Conference Program

Saturday August 6, 2016

6:00-8:00 pm Welcome Reception

Sunday August 7, 2016

7:30-8:00 am Continental breakfast

8:00-8:15 am Opening remarks

8:15-10:05 am Symposium I: Eric Conn Symposium
  Chairs: David Gang (Washington State University) and Argelia Lorence (Arkansas State University)
  8:15-9:00 am Birger Møller (University of Copenhagen)
  Cyanogenic glucosides: from the field to the single molecule
  9:00-9:45 am Eve Wurtele (Iowa State University)
  Orphan genes: An untapped reservoir of novel traits
  9:45-10:05 am Lucia Montini (University of Copenhagen)
  Dhurrin, a small compound that can do great things

10:05-10:25 am Coffee break

10:25-11:55 am 10:25-10:55 am Xu (Sirius) Li (North Carolina State University)
  Identification of a residue responsible for UDP-sugar donor selectivity of a dihydroxybenzoic acid glycosyltransferase from Arabidopsis natural accessions
  10:55-11:25 am Hiroshi Maeda (University of Wisconsin, Madison)
  Relaxation of tyrosine pathway regulation during the evolution of betalain pigmentation in Caryophyllales
  11:25-11:55 am Phil Bates (University of Southern Mississippi)
  Deciphering the control of fatty acid fluxes through the lipid metabolic network for enhanced plant oil bioengineering

11:55 am-1:00 pm Lunch

1:00-2:50 pm Symposium II: Integrated Omics: Technology and Application
  Chairs: Mark Berhow (USDA/ARS/NCAUR) and Lloyd Sumner (University of Missouri)
  1:00-1:45 pm Oliver Fiehn (University of California, Davis)
  Using metabolomics to address biochemical diversity and function in plants
  1:45-2:30 pm Dan Kliebenstein (University of California, Davis)
  Adaptive metabolites solve the fluctuating environment via genetic variation and large regulatory networks
  2:30-2:50 pm Sangeeta Dhaubhadel (Agriculture and Agri-Food Canada)
  Omics insights into regulation of isoflavonoid biosynthesis in soybean

2:50-3:10 pm Coffee break
3:10-3:30 pm Sanem Hosbas Coskun (National Institute of Standards and Technology)
In-vivo and in-vitro antidiabetic effect of Achillea setacea Waldst. & Kit. and detection of major phenolic compounds by LC-MS/MS and NMR techniques
3:30-3:50 pm Lloyd Sumner (University of Missouri)
Integrated Metabolomics identifies a novel M. truncatula DDMP-transferase (MDPT) and its role in saponin biosynthesis
3:50-4:10 pm Mark Berhow (USDA/ARS/NCAUR)
Rapid analysis of the chemical composition in plant products: Correlating rapid spectral analysis with comprehensive phytochemical composition
4:10-4:30 pm Herana Seneviratne (Washington State University)
Identifying and localizing plant secondary metabolites in specific cell types in situ: Integrated MALDI imaging, ion mobility separation and collision-induced dissociation approaches
4:30-4:50 pm Michael Paulsmeyer (University of Illinois, Urbana)
Genetic mapping of a new anthocyanin phenotype in maize
4:50-5:10 pm Michael Rush (University of Illinois, Chicago)
Structure elucidation of procyanidin oligomers by MALDI TOF-TOF – characteristic ions for identifying A and B type procyanidins from MS² data

5:30-7:30 pm Poster session I

Monday August 8, 2016

7:30-8:00 am Continental breakfast
8:00-8:15 am Conference announcement
8:15-10:05 am Symposium III: Phytochemical Metabolism
Chairs: Xiao-Ya Chen (SIBS, Chinese Academy of Sciences) and Deyu Xie (North Carolina State University)
8:15-9:00 am Guodong Wang (Institute of Genetics and Developmental Biology, Chinese Academy of Sciences)
Genome mining for sesterterpenoid discovery in Brassicaceae plants
9:00-9:45 am Ian Graham (University of York)
Molecular breeding of medicinal crops and discoveries along the way
9:45-10:05 am Reinhard Jetter (University of British Columbia)
The structures, biosynthesis and genetics of wheat wax polyketides

10:05-10:25 am Coffee break

10:25 am-12:05 pm
10:25-10:45 am Mingzhuo Li (Anhui Agricultural University)
Functional characterization of a tea (Camellia sinensis) R2R3-MYB suppressor that downregulates the phenylpropanoid and shikimate pathways
10:45-11:05 am Mark Lange (Washington State University)
De-mystifying chemical diversity in the Thunder God Vine - new avenues for the production of triptolide, a diterpene epoxide for treating kidney disease and cancer
11:05-11:25 am Craig Schenck (University of Wisconsin, Madison)
Phylogeny-guided structure-function analysis of tyrosine biosynthetic enzymes in legumes
11:25-11:45 am Ying Wang (South China Botanical Garden)
Carotenoid and anthocyanin biosynthesis and accumulation in fleshy fruits of
Lycium L.
11:45 am-12:05 pm Bernd Schneider (Max Planck Institute for Chemical Ecology)
Nudicaulins - a unique group of flower pigments of *Papaver nudicaule*:
Biosynthesis and potential ecological function

12:05-1:30 pm Lunch

12:15-1:15 pm Executive Committee meeting

12:15-1:15 pm Career panel/workshop

1:30-3:00 pm Symposium IV: Functional Foods and Botanical Medicine
Fred Stevens (Oregon State University) and Elvira de Mejia (University of Illinois, Urbana)
1:30-2:15 pm Andy Waterhouse (University of California, Davis)
Gut metabolites of dietary phenolics
2:15-3:00 pm Thomas Prisinzano (University of Kansas)
*Salvia divinorum*: A unique CNS active plant

3:00-3:20 pm Coffee break

3:20-4:20 pm 3:20-3:40 pm Ines Paraiso (Oregon State University)
Biotransformation of xanthohumol and related flavonoids by intestinal bacteria
3:40-4:00 pm Richard van Breemen (University of Illinois, Chicago)
Studies of pharmacokinetic interactions between drugs and botanical dietary supplements used by menopausal women
4:00-4:20 pm Claudia Maier (Oregon State University)
Modulation of the brain metabolome by an aqueous extract of *Centella asiatica*

4:30-5:30 pm Society business meeting

5:30-7:30 pm Poster session II

Tuesday August 9, 2016

7:30-8:00 am Continental breakfast

8:00-8:15 am Conference announcement

8:15-10:05 am Symposium V: Synthetic Biology and Metabolic Engineering
Chairs: Dae-Kyun Ro (University of Calgary) and Philipp Zerbe (University of California, Davis)
8:15-9:00 am Björn Hamberger (Michigan State University)
Discovery of terpene biosynthetic pathways in plants: Synthetic biology tools for production
9:00-9:45 am John Dueber (University of California, Berkeley)
Use of an enzyme-coupled biosensor to engineer a BIA fermentation pathway from glucose in *Saccharomyces cerevisiae*
9:45-10:05 am Jose Celedon (University of British Columbia)
Transcriptome and metabolite analysis across xylem development in Sandalwood trees reveal the final step in sandalwood oil biosynthesis
10:05-10:25 am Coffee break

10:25-12:05 pm
10:25-10:45 am **Deyu Xie** (North Carolina State University) Enhancement of amorphadiene pathway for antimalarial medicines in *Artemisia annua*
10:45-11:05 am **Dae-Kyun Ro** (University of Calgary) Molecular evidence for protein complex in natural rubber biosynthesis in lettuce (*Lactuca sativa*)
11:05-11:25 am **Simona Florea** (University of Kentucky) Genome editing through chromosome end knock-off: Reshaping the alkaloid profiles in *Epichloë coenophiala*
11:25-11:45 am **Toshiaki Umezawa** (Kyoto University) Modification of lignin aromatic composition in *Oryza sativa* for biomass refinery
11:45 am -12:05 pm **Kyle Pelot** (University of California, Davis) Elucidation of diterpene synthases in *Salvia divinorum* toward novel plant-derived therapeutics

12:05-1:00 pm Lunch

1:00-2:50 pm **Symposium VI: Plant, Microbe, Insect Interactions**
*Chairs: Dan Kliebenstein* (University of California, Davis) *and Sangeeta Dhaubhadel* (Agriculture Agri-Food Canada)
1:00-1:45 pm **Andre Kessler** (Cornell University) Volatile-mediated information transfer in Tall Goldenrod, *Solidago altissima*: Ecological consequences and evolutionary aspects
1:45-2:30 pm **Beth Sattely** (Stanford University) A gene-centric approach for the discovery and engineering of plant chemistry
2:30-2:50 pm **Quang Huy To** (University of Saskatchewan) Nasturlexins and cyclonasturlexin, novel phytoalexins from *Nasturtium officinale*, originate from parallel biosynthetic pathways

2:50-3:10 pm Coffee break

3:10-3:50 pm 3:10-3:30 pm **Monica Borghi** (Wageningen University) The role of flower metabolism in pollination
3:30-3:50 pm **Carlos Sanchez Arcos** (Max Planck Institute for Chemical Ecology) Non-targeted and targeted metabolomic approaches reveal differences in legume chemistry before and after infestation with pea aphid host races

3:50-7:00 pm Free time

7:00-9:00 pm **Award Banquet**
Wednesday August 10, 2016

7:30-8:00 am  Continental breakfast

8:00-8:15 am  Conference announcement

8:15-10:05 am  Symposium VII: Phytochemical Signaling
  Chairs: Kent Chapman (University of North Texas) and Dhirendra Kumar (East Tennessee State University)
  8:15-9:00 am Gregg Howe (Michigan State University)
    Phytochemical signaling in plant defense
  9:00-9:45 am Savithramma Dinesh-Kumar (University of California, Davis)
    Emerging perspectives on chemical modulators of autophagy for disease control
  9:45-10:05 am Dhirendra Kumar (East Tennessee State University)
    SIP68 is a putative glucosyltransferase enzyme with a likely role in plant stress response

10:05-10:25 am  Coffee break

10:25-11:55 am  10:25-10:45 am Mike Sullivan (US Dairy Forage Research Center, ARS-USDA)
    A reverse genetics approach to elucidating substrate specificity of a hydroxycinnamoyl-CoA hydroxycinnamoyl transferase using transgenic alfalfa
  10:45-11:15 am Clare Casteel (University of California, Davis)
    The role of vector-borne viruses in altering host plant defenses
  11:15-11:35 am Kent Chapman (University of North Texas)
    Structural insights into the biochemical properties of Arabidopsis fatty acid amide hydrolase
  11:35-11:55 am Yousuke Takaoka (Tohoku University)
    Development of JAZ-subtype selective agonist based on Coronatine

Noon  Conclusion of PSNA conference, lunch on your own