

# AGFD

## DIVISION OF AGRICULTURAL AND FOOD CHEMISTRY

A. Mitchell, *Program Chair*

### SUNDAY MORNING

Section A

Boston Convention & Exhibition Center  
Room 160A

#### Undergraduate Research Symposium

C. J. Brine, *Presiding*  
C. Brine, *Organizer*

**8:35 1.** Chemical and mathematical approaches to promote the development of functional foods rich in natural antioxidants. **J. Hao**

**9:05 2.** Investigating the effect of common antioxidants on the generation and fate of pyrazinium radicals in the Maillard reaction. **Q. Bin**, D. G. Peterson, R. J. Elias

**9:35 3.** Stability of dietary polyphenolics under gastrointestinal conditions. **M. A. Krook**

**10:20 4.** Starch retrogradation in gluten-free sorghum bread. **E. Buckley**

**10:50 5.** Accumulation and toxicity of engineered nanoparticles to agricultural crops. **J. Hawthorne**

**11:20 6.** Total polyphenol antioxidants in legumes: A major source of antioxidants . **B. W. Redan**, M. G. Coco, J. A. Vinson

Section B

Boston Convention & Exhibition Center  
Room 161

#### Agricultural and Food Derived Natural Products for Preventing and Combating Disease

##### Purification and Characterization of Natural Compounds

F. Pellati, G. Gowda, *Presiding*  
B. Patil, G. Jayaprakasha, K. Chidambara Murthy, N. P. Seeram, *Organizers*

**8:35 7.** Comprehensive study of *Digitalis Purpurea* by selective ionization of cardiac glycosides using ESI-LC-QTrap. **F. Shadkami**, M. D. Celiz, A. D. Jones

**9:00 8.** Rapid method for the separation of polymethoxyflavones using flash chromatography. **R. M. Uckoo**, G. K. Jayaprakasha, B. S. Patil

**9:25 9.** Release of bound procyanidins from cranberry pomace by alkaline hydrolysis. **B. L. White**, L. R. Howard, R. L. Prior

**10:05 10.** Correlating component variability of black raspberry (*Rubus occidentalis* L.) fruit extracts with chemical and biological responses using NMR data and multivariate statistical analysis. **F. J. Wyzgoski**, R. N. Reese, L. Paudel, P. L. Rinaldi, M. Ozgen, M. M. Giusti, J. Johnson, A. Z. Tulio, J. A. Bomser, J. K. Hardy, A. M. Chanon, J. C. Scheerens, A. R. Miller

**10:30 11.** Metabolic profiling using isotope enhanced NMR spectroscopy methods for disease diagnostics. **G. Gowda**, D. Raftery

**10:55 12.** Isolation and identification of polyphenolic compounds from Early Black Cranberry (*Vaccinium macrocarpon*), a pest-resistant cultivar. **C. A. Dao**, C. C. Neto, M. R. Salvas, J. E. Vanden Heuvel, B. T. Murphy

Section C

Boston Convention & Exhibition Center

### General Papers

A. Loaiza, N. Da Costa, *Presiding*  
A. Mitchell, *Organizer*

**8:35 13.** Cranberry flavonol glycoside bioavailability in humans with type-2 diabetes. **N. Vorsa**, A. P. Singh, T. Wilson, V. Vorsa

**8:55 14.** Selective separation of polyphenols using magnetic beads coated with hydrogen bonding ligands. **T. Dong**, Q. Zhou, X. Xiong, S. Chen

**9:15 15.** Induction of HCT116 and HT29 colon cancer cell death by cranberry proanthocyanidins via mitogen activated protein kinase pathway. **A. M. Liberty**, T. P. Ferreira, C. C. Neto

**9:35 16.** Resveratrol as a  $k_{cat}$  type inhibitor of tyrosinase enzyme: Potentials as a melanogenesis inhibitor. **H. Satooka**, I. Kubo

**10:10 17.** Content of nutritional substances in commercial tea beverages. **S. Li**, C. Lo, N. E. Rawson, P. Lucas-Schnarre, C. Ho

**10:10 18.** Acrylamide in cereal products: Precursors, formation, and control measures. **A. Mustafa**

**10:30 19.** Surface plasmon resonance (SPR) detection of staphylococcal enterotoxin A in food samples. **M. B. Medina**

### Nutritional Chemistry Symposium

*Sponsored by SOCED, Cosponsored by AGFD*

**SUNDAY AFTERNOON**

Boston Convention & Exhibition Center  
Room 161

## Agricultural and Food Derived Natural Products for Preventing and Combating Disease

### In Vitro Model

N. P. Seeram, *Organizer, Presiding*

B. Neelwarne, *Presiding*

B. Patil, G. Jayaprakasha, K. Chidambara Murthy, *Organizers*

**1:05 20.** Isolation, structure elucidation, synthesis and cytotoxic activity of polyacetylenes and polyenes from *Echinacea pallida*. **F. Pellati**, A. Chicca, B. Adinolfi, G. Orlandini, F. Prati, P. Nieri, S. Benvenuti

**1:30 21.** Potential therapeutic applications of common agro-food byproducts and Chilean wild plants. **J. S. Torres**, **M. N. Garcia**, M. Rubilar, M. Cascante, E. Alvarez, M. Sanchez

**1:55 22.** Compositional characteristics of fruits of hawthorn (*Crataegus* sp.) and emblic leafflower (*Phyllanthus emblica*). **B. Yang**, H. Kallio, P. Liu, M. Kortensniemi

**2:20 23.** Natural pigments enhance stability of mRNAs of anti-oxidant enzymes in cultured mammalian cells. **B. Neelwarne**, J. M. Veigas

**3:00 24.** Sugar maple (*Acer saccharum*) phytochemicals: Antioxidant, antibacterial, and cancer cell cytotoxicity properties. L. Li, **N. P. Seeram**

**3:25 25.** Carrot bisacetylenic oxylipins: Phytochemicals behind the mask of the superfood. **B. T. Metzger**

**3:50 26.** Beyond olive oil: Active components and health aspects of some less known Mediterranean plant products. **N. Kalogeropoulos**, A. Chiou, A. C. Kaliora, V. T. Karathanos, N. K. Andrikopoulos

Boston Convention & Exhibition Center  
Room 160A

### Young Scientist Award Symposium

C. J. Brine, *Presiding*

C. Brine, *Organizer*

**1:35 27.** Bioactive secondary metabolites from agro-food industrial byproducts as source of dietary supplements. **G. Jayaprakasha**, B. S. Patil

**2:05 28.** Bioavailability and delivery of nutraceuticals using nanotechnology. **Q. Huang**

**2:35 29.** Rhizospheric signaling: From positive feedback to innate plant defense. **H. Bais**

**3:20 30.** Stable isotope dilution assays for quantification of bioactives: Challenges and pitfalls. **T. Stark**

**3:50 31.** Electrospun nanofibrous membranes: Novel materials for food technology applications. **A. Arcchi**

**4:20 32.** Analytical techniques ensure performance and quality of encapsulates. **D. DiNallo**

Section C

Boston Convention & Exhibition Center

### **General Papers**

A. Mitchell, *Organizer, Presiding*

N. Da Costa, K. Mahattanatawee, *Presiding*

**1:35 33.** Enrichment of the antioxidant activity in potato tuber by ultrasound and electric treatments. **K. Hironaka**, T. Funato, H. Koaze

**1:55 34.** Enhanced infusion of natural antioxidants into fruits using high hydrostatic pressure processing. **S. Mahadevan**, M. V. Karwe

**2:15 35.** Pressurized hot ethanol extraction of carotenoids from carrot waste. **A. Mustafa**, C. Turner

**2:35 36.** New paradigm for microwave extraction of essential oils and natural compounds . **D. Gunn**

**2:50 37.** Food for thoughts: The potential for food patenting. **K. B. Drake**

**3:10 38.** In vivo aroma release and sensory perception: The effect of HPMC concentration and viscosity. **G. T. Eyres**, D. C. Frank, U. Piyasiri, C. M. Delahunty

**3:30 39.** GC-MS and sensory strawberry flavor changes at five maturity stages. **X. Du**, A. Plotto, E. Baldwin, R. Rouseff

### **Careers in Chemistry**

#### **What it's Like in the Real World and How Do I Get the Job?**

*Sponsored by SOCED, Cosponsored by AGFD*

### **MONDAY MORNING**

Section A

Boston Convention & Exhibition Center

Room 160A

#### **Symposium Honoring Prof. Terry E. Acree on the Occasion of his 70th Year**

B. Halpern, C. J. Brine, *Presiding*

C. Brine, *Organizer*

**8:05 40.** Flavor chemistry and the perception of flavor. **T. E. Acree**

**8:45 41.** Internet as a research tool for flavor chemistry: FlavorNet and beyond. **D. D. Roberts**

**9:15 42.** Retronasal smelling: The roles of nasal cavity and oral cavity sensory systems. **B. P. Halpern**

**10:00 43.** Unexpurgated CHARM of Terry Acree. **J. V. Leland**

**10:30 44.** Phragrance and pharmacology. **S. Firestein**

Section C

Boston Convention & Exhibition Center  
Room 160C

### **General Papers**

A. Rimando, K. Cadwallader, V. Acquarone, *Presiding*  
A. Mitchell, *Organizer*

**8:05 45.** Rapid screening method for the determination of rodenticide content of commercial bait formulations. **D. A. Goldade**, D. L. Griffin, D. T. Keller

**8:25 46.** Multiresidue pesticide analysis of botanical dietary supplements by GC-MS/MS and LC-MS/MS. **F. Shi**, J. W. Wong, K. Zhang, D. G. Hayward, T. H. Begley

**8:45 47.** Determination of diphacinone in kestrel and rat brain tissue. **S. F. Volker**, K. E. Horak, B. A. Rattner, D. A. Goldade

**9:05 48.** Genetic makeup of native proteins changes the secondary structure features: A synchrotron FTIR study of Arabidopsis seed storage proteins. **T. Sanjeewa**, D. D. Hegedus, P. Yu, X. Qiu, T. C. McIntosh, T. May, J. P. Wanasundara

**9:40 49.** Effect of novel cutinase *CcCut1* in degrading potato suberin and berry cutin. **R. Järvinen**, U. Holopainen, A. Nyyssölä, A. Silvestre, A. Gil, P. Lehtinen, J. Buchert, H. Kallio

**10:00 50.** Native and synthetic autoinducers regulate the virulence of the plant pathogens *Pectobacterium carotovora* and *Pseudomonas syringae* in host plants. **A. G. Palmer**, E. Streng, H. E. Blackwell

**10:20 51.** Poly(lactic acid) and Osage orange wood fiber composites for agricultural mulch films. **V. Finkenstadt**, B. Tisserat

**10:40 52.** Uptake of organochlorine pesticides by agricultural crops: Mechanistic studies. **W. A. Berger**, M. I. Mattina

Section B

Boston Convention & Exhibition Center  
Room 161

### **Agricultural and Food Derived Natural Products for Preventing and Combating Disease**

#### **In Vitro Model**

G. Jayaprakasha, *Organizer, Presiding*  
H. Xiao, H. Humpf, *Presiding*  
B. Patil, K. Chidambara Murthy, N. P. Seeram, *Organizers*

**8:35 53.** Hydroxylated polymethoxyflavones from orange peel as novel cancer preventive agents. **H. Xiao**, P. Qiu, P. Dong, C. Ho, S. Li

**9:00 54.** Anthocyanin-containing fruits and vegetables are functional foods with potential to ameliorate debilitating diseases. **M. G. Nair**

**9:25 55.** Lipid accumulation and inflammation inhibition by *Vaccinium floribundum* proanthocyanidins. M. Schreckinger, J. Wang, G. Yousef, M. Lila, **E. Gonzalez de Mejia**

**9:50 56.** Mediterranean wild plants: Endless source of natural food additives? **A. Fiorentino**, B. D'Abrosca, A. Esposito, M. Isidori, P. Monaco, S. Pacifico, S. Piccolella, A. Ricci, M. Scognamiglio

**10:30 57.** Pig cecum model: A powerful system to mimic the human intestinal metabolism of flavonoids. G. van 't Slot, K. Rose, A. Engemann, **H. Humpf**

**10:55 58.** Bioactive constituents from Formosan *Kadsura* and *Schisandra*. **Y. Shen**

**11:20 59.** Chemical properties and antioxidant capacity of Chinese bay berry juice. **X. Ye**

## MONDAY AFTERNOON

Section B

Boston Convention & Exhibition Center  
Room 161

### Agricultural and Food Derived Natural Products for Preventing and Combating Disease

#### In Vitro Model

D. Klimis-Zacas, S. Poulou, *Presiding*  
B. Patil, G. Jayaprakasha, K. Chidambara Murthy, N. P. Seeram, *Organizers*

**1:05 60.** Berry extracts and brain aging: Clearance of toxic protein accumulation in brain via induction of autophagy. **S. M. Poulou**, D. F. Bielinski, B. Shukitt-Hale, D. R. Fisher, J. A. Joseph

**1:30 61.** Composition of fruit and vegetative cranberry phenolics with relation to antioxidant capacity. **N. Vorsa**, A. P. Singh, T. Wilson, M. R. Freeman, V. Vorsa

**1:55 62.** Enhanced production of anticancer Camptothecins in *Camptotheca*. **S. Li**, Z. Zhang, P. Wang, W. Yuan

**2:20 63.** Chemical constituents and biological activity of Taiwanese sugar cane extract. **Y. Wu**

**3:00 64.** Inhibition of intestinal alpha-glucosidases and anti-postprandial hyperglycemic effect of grape seed extract. **K. Zhou**

**3:25 65.** Wild Blueberries (*Vaccinium angustifolium*): Modulators of vascular function, structure and metabolism. **D. Klimis-Zacas**

**3:50 66.** Distribution and biological activity of *Citrus* juices flavonoids. D. Barreca, E. Bellocco, C. Caristi, U. Leuzzi, **G. Gattuso**

Section A

Boston Convention & Exhibition Center  
Room 160A

### **Symposium Honoring Prof. Terry E. Acree on the Occasion of his 70th Year**

#### **Award Symposium**

A. Taylor, D. Roberts, *Presiding*  
C. Brine, *Organizer*

**1:35 67.** Flavor of foods: The sound of an orchestra rather than that of a single instrument. **P. H. Schieberle**

**2:05 68.** What do we taste, when we taste? **T. Hofmann**

**2:35 69.** Aroma release, qualia and perceived flavour. **A. J. Taylor**

**3:20 70.** Identification of new strawberry sulfur volatiles and changes during maturation . X. Du, M. Song, **R. L. Rouseff**

**3:50 71.** Gas chromatography olfactometry applications to dairy products: A wonderful friendship. **S. Carpino**

**4:20 72.** Integrating the culinary arts and sciences in Terry Acree's flavor world. **C. Loss**

Section C

Boston Convention & Exhibition Center  
Room 160C

#### **Cardiovascular Disease and Diabetes**

J. Finley, *Organizer, Presiding*

**1:35 73.** Does lycopene have a role in the prevention of cardiovascular disease?. **H. D. Sesso**

**2:05 74.** Dietary fat and cardiovascular disease: Quantity or quality? **A. Lichtenstien**

**2:35 75.** Polyunsaturated fatty acids and the endocannabinoid signalling system. **B. A. Watkins**

**3:10 76.** Milk proteins in the regulation of food intake and metabolic syndrome. **H. Anderson**, B. Luhovyy, T. Akhavan, S. Panahi

**3:40 77.** Cardiovascular health benefits of soy foods. **J. W. Anderson**

Section D

Boston Convention & Exhibition Center

## **Chemistry and Nutrition for Better Health**

### **Plenary Lecture**

J. Finley, *Organizer, Presiding*

**4:00 78.** Impact of early life nutrition on health and wellness. **S. Roberts**

**4:30 79.** Optimum diets and natural products for disease prevention. **B. N. Ames**

### **Undergraduate Research Posters**

#### **Agricultural and Food Chemistry**

*Sponsored by CHED, Cosponsored by AGFD and SOCED*

## **MONDAY EVENING**

Boston Convention & Exhibition Center

### **Sci-Mix**

N. Da Costa, *Organizer*

**8:00 - 10:00**

**6.** See previous listings.

**114, 118, 125, 126, 128, 131, 137, 138, 140, 141, 142, 145, 151, 154, 155, 157, 160.** See subsequent listings.

## **TUESDAY MORNING**

Section A

Boston Convention & Exhibition Center  
Room 160A

### **Symposium Honoring Prof. Terry E. Acree on the Occasion of his 70th Year**

#### **Award Symposium**

K. Cadwallader, R. McGorin, *Presiding*  
C. Brine, *Organizer*

**8:05 80.** Flavor chemistry of lemon-lime flavored carbonated beverages. B. Hausch, **K. Cadwallader**

**8:35 81.** Perspectives on flavor analysis linked to chemosensory impact. **R. J. McGorin**

**9:05 82.** Zen and the art of chemosensory perception. **J. F. Delwiche**

**9:50 83.** Playing with food: Flavor and food chemistry in the experimental restaurant kitchen. **H. J. McGee**

**10:20 84.** Progression of the retronasal aroma simulator and flavor release sampling. **K. D. Deibler**

**10:50 85.** Commercial consequences of Shallenberger and Acree's AH,B theory of sweet taste. **M. G. Lindley**

Section C

Boston Convention & Exhibition Center  
Room 160C

### **Nutrition and Brain Aging**

J. Finley, *Organizer, Presiding*

**8:05 86.** Behavioral and signaling effects of blueberries, strawberries, and walnuts: Quenching the fires of aging. **J. Joseph**, B. Shukitt-Hale, D. Fisher

**8:35 87.** Application of calorie restriction and calorie restriction mimetics to attenuate brain aging. **D. Ingram**

**9:20 88.** Role of an antioxidant diet and behavioral enrichment on cognition and neuropathology in the canine model of aging. **E. Head**

**9:50 89.** Prevention approaches to Alzheimer disease: Omega-3 fatty acids and curcumin. **G. M. Cole**, Q. Ma, F. Yang, D. Gant, O. Ubeda, S. A. Frautschy

Section B

Boston Convention & Exhibition Center  
Room 161

### **Agricultural and Food Derived Natural Products for Preventing and Combating Disease**

#### **In Vitro Model**

B. Dayal, C. Erlanson-Albertsson, *Presiding*

B. Patil, G. Jayaprakasha, K. Chidambara Murthy, N. P. Seeram, *Organizers*

**8:35 90.** Methyl jasmonate: A plant stress hormone as an anticancer agent. **E. Flescher**

**9:00 91.** Methyl nomilinate inhibits SW480 colon cancer cells growth through modulation of cell cycle regulators. J. Kim, **G. Jayaprakasha**, A. Vikram, B. S. Patil

**9:25 92.** Isolation and chemical characterization of limonoids from *Azadirachta indica* and *Melia azaderach* with biological activity. **P. Caboni**, N. Ntalli, C. E. Bueno, L. E. Alchè

**10:05 93.** Characterization of bioactive compounds of selected (sub)tropical fruits and leaves grown in Jeju and their antiproliferative effects on human cancer cells through apoptosis. **S. K. Cho**

**10:30 94.** Influence of the target molecule on the ORAC index. **C. López-Alarcón**

**10:55 95.** Bioactive compounds from okra seeds: Potential treatments for diabetes-Type 2 and cardiovascular disease. **B. Dayal**, M. Lea, N. H. Ertel

## **TUESDAY AFTERNOON**

Section B

Boston Convention & Exhibition Center  
Room 161

### **Agricultural and Food Derived Natural Products for Preventing and Combating Disease**

#### **In Vivo Model**

K. Shetty, Y. Park, *Presiding*

B. Patil, G. Jayaprakasha, K. Chidambara Murthy, N. P. Seeram, *Organizers*

**1:05 96.** Citrus monoterpene induces apoptosis and inhibits angiogenesis in human colon cancer cells. **K. N. Chidambara Murthy**, G. K. Jayaprakasha, B. S. Patil

**1:30 97.** Bioactives from a traditional herb collected from the tropical rainforest. **C. Choo**

**1:55 98.** (-)-Epigallocatechin-3-gallate protects neonatal rat cardiomyocytes against oxidative stress induced by anoxia/reoxygenation injury . W. Li, S. Nie, **M. Xie**, S. Zhang, K. Zhu

**2:20 99.** Conjugated fatty acids as a prevention tool for obesity and osteoporosis. **Y. Park**, Y. Park

**3:00 100.** Phenolic antioxidant-enriched plant foods for prevention and management of type 2 diabetes and its complications. **K. Shetty**

**3:25 101.** Bioactive constituents from *Calamus quiquesetinervius* and *Astragalus membranaceus*, and their evaluations in treating metabolic syndrome. **Y. Kuo**

**3:50 102.** Protective effect of sesamol on stress-related mucosal disease in rats. D. Hsu, **M. Liu**

Section A

Boston Convention & Exhibition Center  
Room 160A

### **Flavor Chemistry of Alcoholic Beverages**

M. Qian, *Organizer, Presiding*

T. Shellhammer, *Organizer*

**1:35 103.** Spice up your life: Analysis of key aroma compounds in Shiraz. **M. J. Herderich**, T. Siebert, M. Parker, D. Capone, D. Jeffery

**2:00 104.** Formation of carotenoid-derived aroma compounds in wine. **P. Winterhalter**, R. Goek

**2:25 105.** Aroma composition of a native American grape species (*Vitis cinerea*) wine by SPME-GC/O/MS. **Q. Sun**, E. Lavin, T. E. Acree, G. L. Sacks

**3:10 106.** Streamlined analysis of potent odorants in distilled alcoholic beverages. J. Lahne, **K. Cadwallader**

**3:35 107.** (In)stability of the beer's bitter taste: A molecular insight. **T. Hofmann**

**4:00 108.** Analytical investigations to relate important wine odorant 3-mercaptohexan-1-ol to its precursors. **D. L. Capone**, M. A. Sefton, D. W. Jeffery

## Section C

Boston Convention & Exhibition Center  
Room 160C

### Cardiovascular Disease and Diabetes

J. Finley, *Organizer, Presiding*

**1:35 109.** Is the antioxidant activity of polyphenols relevant for protection against cardiovascular. **P. C. Hollman**

**2:00 110.** Fine chemical structures of dietary polyphenols and their importance in understanding their role in the prevention of diseases. **A. Scalbert**, J. Perez-Jimenez, J. Rothwell, M. Touvier, L. Feuzeu, P. Galan

**2:25 111.** Cardiovascular health effects of plant polyphenols. **K. D. Croft**

**3:05 112.** Food synergy and nutritional research. **D. R. Jacobs**

**3:30 113.** Berry intake ameliorates pro-inflammatory factors that increase risk of cardiovascular disease. **P. E. Milbury**, W. Kalt

## Section D

Boston Convention & Exposition Center  
Hall C

### General Posters

N. Da Costa, *Organizer, Presiding*

**2:00 - 4:00**

**114.** Direct detection of microbial mRNA by rolling circle amplification. **T. Kobori**, H. Takahashi, A. Matsumoto, S. Sugiyama

**115.** Post mortem changes in gene expression of fish muscle tissues. **M. Saito**, T. Higuchi, N. Uchida, H. Suzuki

**116.** Tensile and solubility properties of calcium caseinate films cross-linked with genipin. **P. M. Tomasula**, P. Qi

- 117.** Effect of estradiol-17  $\beta$  on embryos of the giant freshwater prawn, *Macrobrachium rosenbergii*(de Man). **N. Pakdeenarong**
- 118.** Determination of chitosan in aqueous solutions. S. Zivanovic, **R. Davis**, J. Li
- 119.** Diterpenoids from the cultured soft coral *Klyxum simplex*. B. Chen, Y. Lu, **J. Sheu**
- 120.** Synthesis and biological evaluation of novel acylphloroglucinols. **C. Chang**, C. Tang, J. Liu
- 121.** Antibacterial properties of Baicalin (*Radix scutellariae*) and Berberine (*Rhizama coptidis*) for *Staphylococcus aureus*, *Escherichia coli* and *Bacillus atrophaeus*. **A. Shah**, S. Cai
- 122.** Globospiramine, a new antituberculosis bisaspidospermidine indole alkaloid from *Voacanga globosa*. **A. G. Macabeo**, W. S. Vidar, M. Barbic, A. M. Aguinaldo, S. G. Franzblau, G. A. Cordell
- 123.** Studies of prenylflavonoids from the plant origin of Okinawan propolis. **S. Kumazawa**, N. Momose, M. Murase, T. Ohta, S. Fukumoto
- 124.** Preparation of bioactive peptides derived from wheat bran responsible for angiotensin I converting enzyme (ACE I) inhibition and nitric oxide (NO) produced acceleration and effects on hypertension. **Y. Sauchi**, M. Sakashita, M. Suga, M. Ochiai, T. Kon, K. Yamaguchi, Y. Ogihara
- 125.** Head space solid phase microextraction (HS-SPME) gas chromatography mass spectroscopy (GC/MS) analysis of volatile components of garlic. J. D. Williams, **J. G. Clemente**
- 126.** Flavor characteristics of Australian Botrytis Semillon. **C. E. Hofmann**, A. C. Clark, L. M. Schmitdke
- 127.** Enzymatic modification of wheat protein for the formation of pyrazines and other heterocyclic compounds through Maillard reaction. **S. Lee**, Y. Kim
- 128.** Determination of the levels of polycyclic aromatic hydrocarbons (PAH) in US and Swedish smokeless tobacco products. **K. G. McAdam**, A. Faizi, H. Kimpton, B. Rodu
- 129.** Cytotoxic terpenoids from *Calocedrus macrolepis* var. *formosana*. **Y. Kuo**
- 130.** Investigation on the flavor enhancing components in glutathione-Maillard reaction products using metabolomic approach. **S. Lee**, G. Kwon, K. Kim, Y. Kim
- 131.** Effect of hot-water extraction on non-carbohydrate components of hardwoods. **M. J. Goundalkar**, B. Bujanovic, T. E. Amidon
- 132.** Aroma profile comparisons of "Strawberry Festival" and "Florida Radiance" strawberries by GC-Olfactometry, odor activity values, and sensory evaluation. **X. Du**, A. Plotto, E. Baldwin, R. Rouseff
- 133.** Effect of short passage time on the polishing and storage temperature of milled and cooked rice quality. **Y. Oh**, W. Jeong, H. Jeong
- 134.** Metabolite profiling by gas chromatography-mass spectrometry (GC-MS) and principal component analysis (PCA) of *Schizandra chinensis* Baillon (omija fruits) according to their origins. **H. Lee**, I. Cho, Y. Kim
- 135.** Comparison of the volatile composition of pasteurized and unpasteurized *makgeolli*, a traditional Korean rice wine. **H. Park**, Y. Kim

- 136.** Determination and comparison of Saponins in Black Panax ginseng C.A. Mayer. **S. H. Cho**, O. Choi, C. Sung
- 137.** Insecticidal and antioxidant activities of abietane diterpenoids from *Hyptis verticillata* Jacq. **R. B. Porter**, D. A. Biggs, L. A. Williams
- 138.** Scopolamine-induced memory impairment in mice and antioxidant activities of aqueous antler extract. **O. Choi**, C. Sung, S. H. Cho
- 139.** Curcuminoids promote neuronal differentiation of PC12 cells through PKC-dependent phosphorylation of CREB protein. **K. Liao**, K. Lee, M. Wu, C. Ho, **J. Yen**
- 140.** Phytochemical composition and anti-fungal activity of extracts from cranberry cultivars (*Vaccinium macrocarpon* Ait.) that vary in resistance to plant pathogens. **M. C. Nunnelley**, **J. L. Carpenter**, C. C. Neto, F. L. Caruso
- 141.** Semi-continuous method for recovering anthocyanins and procyanidins from White Zinfandel (*V. Vinifera*) red grape pomace using subcritical water. **J. Monrad**, L. R. Howard, K. Srinivas, J. W. King, A. Mauromoustakos
- 142.** *In vitro* estimation of antioxidant activities in red and white cranberry extracts. **A. Z. Tulio, Jr.**, I. Edirisinghe, C. Chang, J. E. Jablonski, R. K. Tadapaneni, B. Burton-Freeman, L. S. Jackson
- 143.** Phenolic content, antioxidant activity, and anti-proliferative property of cold-pressed grape seed flours. **L. A. Binzer**, **R. L. Brinsko**, **J. J. Cha**, **Z. Chen**, **S. E. Green**, **K. E. Grob**, **J. Hao**, **C. M. Hitz**, **L. J. Li**, **S. N. Swamy**, **M. Y. Wolf**, **M. Xu**, **M. C. Yanik**
- 144.** Chemical composition and antioxidant properties of cold-pressed grape seed oils. **L. A. Binzer**, **R. L. Brinsko**, **J. J. Cha**, **Z. Chen**, **S. E. Green**, **K. E. Grob**, **J. Hao**, **C. M. Hitz**, **L. J. Li**, **S. N. Swamy**, **M. Y. Wolf**, **M. Xu**, **M. C. Yanik**
- 145.** Improved stability of blueberry juice anthocyanins by acidification and refrigeration. **L. R. Howard**, C. Brownmiller, R. L. Prior
- 146.** *Salvia fruticosa* mediates protection against H<sub>2</sub>O<sub>2</sub>-induced DNA damage in HEK293 cells. **S. A. Bani hani**
- 147.** Phytochemicals in winged sumac (*Rhus copallinum*) fruit. **H. Ma**, L. Li, N. P. Seeram
- 148.** Phytochemicals in Fraser's Marsh St. John's Wort (*Triadenum fraseri*). **L. Li**, D. Woolridge, J. Jennings, R. Saing, G. E. Henry, N. P. Seeram
- 149.** Phytochemicals in blueberry (*Vaccinium corymbosum*) stems and roots. **A. Cirello**, L. Li, L. R. Howard, N. P. Seeram
- 150.** Compounds from *Eugenia jambolana* (Jamun) berries beyond anthocyanins. **R. Omar**, L. Li, A. Cirello, N. P. Seeram
- 151.** Composition of flavonoids and other phenolics in foliage from cranberry cultivars (*Vaccinium macrocarpon*) that vary in susceptibility to cranberry tipworm and other pests. **E. Yiantsidis**, C. Dao, A. Averill, S. Tewari, F. Caruso, J. Hicks, K. Colson, K. B. Killday, C. Neto
- 152.** Pterocarpan and flavonoids from *Derris laxiflora* Benth. **S. Chien**

153. Biocatalytically polymerized flavonoids with enhanced antioxidant activity. **K. Daita**, S. Tripathy, S. Nagarajan, R. Nagarajan, F. F. Bruno, L. Samuelson, J. Kumar
154. Purification of homohexameric cruciferin from seeds of mutant *Arabidopsis thaliana* . **T. Sanjewa**, D. D. Hegedus, X. Qiu, T. C. McIntosh, J. P. Wanasundara
155. Methods of identification of adulterated food products based on carbohydrate profiles by UPLC. **C. Hudalla**, C. Boissel, P. Iraneta, D. Walsh, K. Wyndham
156. Analysis of hormones and their conjugates in animal waste using QuEChERS method coupled with liquid chromatography-electrospray-tandem mass spectrometry . **J. Kwon**, K. L. Armbrust, K. Xia
157. Photolysis of pesticides on alternate matrices compared to soil. **M. C. McGuire**, S. B. Hibler, L. R. Marks
158. Fingerprint-based classification of a commercial odor database. A. B. Yongye, T. L. Peppard, J. L. Medina-Franco, **K. Martinez-Mayorga**
159. Overview of sampling and analytical methodologies in the Food Safety and Inspection Service's National Residue Program. **D. Pagan-Rodriguez**
160. Increased air pressure substantially reduces the time required to remove raffinose-series oligosaccharides from legumes. R. Rakijian, J. L. Payne, S. Manzano, **M. A. Payne**
161. *Vitis labrusca* L.: Antioxidant and antiproliferative properties of its components. **M. Gallicchio**, G. D'Angelo, S. Pacifico, A. Fiorentino, B. D'Abrosca, P. Monaco
162. What can we learn from massive docking? **K. T. Nguyen**, M. M. Mysinger, B. K. Shoichet, J. J. Irwin
163. Lanostane triterpenoids and a degraded steroid from *Antrodia camphorata*. **H. Huang**, Y. Kuo
164. New mechanism for the generation of acyl radical in cigarette smoke. **N. Hu**, S. A. Green
165. Determination the impact odorants of 'Hutai' icewine from Hu county (China) using headspace solid-phase microextraction. **H. Wang**, L. Zhang, Y. Liang
166. Detecting and predicting adulteration in Chinese garlic oil by gas chromatography analysis and chemometrics. **D. Bolliet**
167. Blackberries and raspberries: Effects of storage on antioxidant potential. **S. B. Gacasan**, N. Mwebi
168. Constituents of maple syrup residue, a waste/by-product of the maple syrup industry. **O. Ashorobi**, L. Li, D. Worthen, N. Seeram

## WEDNESDAY MORNING

Section A

Boston Convention & Exhibition Center  
Room 160A

**Flavor Chemistry of Alcoholic Beverages**

M. Qian, *Organizer, Presiding*  
T. Shellhammer, *Organizer*

**8:05 169.** 1,1,6-Trimethyldihydronaphthalene: Effects of cluster light exposure timing and contribution to Riesling aroma. **G. L. Sacks**, T. E. Acree, J. E. Vanden Heuvel, M. T. Kwasniewski, L. Karoui

**8:30 170.** Headspace solid-phase dynamic extraction (SPDE) and GC-MS for distinguishing a) styles of South African Chenin Blanc wines and b) types of pot-distilled brandies from regions around the world. **V. A. Watts**, I. Christ, J. Stadler, Z. Bellingan

**8:55 171.** A little twist for wine aroma. **M. C. Qian**

**9:40 172.** Fermentation and post-fermentation factors affecting accumulation and degradation of odour-active sulfur compounds during wine bottle storage. **M. Ugliano**, M. Kwiatkowski, P. A. Henschke, E. J. Waters

**10:05 173.** Impact of the oxygen exposure during bottling and oxygen barrier properties of different closures on wine quality during post-bottling. **P. Lopes**, M. A. Silva, M. Cabral, P. Darriet, P. Teissedre, D. Dubourdieu

**10:30 174.** Assessing smoke taint in grapes and wine. **K. L. Wilkinson**, R. Ristic, K. Dungey, Y. Hayasaka

**10:55 175.** Smoke taint aroma assessment in 2008 California grape harvest. **H. Chong**

Section C

Boston Convention & Exhibition Center  
Room 159

### **Antioxidant Analysis: Challenges and Critical Issues**

L. Howard, D. Luthria, *Organizers, Presiding*  
J. Finley, *Organizer*

**8:05 176.** Significance of extraction and spectral fingerprinting methodology for the assay of bioactive phytochemicals. **D. Luthria**, J. Harnly

**8:30 177.** Stability for extraction and analysis of acylated anthocyanins. **H. Matsufuji**

**8:55 178.** Determination of extractable and nonextractable food polyphenols. **L. R. Howard**, B. L. White

**9:20 179.** Revising and redirecting the chemistry of antioxidant (antiradical) activity assays. **K. M. Schaich**

**10:00 180.** Luminescent molecular and nano probes for quantifying reactive oxygen species and the scavenging activity of dietary antioxidants. **D. Huang**

**10:25 181.** Dietary modulation of oxidative stress in humans: Methodology, physiological meaning and value of the non enzymatic antioxidant capacity (NEAC). **M. Serafini**

**10:50 182.** Assays for scavenging capacities against hydroxyl and DPPH radicals. **L. Yu**

**11:15 183.** Challenges and issues with the ORAC assay. **R. L. Prior**

**11:40 184.** Main and modified CUPRAC methods of antioxidant characterization. **R. APAK**, M. ÖZYÜREK, B. BEKTAŞOĞLU, K. GÜÇLÜ

Section B

Boston Convention & Exhibition Center  
Room 161

## **Agricultural and Food Derived Natural Products for Preventing and Combating Disease**

### **Human Intervention Studies**

K. Chidambara Murthy, *Organizer, Presiding*

C. Neto, J. Novotny, *Presiding*

B. Patil, G. Jayaprakasha, N. P. Seeram, *Organizers*

**8:35 185.** Cranberry phytochemicals: Potential benefits against disease and infection. **C. C. Neto**

**9:00 186.** Queen Garnet plum, a new plum variety rich in antioxidant compounds: First results from a pilot study with healthy human subjects. **M. Netzel**, K. Fanning, G. Netzel, D. Zabaraz, D. Russell, R. Stanley

**9:25 187.** Anthocyanins: Disease preventing pigments with complex bioavailabilities. **J. A. Novotny**

**9:50 188.** Food polyphenol consumption may reduce prevalence of hypertension in high cardiovascular risk population. **R. M. Lamuela-Raventos**, A. Medina-Remón, R. Estruch, C. Andres-Lacueva

**10:30 189.** Oral consumption of cranberry juice inhibits cellular adhesion and biofilm formation of uropathogenic bacteria. **Y. Tao**, P. A. Pinzon, A. B. Howell, T. A. Camesano

**10:55 190.** Effects of oral sea buckthorn (*Hippophaë rhamnoides*) oil on dry eye. **P. S. Larmo**, R. L. Järvinen, N. L. Setälä, B. Yang, M. H. Viitanen, J. R. Engblom, R. L. Tahvonen, H. P. Kallio

**11:20 191.** Thylakoids promote satiety in healthy humans: Metabolic effects and mechanisms. **C. Erlanson-Albertsson**, P. Albertsson, R. Köhnke, M. Rayner, S. Emek, M. Landin-Olsson, B. Weström, C. Montelius, K. Gustafsson, L. Svensson, I. Sjöholm

## **WEDNESDAY AFTERNOON**

Section A

Boston Convention & Exhibition Center  
Room 160A

### **Flavor Chemistry of Alcoholic Beverages**

M. Qian, *Organizer, Presiding*

T. Shellhammer, *Organizer*

**1:35 192.** Evidence for demethylation of 3-isobutyl-2-methoxypyrazine during maturation of bell pepper (*Capsicum annum*) and winegrapes (*Vitis vinifera*). **I. Ryona**, G. Sacks

**2:00 193.** Free and potential aroma compounds and sensory profile in long-time grape skin macerated white wines. **G. Versini**, B. Fedrizzi, R. Ferrarini, F. Finato, E. Casarotti, G. Piubelli, M. Cipriani

**2:25 194.** Assessing variability in the coopering process. **T. S. Collins**, S. E. Ebeler

**3:10 195.** Bitter, twisted truth of the hop. **P. L. Ting**, D. Ryder

**3:35 196.** On the flavor of Bourbon Whiskey: How the manufacturing process influences the concentrations of its key aroma molecules. **P. H. Schieberle**, M. Vocke

**4:00 197.** Aroma characterization of Chinese liquor: Yanghe Daqu, Wuliangye, Jiannanchun and Maotai. **M. C. Qian**, W. Fan, Y. Xu

**4:25 198.** Characteristic aroma compounds of Chinese rice wine by gas chromatography–olfactometry and quantitative analysis using headspace solid phase microextraction gas chromatography–mass spectrometry. W. Fan, **Y. Xu**

## Section B

Boston Convention & Exhibition Center  
Room 161

### General Papers

A. Mitchell, *Organizer, Presiding*  
N. Da Costa, *Presiding*

**1:35 199.** Seed's protein and oil content, fatty acid composition, and growing cycle length of a single genotype of chia (*Salvia hispanica* L.) as affected by environmental factors. **R. Ayerza**

**1:55 200.** Extra virgin olive oil increases uncoupling protein 1 content in brown adipose tissue, and enhances noradrenaline and adrenaline secretions in rats. **Y. Oi-Kano**

**2:15 201.** Inhibition of human NADPH oxidase by apocynin derived oligophenols. **J. M. Mora Pale**, S. Kwon, M. Weiwer, R. J. Linhardt, J. S. Dordick

**2:35 202.** Antileishmanial, trypanocidal, antituberculosis and cytotoxic activities of targeted plant species from the Peruvian rain forest. **z. jin**, J. C. Aponte, V. A., M. Sauvain, R. Gilman, G. Hammond

**3:10 203.** Phytochemical analysis and antioxidant efficacy of fruits produced in Italy. **N. Tsafantakis**, S. Pacifico, M. Scognamiglio, S. Piccolella, B. D'Abrosca, A. Fiorentino

**3:30 204.** Transcriptional control of alkaloid biosynthesis by methyl jasmonate in *Catharanthus roseus* hairy root cultures. **S. Goklany**, R. H. Loring, J. Glick, C. W. Lee-Parsons

**3:50 205.** Molecular cloning and characterization of a novel down-regulated TOM20 gene associated with the onset of tapping panel dryness (TPD) syndrome from the inner bark tissues of rubber tree (*Hevea brasiliensis* Muell. Arg.) by mRNA differential display. **V. Perumal**

## Section C

Boston Convention & Exhibition Center  
Room 159

### New Perspectives on Antioxidants

J. Finley, *Organizer, Presiding*

**1:35 206.** Relating in vitro research on the antioxidant impact of crucifer components to dietary redox regulation. **E. Jeffery**

**2:05 207.** Too much of a good thing: Risk of over-antioxidation. **X. Lei**

**2:35 208.** Regulation of the iron storage protein ferritin by the antioxidant responsive element. **K. J. Hintze**

**3:20 209.** Antioxidant adaptation and signaling in response to physical exercise. **L. Ji**

**3:50 210.** Dietary antioxidants: From activating Nrf2 signaling to genomics in prevention of cancer. **A. Kong**

## **THURSDAY MORNING**

Section A

Boston Convention & Exhibition Center  
Room 160A

### **Small Wonders: Peptides for Disease Control**

K. Rajasekaran, *Organizer, Presiding*  
*Cosponsored by BIOT*

**8:35 211.** Application of small molecule microarrays in high-throughput screening of protein targets. **M. Uttamchandani**

**9:05 212.** Plant antimicrobial peptides: Thionins as nature's invention for weapons of mass protection. **S. Oard**, T. Chouljenko, N. Maiti, F. Enright

**9:50 213.** Results of a double blind randomized, multi-center phase-II clinical trial of geno pep, a topical cream in the treatment of burn wounds. **J. M. Jaynes**, V. Reddy, P. Ramesh

**10:20 214.** Effect of transgenic cotton plants transformed with antimicrobial synthetic peptide *D4E1* on cotton seedling disease, soil microbial diversity, and enzymatic activity. **L. J. Odom**, R. O. Ankumah, J. Jaynes, C. Bonsi, J. W. Cary, M. Egnin, D. Mortley, L. Ogden, K. Rajasekaran

**10:50 215.** Transformation of antimicrobial peptides from frog skin into therapeutically valuable anti-infective agents. **J. Conlon**

Section B

Boston Convention & Exhibition Center  
Room 161

### **Caffeine and Other Natural Product Stimulants**

J. Weil, *Presiding*  
E. Demejia, *Organizer*

**8:40 216.** Caffeine: Health benefits and safety concerns. **E. Gonzalez de Mejia**

**9:00 217.** On the circumstances which modify the action of caffeine: The scope of science since Runge's discovery until nowadays. **J. G. Weil**

**9:20 218.** Energy drinks: An assessment of their ingredient profile and functionality. **M. Heckman**, E. Gonzalez de Mejia

**9:40 219.** Rapid determination of pungent compounds of ginger by a combination of chromatography and vanilloid receptor (VR1) assay. **Y. Yang**, S. Liu, N. Mannava

**10:00 220.** Natural components in yerba mate tea and coffee byproducts enhance antioxidant capacity, inhibit lipid synthesis, and suppress body fat and lipogenic genes. **E. Gonzalez de Mejia**, M. Heckman

Section C

Boston Convention & Exhibition Center  
Room 159

### **Antioxidants and Health**

J. Finley, *Organizer*

**8:35 221.** Antioxidants in black rice bran. **Z. Xu**, S. Jang, X. Yue

**9:05 222.** Soybean antioxidant properties affected by food processing and *in vitro* digestion. **K. Zhou**

**9:35 223.** Health effects of natural antioxidants from the selected edible botanical materials. **L. Yu**

**10:20 224.** Catechin/Epicatechin metabolism and excretion in rats fed different berries. **R. Khanal**, S. E. Wilkes, T. J. Rogers, L. R. Howard, R. L. Prior

**10:50 225.** Antioxidant activity of lutein and its protective effects on ischemia-hypoxia injury in cultured rat cortical neurons. M. Wang, **R. Tsao**

**11:20 226.** Influence of extraction methodology on the assay of antioxidant phenolic compounds. **D. Luthria**

### **THURSDAY AFTERNOON**

Section A

Boston Convention & Exhibition Center  
Room 160A

### **Small Wonders: Peptides for Disease Control**

K. Rajasekaran, *Organizer, Presiding*  
*Cosponsored by BTEC*

**1:35 227.** NMR structural insights on the function of antimicrobial peptides. **A. Ramamoorthy**

**2:05 228.** *Synthetic antimicrobial peptides as novel pesticides for plant disease control.* **E. Montesinos**

**2:35 229.** Antimicrobial and immunomodulatory peptides for combating infections. **R. E. Hancock**

**3:20 230.** Transgenic expression of lytic peptides for elimination of mycotoxins in food and feed crops. **K. Rajasekaran**, J. W. Cary, J. M. Jaynes, D. Bhatnagar, T. E. Cleveland

**3:50 231.** *In vitro* effects of two newly designed lytic peptides LHRH conjugates on prostate cancer . **S. M. Sharp**

## Section B

Boston Convention & Exhibition Center  
Room 161

### General Papers

N. Da Costa, *Presiding*

A. Mitchell, *Organizer*

**1:35 232.** Activation energy measurements of cheese. **M. H. Tunick**

**2:00 233.** Impact of electrostatic deposition of anionic biopolymers on the stability of lactoferrin-coated oil droplets. **T. Tokle**, U. Lesmes, J. McClements

**2:25 234.** Comparison of molecular and aggregation properties of soy proteins treated with various endopeptidases. **M. J. Cho**, D. Ryan, P. Ghosh

**3:05 235.** Development of a sodium-free salt for food applications. **D. L. Holliday**, A. Prudente, J. W. Finley

**3:30 236.** Foliage extracts of conifers as potential sources for isolation of shikimic and quinic acids, precursors to Tamiflu<sup>®</sup>. **L. Gedivinne Vithanage**, B. J. Cole, R. C. Fort Jr., J. M. Genco, A. Shaffer, M. Rowe

**3:55 237.** Efficacy of *Ichthyophthirius* vaccines in channel catfish against white spot disease. **D. Xu**, P. Klesius, C. Shoemaker

## Section C

Boston Convention & Exhibition Center  
Room 159

### Antioxidants and Health

J. Finley, *Organizer*

**1:35 238.** Pterostilbene reduces colon tumor multiplicity and inflammatory markers in animal models of colon cancer. **A. M. Rimando**, S. Paul, N. Suh

**2:05 239.** Multifunctional branched gold nanoparticle for prevention of cancer cells. **P. C. Ray**

**2:35 240.** Chitosan grafted with phenolics to promote antioxidant activities. **S. B. Schreiber**, S. Zivanovic

**3:20 241.** Bioassay-guided isolation and EPR-assisted antioxidant evaluation of two valuable compounds from mango peels. **L. Jiang**, S. He, Y. Pan

**3:50 242.** Urinary excretion of phenolic acids in rats fed cranberry, blueberry, or black raspberry. **R. Khanal,** S. E. Wilkes, T. J. Rogers, L. R. Howard, R. L. Prior