)  
*Biosynthesis of Conopeptides in Cone Snail Venoms*
- 2:25 PM – 2:45 PM **Sandra Dawn Bennett** (University of North Carolina Wilmington)  
*Microbial Diversity and Bioactivity of Longnose Gar Eggs and Ectoparasites*
- 2:45 PM – 3:05 PM **Xinhui Yu** (Oregon State University)  
*Influence of Geographic Variation on Chemistry and Bioactivities of Pacific Northwest Endemic Cyanolichens*
- 3:05 PM – 3:25 PM **Mira Liu** (University of California Berkeley)  
*Surface-Active Antibiotics Provide an Adaptive Advantage for Bacteria from Burned Soils*
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**Session M-PM2 – Fungal Biosynthesis and Chemodiversity-LIN – Salon D**  
Chair: **Lin Du** (NIH, National Cancer Institute)

- 1:15 PM – 1:45 PM **Yi Tang** (UCLA)  
*Discovery of New Structures, Enzymes and Functions from Fungal Biosynthetic Pathways*
- 1:45 PM – 2:05 PM **Dan Xue** (University of South Carolina)  
*Harnessing Bioactivity-led Metabolomics for Natural Products Discovery Targeting A Rare and Severe Cancer*
- 2:05 PM – 2:25 PM **Robert Stankey** (Terra Bioforge)  
*Directed BGC Cloning Combined with Bacterial and Fungal Expression Tools Uncover Novel Biosynthetic Mechanisms and Validate Metabologenomics*
- 2:25 PM – 2:45 PM **Kyo Bin Kang** (Sookmyung Women's University)  
*Mass Spectrometry-based Untargeted Metabolomics for Investigation on Chemical Interaction and Biotransformation by Fungi*
- 2:45 PM – 3:05 PM **Erin McCauley** (California State University DH)  
*Development of a Fungal Natural Products CURE for Upper-Division Chemistry & Biochemistry Laboratory Classes*
- 3:05 PM – 3:25 PM **Charles Wu** (Intact Genomics, Inc)  
*Fungal Artificial Chromosome Pipeline Enables the Discovery of Novel Compounds from Unique Biosynthetic Gene Clusters*
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- 3:30 PM – 5:30 PM **Poster Session II – Salon E-H**  
**Poster #'s: P-128 – P-255**  
**All posters need to be picked up by Tuesday 9:00 AM**  
*ASP is not responsible for lost or damaged posters*
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6:00 PM **Buses Depart for Smokey Glen Farm**

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6:30 PM – 9:30 PM **An Evening at Smokey Glen Farm (Ticketed Event)**

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**Tuesday July 25, 2023**

7:45 AM – 1:00 PM **Registration – Ballroom Foyer**

## Symposium V – Who’s your Partner: Symbiosis and NP – Salon A-D

Chair: **Emily Mevers** (Virginia Tech)

8:00 AM – 8:45 AM **Mohamed Donia** (Princeton University)  
*Small-Molecule-Mediated Interactions in Microbe-Host Systems*

8:45 AM – 9:30 AM **Monica Pupo** (University of São Paulo)  
*Chemical Ecology and Natural Products Discovery in Insect Microbiomes*

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9:30 AM – 10:00 AM Break – **Ballroom Foyer**

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## Symposium VI – Cannabis and Hemp/Delta8-THC, Terpenoids & Synthetic Impurities – Salon A-D

Chair: **Nandakumara Sarma** (USP)

10:00 AM – 10:30 AM **Lori Dodson** (Maryland Medical Cannabis Commission)  
*The Challenges in Cannabis Innovation from a Regulator’s Perspective*

10:30 AM – 11:00 AM **Zhu Zhou** (York College CUNY)  
*Bridging the Knowledge Gap: Understanding Cannabinoids-Drug Interactions in Older Adults*

11:00 AM – 11:15 AM **Zach Stryker** (University of South Carolina)  
*Semi-Synthetic Phytocannabinoid Dimers as Potential Therapeutics for Neurological Disorders*

11:15 AM – 11:30 AM **Rahul Pawar** (Food And Drug Administration)  
*Quantification of Cannabinoids in Hemp-Derived Ingestible Products using improved LC-UV and LC-MS/MS Methods*

11:30 AM – 11:45 AM **Nam-Cheol Kim** (United States Pharmacopeia/USP)  
*Quality Considerations for Cannabis and Cannabis-Derived Products for Clinical Research*

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## Symposium VII – How to Build Innovation and Creativity in Your Team: Perspectives from USP and NIH – Salon A-D

Chairs: **Eduardo Caro-Diaz** (University of Puerto Rico) and Elizabeth Kaweesa (University of Illinois Chicago)

11:45 AM – 12:05 PM **Debra Joy Perez** (United States Pharmacopeia)  
*Equity for Excellence: Empowering Diverse Teams through Inclusive Hiring Practices*

12:05 PM – 12:25 PM **Pamela Tamez** (NIH)  
*Unleashing Innovation at NIH: The Power of Diversity in Scientific Workforce and Collaboration*

12:25 PM – 12:45 PM Q&A/Discussion

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## Wednesday July 26, 2022

7:15 AM – 1:45 PM **Registration – Salon Foyer**

### Award Symposium I – Salon A-D

Chair: TBD

7:30 AM – 8:15 AM **Laura Sanchez** (University of California, Santa Cruz) 2022 Suffness Award  
*Imaging Mass Spectrometry as a Powerful Tool for NP Research*

8:15 AM – 9:00 AM **Jason Kwan** (University of Wisconsin-Madison) 2023 Suffness Award  
*Using Genome-Resolved Metagenomics to Illuminate the Evolutionary History of Uncultured Symbionts that Produce Bioactive Small Molecules*

- 9:00 AM – 9:45 AM **Sandra Loesgen** (University of Florida) 2023 Suffness Award  
*Behavior-Guided Isolation of Natural Products*
- 9:45 AM – 10:45 AM **Djaja Soejarto** (University of Illinois at Chicago) Tyler Prize 2022  
*Collaborative Research to Discover New Drug Leads and to Build Research Capacity*

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10:45 AM – 11:15 AM Break – **Ballroom Foyer**

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### Award Symposium II – *Salon A-D*

Chair: TBD

- 11:15 AM – 12:15 PM **Robert Verpoorte (Leiden University)** Tyler Prize 2023  
*Pharmacognosy: Mother of all Pharmaceutical Disciplines!*
- 12:15 PM – 1:15 PM **Sheo Singh (SBS Pharma Consulting LLC)** Farnsworth Award 2023  
*Discovery and Development of Natural Product Leads and Drugs: A Life Story*
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### Session W-PM1 – Recent Advances in Traditional Herbals - Quality/Authenticity and Analysis (Industry Perspective)– *Salon A-C*

Chair: **Amit Chandra** (Amway)

- 2:15 PM – 2:45 PM **Holly Johnson** (AHPA)  
*Cross Pollination Between Herbal Industry and Pharmacognosy for Science Directed Towards Health Benefits, Quality and Safety*
- 2:45 PM – 3:00 PM **Leena Pradhan-Nabzdyk** (Canomiks)  
*Standardization of the Biological Effect of Botanicals Using Genomics, Bioinformatics, and AI*
- 3:00 PM – 3:15 PM **Claudia S. Maier** (Oregon State University)  
*Integration of Metabolomics with Bioactivity for Identifying Active Compounds of Ashwagandha Using a Stress-Induced Drosophila Melanogaster Phenotype*
- 3:15 PM – 3:30 PM **Warren Vidar** (University of North Carolina Greensboro)  
*Unlocking New Opportunities for Natural Product Discovery with Interaction Metabolomics*
- 3:30 PM – 3:45 PM **Maria Monagas** (United States Pharmacopeia (USP))  
*USP Standards for European Elder Berry Dietary Ingredients: Solutions to Address Quality and Adulteration Issues*
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### Session W-PM2 – NP and Infectious Diseases – *Salon D*

Chair: **Joshua Kellogg** (Pennsylvania State University)

- 2:15 PM – 2:45 PM **Robert Quinn** (Michigan State University)  
*Small Molecule Virulence Factor Production by an Opportunistic Pathogen is Shaped by Environmental and Polymicrobial Interactions*
- 2:45 PM – 3:00 PM **Elizabeth Kaweesa** (University of Illinois Chicago)  
*Verticillin Cytotoxic Activity in High Grade Serous Ovarian Cancer in Preclinical In Vitro and In Vivo Models*
- 3:00 PM – 3:15 PM **Liana Zaroubi** (Simon Fraser University)  
*The Chemical and Biosynthetic Response of Parabrucella megapolitana under Antibiotic Stress*
- 3:15 PM – 3:30 PM **Christine Salomon** (University of Minnesota)  
*Discovery and Development of Anti-Parasitic Terpenes from Subterranean Fungi for Treatment of Cryptosporidiosis*

3:30 PM – 3:45 PM

**Jeffrey D. Rudolf** (University of Florida)  
*Genome Mining for Bacterial Terpene Synthases Reveals Novel Eunicellane Diterpenoids*

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3:45 PM – 5:45 PM

**ASP Business Meeting – Salon D**  
ASP Members Welcome (Associate Members may attend but Voting Privileges are for Full Members Only)

6:00 PM – 7:00 PM

**Closing Reception – Ballroom Foyer**

7:00 PM – 10:30 PM

**Banquet and Closing Program – Salon E-H**  
(Ticketed Event)

**\*\*Program Subject to Change\*\***

**Thank you for your participation in the 2023 ASP Meeting!**  
**See you in Poland at ICNPR 2024!**

