SUNDAY MORNING

Boston Convention & Exhibition Center
Room 212

Phytonutrients: Thinking Beyond the "Essential" Nutrient Box

B. Burton-Freeman, I. Edirisinghe, Organizers, Presiding

8:00 Introductory Remarks.


8:35 2. Anthocyanins in the blood: Where are they going and how do they get there? J.A. Vinson, I. Alshdoukhi

9:05 3. Understanding factors that influence the bioavailability and kinetic profile of strawberry anthocyanins: A focus on meal timing and fasted-fed state status. A. Sandhu, I. Edirisinghe, B. Burton-Freeman

9:35 Intermission.

9:50 4. Absorption, distribution, metabolism, and excretion of orange juice flavanones in humans. A. Crozier

10:20 5. Cocoa flavanols – chemical nature, analysis, and fate during processing. X. Wu

10:50 6. Comparison of polyphenolics and secoiridoids in California-style black ripe olives and dry salt-cured olives using UHPLC/MS/MS. J. Zweigenbaum, E. Mellou, A.E. Mitchell

11:20 Concluding Remarks.

Bioactive Compounds from Fruits & Vegetables
8:00 Introductory Remarks.

8:05 7. Phenolic acid profiles of Fuji, Golden Delicious, Granny Smith, and Pink Lady apples. A.E. Mitchell

8:30 8. Influence of different deposition forms of carotenoids in plant foods on their bioavailability. R. Schweiggert, R. Carle


9:45 Intermission.


10:30 12. Transport and uptake of anthocyanins in gastric tissue and their effect on the gastric inflammatory response: Developing an in vitro model using the NCI-N87 gastric cell line. A. Atnip, M. Giusti, J. Bomser


Section C

Boston Convention & Exhibition Center
Room 209

Economically Motivated Food Adulteration: Interplay Between Detection, Policy, & Food Defense

J. Moore, P. F. Scholl, Organizers, Presiding

8:00 Introductory Remarks.

8:05 14. Olive oil authenticity and adulteration: Analytical tools and standards. R. Cantrill

8:35 15. USP skim milk powder advisory group: The development of a toolbox of methods to detect food adulteration. R.L. Magaletta, J.C. Moore


9:35 Intermission.

9:45 17. Meat fraud and speciation: From vulnerability assessment to analytical methods. G. Cottenet

10:45 19. Honey adulteration: Methods currently applied in the routine control of commercial samples, analytical challenges, legal and regulatory aspects. L. Elflein

11:15 Concluding Remarks.

SUNDAY AFTERNOON

Section A

Boston Convention & Exhibition Center
Room 212

Phytonutrients: Thinking Beyond the "Essential" Nutrient Box

B. Burton-Freeman, I. Edirisinghe, Organizers, Presiding

1:00 Introductory Remarks.

1:05 20. Is volunteer stratification necessary in clinical trials with phenolic phytochemicals? F. Tomas-Barberan

1:35 21. Predicting the mechanism of anthocyanin-induced insulin sensitization with molecular modeling. D. Minh

2:05 22. Grape seed extract authentication. M.A. Kelm, S. Kupina, A. Shrikhande

2:35 Intermission.

2:50 23. Proanthocyanidins and gut barrier function. J.D. Reed, C.G. Krueger

3:20 24. Anthocyanin metabolism and transport across the blood brain barrier. P.E. Milbury

3:50 Concluding Remarks.

Section B

Boston Convention & Exhibition Center
Room 213

Bioactive Compounds from Fruits & Vegetables

C. Osorio Roa, F. Tomas-Barberan, Organizers
L. Cisneros-Zevallos, Organizer, Presiding

1:00 Introductory Remarks.

1:05 25. Bioactive compounds for cancer prevention and health aging. R.H. Liu


2:45 Intermission.

3:05 29. Antioxidant and antiinflammatory activity of protein hydrolysates from germinated black bean cotyledons. **L. Lopez-Barrios**

3:30 30. Potential antimicrobial and anticarcinogenic properties of *Rhoeo discolor* (*Tradescantia spathacea*) extracts. **R. Garcia-Varela**

Boston Convention & Exhibition Center
Room 209

**Economically Motivated Food Adulteration: Interplay Between Detection, Policy, & Food Defense**

J. Moore, P. F. Scholl, *Organizers, Presiding*

1:00 Introductory Remarks.


1:40 32. Using fraud history to inform food fraud vulnerability assessments. **J.C. Moore**, K. Everstine

2:15 Intermission.


3:00 34. You can't test your way to safety. **S. Kennedy**

3:35 Concluding Remarks.

Boston Convention & Exhibition Center
Room 51

**Modern Perspectives on Oxidation: Flavor Consequences in Foods & Beverages**

K. Tandon, *Organizer*
R. Elias, *Organizer, Presiding*
1:00 Introductory Remarks.


1:55 37. Unravelling chemical pathways for wine aging: Role of quinones as intermediaries on wine oxidation as “Strecker degradation reagents”. A.C. Silva Ferreira, C. Oliveira, A. Monforte, A. Silva

2:20 38. Changes to oat secondary lipid oxidation products as a function of initial moisture content. M.J. Morello, T. Rakofsky

2:45 39. Complications of analyzing acetaldehyde as a wine oxidation product. A.L. Waterhouse, A. Peterson

3:10 Concluding Remarks.

MONDAY MORNING

Section A

Boston Convention & Exhibition Center
Room 212

Complex Coacervation: Principles & Applications

Cosponsored by COLL‡
P. L. Dubin, S. L. Perry, Organizers, Presiding

8:00 Introductory Remarks.

8:05 40. Complex coacervation: Principles and simple theories. R. de Vries

8:45 41. Polyelectrolyte complex-coacervate continuum. J.B. Schlenoff, Q. Wang

9:15 42. Electrostatic complexes between (bio)polyelectrolytes and nanoparticles. Effect of the chain persistence length over particle diameter ratio. F. Boue

9:45 Intermission.

10:10 43. Multivalent counterion-induced bridging of polyelectrolyte chains. B.K. Brettmann, N. Laugel, P. Pincus, M.V. Tirrell

10:30 44. New opportunities for complex coacervation control exposed by bridging the gap between two classical models. C.E. Sing, M. Radhakrishna

11:00 45. Complex coacervates for enzyme encapsulation and stabilization. B.D. Olsen, A. Obermeyer, C. Mills, X. Dong, W. Shi
11:30 46. Effect of multivalent ions on hydrated polyelectrolyte multilayers. **D. Reid**, A. Kavarthapu, J.L. Lutkenhaus

Boston Convention & Exhibition Center
Room 213

Bioactive Compounds from Fruits & Vegetables

L. Cisneros-Zevallos, C. Osorio Roa, Organizers
F. Tomas-Barberan, Organizer, Presiding

8:00 Introductory Remarks.

8:05 47. Characterization of the activity of dietary organosulfides from vegetables as natural donors of hydrogen sulfide in cell line model. **D. Huang**, D. Liang, C. Wang, H. Wu, R. Tocmo

8:30 48. Characterization of tomato volatiles by headspace-solid-phase micro extraction. **G. Jayaprakasha**, B. Patil

8:55 49. Bioactives from berries and their by-products. **F. Shahidi**

9:20 50. Establishing biochemical justification for the value of fruit pomace a path from discovery to application. **J.W. Finley**

9:45 Intermission.

10:05 51. Organic resveratrol: Natural occurrence and sunlight phototransformations. **A.A. Gakh**, A. Sosnov

10:30 52. Preservation of anthocyanins in solid lipid nanoparticles: Optimization of microemulsion dilution method by Placket Burman and Box Behnken design. **R. Ravanfar**, A. Tamadon, **M. Niakousari**, M. Moein


11:20 Concluding Remarks.

Section C

Boston Convention & Exhibition Center
Room 209

Food Toxicants Formed During Food Processing & Storage

S. Wang, L. L. Yu, Organizers, Presiding

8:30 54. Reactive carbonyl species: Will they be the next food safety issue? **C. Ho**

9:05 55. Formation and reduction of furan in various food model systems. J. Her, M. Kim, **K.G. Lee**
9:40 56. Influence of California-style black ripe olive processing methods on acrylamide formation. A.E. Mitchell

10:15 Intermission.

10:30 57. Free radical mediated 3-MCPD fatty acid ester formation and the potential catalytic effect of Fe. Z. Zhang, B. Gao, X. Zhang, H. Shi, L.L. Yu


Section D

Boston Convention & Exhibition Center
Room 211

Metabolites & Metabolomics of Food Bioactives & Influence of Gut Microbiota: Chemistry and Health Effects

S. Sang, F. Shahidi, Organizers, Presiding

8:00 Introductory Remarks.

8:05 59. Food phenolics, their bioactivities, and their metabolites. F. Shahidi

8:40 60. Interplays between microbiota and plant bioactives. C.O. Chen

9:15 61. 2-Way interaction of dietary polyphenols with gut microbiota and effects on human health. F. Tomas-Barberan

9:50 Intermission.


10:45 63. Metabolism of oat avenanthramides by gut microbiota. S. Sang, P. Wang, H. Chen

MONDAY AFTERNOON

Section A

Boston Convention & Exhibition Center
Room 212

Complex Coacervation: Principles & Applications

Cosponsored by COLL‡
P. L. Dubin, Organizer
S. L. Perry, Y. Wang, Organizers, Presiding

1:15 Introductory Remarks.
1:20 64. Artificial cells in picoliter droplets. W. Huck

1:50 65. Biomimetic microcompartmentalization by aqueous phase separation. C.D. Keating


2:50 Intermission.

3:15 67. Design and construction of higher-order structure and function in coacervate-based protocells. S. Mann


4:45 70. Coacervation of mussel-inspired zwitterionic adhesives. H. Waite, B. Ahn

Section B

Boston Convention & Exhibition Center
Room 213

Chemistry, Composition & Analysis of Dietary Supplements

M. Sucan, Organizer
K. Goodner, Y. Kim, Organizers, Presiding

1:00 Introductory Remarks.

1:05 71. Heavy metals and aflatoxins in various herbal medicines and health functional foods. K.G. Lee

1:25 72. Reactions between polyphenolic dietary supplements and other biomolecules dictate bioactivity, bioavailability and analysis. A.E. Hagerman

1:45 73. Rosemary: From nature to table. M. Jordan, C. Martinez-Conesa, S. Bañon, J. Sotomayor

2:05 74. Simple UPLC–MS to monitor the presence of pomegranate in pomegranate juices. C. Mathon, A. Green, C.K. Larive

2:25 Intermission.


3:00 76. Facile synthesis and characterization of curcumin metformin adduct: Potentially important gamma-secretase inhibitor for Alzheimer disease. B. Dayal

3:20 77. Coffee-based dietary supplements contain kaurane diterpenoid glycosides inhibiting adenine nucleotide translocase in mitochondria and reduce respiration. R. Lang, T. Fromme, A. Beusch, T. Lang, M. Klingenspor, T. Hofmann
3:40 78. Multivitamin and mineral supplements: An overview of key product issues. E.T. Finocchiaro

4:00 Concluding Remarks.

Section C

Boston Convention & Exhibition Center
Room 209

Food Toxicants Formed During Food Processing & Storage

S. Wang, L. L. Yu, Organizers, Presiding

1:00 79. Generation of reactive oxidative species during thermal and UV processing of sugars. R.V. Tikekar

1:35 80. Lipid oxidation as a source of diverse food toxicants. B.E. De Meulenaer

2:10 81. Evaluation of temperature effect on the concentration levels of polycyclic aromatic hydrocarbons (PAHs) in edible vegetable oil. O.S. Olatunji, B.O. Opeolu, O.S. Fatoki, B.J. Ximba

2:45 Intermission.

3:00 82. Effects of thermal and high pressure processing on chemical migration in food contact polymers. J.L. Koontz, Y. Song, Y. Zhou, K. Pillai, K. Zhao, R.O. Juskelis

3:35 83. FDA update on acrylamide, furan, and other processing toxicants. L. Jackson

Section D

Boston Convention & Exhibition Center
Room 211

Metabolites & Metabolomics of Food Bioactives & Influence of Gut Microbiota: Chemistry and Health Effects

S. Sang, F. Shahidi, Organizers, Presiding

1:00 84. Metabolic and colonic microbiota transformation may alter the bioactivities of dietary food bioactives. C. Ho, M. Pan, F. Shahidi

1:35 85. Metabolites of wheat phytochemicals as the exposure biomarkers of whole grain wheat intake. Y. Zhu, S. Sang

2:10 86. Gastrointestinal biotransformation of resveratrol and pterostilbene in mice. Y. Sun, M. Song, F. Li, Y. Cao, H. Xiao

2:45 Intermission.

**3:40 88.** Are anthocyanins PPARα agonists? **A.M. Rimando**, S. Khan, C. Mizuno, G. Ren, S. Mathews, H. Kim, W. Yokoyama

**4:15 Concluding Remarks.**

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**Boston Convention & Exhibition Center**
**Halls A/B1**

**Complex Coacervation: Principles & Applications**

Cosponsored by COLL‡

P. L. Dubin, S. L. Perry, *Organizers, Presiding*

**12:00 - 2:00**

**89.** Effect of supercharging on coacervation between proteins and polyelectrolytes. **A. Obermeyer**, C. Mills, X. Dong, B.D. Olsen

**90.** Effect of charge patterning on polypeptide-based complex coacervation. **L. Chang**, S.L. Perry


**92.** Polypeptide complexation: From bulk coacervates to nanoscale assemblies. **D. Priftis**, L. Leon, K.O. Margossian, A. Tropnikova, M.V. Tirrell

**93.** Polyelectrolyte complex formation in acetone-water mixture. **H. Acar**, S. Srivastava, D. Priftis, J. Cabaral, M.V. Tirrell

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**Undergraduate Research Posters**

**Agricultural and Food Chemistry**

Sponsored by CHED, Cosponsored by AGFD and SOCED

**MONDAY EVENING**

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**Boston Convention & Exhibition Center**
**Hall C**

**Sci-Mix**

B. Park, *Organizer*

**8:00 - 10:00**
26, 30, 57. See previous listings.


The Future of Innovation Now
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TUESDAY MORNING

Section A
Boston Convention & Exhibition Center
Room 212

Complex Coacervation: Principles & Applications
Cosponsored by COLL‡
S. L. Perry, Organizer
P. L. Dubin, S. Mann, Organizers, Presiding

8:00 Introductory Remarks.

8:05 94. Chirality-selected phase behavior in complexes of ionic polypeptides. M.V. Tirrell


9:05 96. Self-assembled nanostructures from block copolymers for biomedical application. Y. Anraku

9:35 Intermission.

10:00 97. Beyond elastin: New peptide olymers that exhibit aqueous coacervation. A. Chilkoti

10:30 98. Directing encapsulated stem cell fate via in situ forming, growth factor-loaded coacervate microparticle-embedded hydrogels. E. Alsberg, O. Jeon

11:00 99. Coacervates of ionic polysaccharides for tissue engineering. O. Karabiyik, E. Kilic Iyilik, G. Kose, A.B. Kayitmazer

11:30 100. Complex coacervates as protein delivery vehicles: Preserved activity, controlled release rate, and in vivo efficacy. N. Johnson, W. Chen, Y. Wang

Section B
Boston Convention & Exhibition Center
Room 213

Browned Flavors: Analysis, Formation, & Physiology
P. H. Schieberle, **Organizer**  
M. Granvogl, D. G. Peterson, **Organizers, Presiding**

8:00 Introductory Remarks.

8:05 101. Using real time measurement of galvanic electrode potentials to clock the course of Maillard reactions. **G.P. Rizzi**

*(Michael Granvogl will present) 8:35 102. Different reaction pathways generate aroma-active amino acid degradation products during fermentation, roasting and eating of cocoa. **P.H. Schieberle***

9:05 103. On the role of Amadori-rearrangement products as precursors of aroma-active Strecker aldehydes in cocoa. **S. Hartmann**, P. Schieberle

9:35 Intermission.

9:55 104. Formation of Strecker aldehydes and biogenic amines as a consequence of carbonyl-amine reactions initiated by oxidized lipids. R. Zamora, M. Leon, **F.J. Hidalgo**


10:55 Concluding Remarks.

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Section C

Boston Convention & Exhibition Center  
Room 209

**Food Toxicants Formed During Food Processing & Storage**

S. Wang, L. L. Yu, **Organizers, Presiding**

8:30 106. Improved detection methods for food toxin with nanotechnology. **B. Park**, B. Wang, B. Xu

9:05 107. Lipid rafts may involve in TFA-induced apoptosis and inflammation of human umbilical vein endothelial cells. **Z. Deng**, H. Rao, B. Qiu, B. Liu, J. Li


10:15 Intermission.

10:30 109. Stable isotope labeling experiments - a useful tool to identify formation pathways of food-borne toxicants. **M. Granvogl**


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Section D
Recovery of Bioactive Compounds from Processing By-Products

S. Talcott, Organizer
L. Howard, Y. Kim, Organizers, Presiding

8:00 Introductory Remarks.


8:35 112. Extraction and analysis of high-value compounds in agricultural and forest byproducts using water, ethanol, and carbon dioxide at elevated temperature and pressure as solvents. V. Abrahamsson, S. Al-Hamimi, F. Jumaah, J. Liu, M. Plaza, M. Sun, M. Sandahl, C. Turner

9:05 113. Components responsible for the functional properties of corn fiber gum. M.P. Yadav

9:35 Intermission.


10:25 115. Pressurized liquid sequential and direct extraction of phytochemicals from Dancy tangerines for their comprehensive characterization by LC–DAD–ESI–HR–MS. G. Jayaprakasha, B. Patil


International Entrepreneurship: How To Start a Business and Thrive in the Global Marketplace

Sponsored by IAC, Cosponsored by AGFD, AGRO, BMGT, CARB, CELL, INOR, MEDI, ORGN, POLY, PRES‡, PROF and SCHB

Current Topics in Chemical Safety Information

Use Cases for Chemical Safety Information

Sponsored by CHAS, Cosponsored by AGFD, CCS, CHED and CINF‡

Journal of Agricultural and Food Chemistry Best Paper Awards

Sponsored by AGRO, Cosponsored by AGFD‡
TUESDAY AFTERNOON

Section A

Boston Convention & Exhibition Center
Room 251

Complex Coacervation: Principles & Applications

Cosponsored by COLL‡
P. L. Dubin, S. L. Perry, Organizers, Presiding

1:15 Introductory Remarks.

1:20 117. Interaction/coacervation between food proteins: Mechanisms and potential application. S. Bouhallab, G. Tavares, A. Chapeau, P. Hamon, T. Croguennec

1:50 118. Assembly of protein/polysaccharide complexes-based Pickering emulsions for nutraceutical delivery. Q. Huang


2:50 Intermission.


3:45 121. Complex coacervation with oppositely charged polymer and surfactant: Determination factor in the morphology of coacervated complexes during the dilution process. M. Miyake


4:45 123. Study of complex coacervation of gelatin A with sodium carboxymethyl cellulose/sodium alginate/carrageenan: Formation of smart microparticles and encapsulation. N. Devi, T. Maji, D. Kakati

Section B

Boston Convention & Exhibition Center
Room 213

Browned Flavors: Analysis, Formation, & Physiology

M. Granvogl, Organizer
D. G. Peterson, P. H. Schieberle, Organizers, Presiding

1:00 Introductory Remarks.
1:05 124. Variation in Maillard reaction product formation in oats from 13 cultivars. **M.J. Morello, B.C. Vastano**

*(Eva Ortner will present)* 1:35 125. Characterization of key aroma-active compounds in raw and roasted mustard seeds (*Sinapis alba* L.). **M. Granvogl, E. Ortner, P.H. Schieberle**


2:35 Intermission.

2:55 127. Formation of reactive fragmentation products during Maillard degradation of higher sugars. **M.A. Glomb, M. Smuda, C. Henning**


3:55 Concluding Remarks.

Section C

Boston Convention & Exhibition Center
Room 209

**Young Scientist Award Symposium**

C. J. Brine, *Organizer, Presiding*

1:00 Introductory Remarks.

1:05 129. Development and applications of surface-enhanced Raman spectroscopy in food science. **L. He**

1:35 130. Primary expectations of secondary metabolites. **J. Lee**

2:05 131. Concentration of propolis extract using hydrophobic membrane. **C. Leo**

2:35 Intermission.


3:20 133. High-resolution mass spectrometry for the exploration of novel plant sterol conjugates. **L. Nystroem**


4:20 Concluding Remarks.

Section D

Boston Convention & Exhibition Center
Room 211
Recovery of Bioactive Compounds from Processing By-Products

S. Talcott, Organizer
L. Howard, Y. Kim, Organizers, Presiding

1:00 Introductory Remarks.

1:05 135. Recovery and development of value-added applications of fruit juice processing byproducts. Y. Zhao

1:35 136. Eco-innovative polyphenol extraction using subcritical water from red and white pomace, coupled with purification by membrane processes. S. Yammine, X. Vitrac, R. Rabagliato, M. Mietton Peuchot, R. Ghidossi

2:05 137. Incorporation of pressurized fluid technology in the recovery of bioactive constituents from pomace processing wastes. J.W. King, L. Howard

2:35 Intermission.

2:55 138. Physicochemical challenges to recover polyphenolics from Concord grapes skins. S. Talcott


Boston Convention & Exhibition Center
Room 212

AGFD Division Award: Symposium in honor of Dr. Andrew Taylor

K. D. Deibler, Organizer, Presiding

1:00 Introductory Remarks.

1:10 140. Acrylamide – a challenge to food scientists in industry and academia. D.S. Mottram

1:35 141. 2,5-Diketopiperazines – interesting markers of reaction or compounds with sensory and bioactive properties? N.C. Da Costa, M.Z. Chen

2:00 142. On-line aroma monitoring with mass spectrometry and link to flavor release and flavor perception. J. Le Quere

2:25 Intermission.

2:40 143. Separation and concentration of trace high-impact odorants using multidimensional gas chromatography-mass spectrometry-olfactometry with integrated preparative fraction collection. L. Jones, K. Chu, B. White, A. Ward

3:05 144. Encapsulation, multimodal perception, and its applications. G. Reineccius


4:20 Concluding Remarks.

Section F

Boston Convention & Exhibition Center
Halls A/B1

**Complex Coacervation: Principles & Applications**

Cosponsored by COLL‡
P. L. Dubin, S. L. Perry, *Organizers, Presiding*

1:00 - 3:00


148. Thermal transition in polyelectrolyte complexes via LCST mechanism. E. Yildirim, Y. Zhang, R. Zhang, J.L. Lutkenhaus, **M. Sammalkorpi**

149. Polyelectrolyte complexes of DNA and polypeptides. **M.J. Lueckheide**, L. Leon, J. Vieregg, M.V. Tirrell

150. Complexation of linear poly(ethylene imine)/poly(acrylic acid) and branched poly(ethylene imine)/metal ions: The effect of ionic strength, molar ratio, and pH. **H. Zhang**, N. Zacharia

151. Hydrogen bonded polymer complexes with hydrophobic associations. Y. Gu, R.A. Weiss, **N. Zacharia**

Section F

Boston Convention & Exhibition Center
Halls A/B1

**General Posters**

B. Park, *Organizer*

3:00 - 5:00

152. Mineral nutrient profile of orange juice. **M. Azik**, D. McLean

153. Residual effects of low and/or high temperature treatment at mature green stage on volatile production of tomatoes at following ripeness stages. L. Wang, B. Elizabeth, A. Plotto, J. Brecht, Z. Yu, **J. Bai**

154. Use of foliar fungicide spray for control of HLB-related pre-harvest fruit drop. W. Zhao, **J. Bai**, G. McCollum, T. Gottwald, A. Plotto, B. Elizabeth


157. Improvements in the measurement of chlorophyllloids in soybean oil. A.C. Litin, D.D. Brooks


159. Effects of home-based preparation approaches in determining the release of bioactivity compounds in fruits and vegetables. B. Gao, L. Yu, T.T. Wang, L.L. Yu

160. Determination of the heavy metals in the health functional foods by inductively-coupled plasma/atomic emission spectrometry. J. Hong, C. Lim, Y. Chang, C. Lim, T. Kang


162. Antimicrobial peptide segments from soy protein for use in food safety. N. Xiang, Y. Lyu, A. Bhunia, G. Narsimhan

163. Flavonol glycosides in wild and cultivated berries of two major subspecies of sea buckthorn and influence of growth sites. X. Ma, O. Laaksonen, H. Kallio, B. Yang

164. Flavonol glycosides in leaves of different varieties of black currant, green currant, red currant, white currant and changes of growing season, growth location, leaf position. W. Yang, H. Kallio, B. Yang


175. Adulteration and its detection of black raspberry products. J. Lee

176. Effect of fresh and commercially processed orange juice on the oxidative status in healthy humans. J.Q. Silveira, T.B. Cesar, A.M. Nasser, J.A. Manthey, B. Elizabeth


178. Development of lecithin emulsion gel to enhance the oral bioaccessibility of nobiletin. Y. Ting, Y. Pan, Q. Huang


180. In-vitro digestion properties of Pickering emulsions stabilized by starch nanocrystals. R. Liang, Y. Jiang, C. Yang


184. Combination of pre-column nitro-reduction and ultraperformance liquid chromatography with fluorescence detection for the sensitive quantification of 1-nitronaphthalene, 2-nitrofluorene, and 1-nitropyrene in meat products. K. Deng, W. Chan


186. Preparation and rheological characterization of food grade gellan hydrogels with calcium ions as gelling agent. E.N. Ambebila


188. Development and validation of analytical method of furan in seven different types of food matrices using SPME-GC/MS. Y. Seok, S. Jeong, J. Her, K.G. Lee

189. Analytical advances in food-technology by establishment of a 14-C food –technology lab and kitchen. M. Kotthoff, M. Bücker


192. Interaction between caseinophosphopeptides and theaflavin-3,3’-digallate and its impact on the antioxidant activity of theaflavin-3,3’-digallate. **Y. Jiang**, Y. Ting, J. Li, Q. Huang

193. Micronanopores in diatomite fabricated by high energy electron beam and hydrothermal treatment to control the loss of pesticide. **X. Zhang**, Z. Wu


196. Spectrofluorimetric study of the interaction of the mycotoxin citrinin with gold nanoparticles. **M. Appell**, W. Bosma

197. Inhibitory effects of edible berry extracts on the formation of advanced glycation endproducts. **H. Ma**, W. Liu, J.A. Dain, N.P. Seeram


203. 3’-Hydroxypterostilbene simultaneously induces apoptosis and autophagy in human prostate cancer cells. **H. Tsai**, T. Huang, C. Ho, **Y. Chen**

204. Evaluating Raman spectroscopic data by using principal component analysis to determine the freshness of fish samples. **H. Temiz**, H.M. Velioglu, I.H. Boyaci


206. Effects of KCl substitution on textural properties of Queso Fresco. **M.H. Tunick**

207. Biological activities of diterpenoids from *Hyptis verticillata*. **R.B. Porter**

208. Study of the encapsulation of aroma compounds from starch emulsions by reversed flow gas chromatography (RFGC). **J. Kapolos**, A. Koliadima, G. Karaiskakis
209. Stereochemical determination of methamidophos and ruelene, organophosphorus compounds. M.C. Chiu, K. Tami, C. Kinahan, A. Ng, G. Proni

210. Analysis of carcinogenic 4(5)-methylimidazole in various commercially available foods and beverages. S. Lee, J. Her, M. Jung, K.G. Lee

211. Metabolic exploration about blueberry, raspberry, and blackberry. W. Kim, J. Pyo, J. Her, K.G. Lee

212. Formation and reduction of furan in soy sauce (ganjnag) according to the time of addition of food additives. M. Kim, J. Her, J. Lee, K.G. Lee

213. Validation of an analytical method for quantification of Benzo(a)pyrene in two different types of food matrices using GC/MS. S. Park, J. Jeong, J. Her, K.G. Lee

214. Formation and reduction of ethyl carbamate in soybean paste (Doenjang) model system. S. Lee, H. Song, J. Her, K.G. Lee

215. Development of an analytical method for quantification of biogenic amines in fermented soybean paste (Doenjang). Y. Kim, J. Lee, J. Her, K.G. Lee

216. Oil lipolysis process controlled by formation of Pickering emulsion. W. Jin, Y. Jiang, B. Li, Q. Huang

217. Use of fat compost from dairy industry wastewater as a new organic amendment for pepper (Capsicum annuum L.) crop. M. Fiasconaro, M. Lovato, C. Martin

218. Anti-inflammatory effect of resveratrol metabolite, δ-viniferin, on LPS-stimulated murine macrophage. P. Hsieh, M. Pan, C. Ho


220. Characterization and quantification of flavonoids and organic acids throughout fruit development in American cranberry (Vaccinium macrocarpon) using HPLC and APCI-MS/MS. Y. Wang, J. Johnson-Cicalese, A.P. Singh, N. Vorsa

221. Flavor chemical analysis of shrimp from near-shore Louisiana Gulf Coast estuaries. K.H. Driggers

222. Time-resolved determination of physicochemical quantities for physically adsorbed or chemisorbed aroma compounds on starch granules, by inverse gas chromatography. A. Koliadima, J. Kapolos, G. Karaiskakis

223. Early detection of milk spoilage via volatile organic compound analysis using multidimensional gas chromatograph/mass spectrometry. K. Rochford


226. New active packaging film from natural resources. A. Machado
227. Development of a novel biomagnetic separation method for rapid detection of *Escherichia coli* by phage display technique. **Z. Wang**

228. Withdrawn.

229. Synthesis of quinolactacide, penicinoline, penicintoam, and their analogs as potential insecticides. S. Rasapalli, **R. Mastroli**


231. Studies on the discovery of agriculturally active compounds from marine endophytic fungi. **H. Sun**, C. Wang, Q. Song, Y. Tang, Y. Xia

232. Study of vitro digestion on desiccated coconut. H. Wu, **J. Xiong**, J. Ye

233. Quantitation of chiral heterocyclic key aroma compounds in cooked *Alliaceae* varieties using a stable isotope dilution assay. **M. Flaig**, M. Granvogl, P.H. Schieberle


236. Alkaloid profiles of hairy root cultures of Catharanthus roseus differ when generated by different strains of Agrobacterium rhizogenes. **J. de la Parra**, N. Rizvi, R.A. Kautz, P. Wang, R. Giese, C.W. Lee-Parsons

237. Ensuring coffee freshness in portioned coffee system. L. Poisson, S. Legrand, Y. Wyser, **F. Mestdagh**, B. Folmer, J. Kerler


239. Analysis of lipid transfer proteins in Arabidopsis thaliana by means of epitope tags to decipher the role of LTP4's lipid in plant senescence. **J. Bautista**

240. Identifying T-DNA insertion site in Arabidopsis thaliana LTP-4 and LTP-3 mutants by thermal asymmetric interlaced PCR (TAIL-PCR). **I. Santana**, J. Ortiz, R.L. Vellanoweth

241. Capillary electrophoresis coupled with inductively-coupled plasma mass spectrometry as an analytical tool for arsenic speciation in rice. **H. Qu**, T. Mudalige, S. Linder


250. Metal oxide gas sensor array combined with a miniaturized gas chromatographic system for fast detection of volatile quality indicators. **M. Kotthoff, M. Bücking**, J. Bruckert, M. Bauersfeld, J. Wöllenstein


255. Determination of microbial volatile organic compounds patterns from virulent and hypovirulent *Cryphonectria parasitica* isolates by headspace-SPME-GC-MS. **J. She**, M. King, B. Stokes, Y. Jiang, R. Baird, T.E. Mlsna


258. Innovative microwave-assisted procedure for the extraction and purification of policosanols from beeswax. **V. Brighenti**, A. Chiossi, A. Venturelli, F. Pellati


261. Stabilization of whey protein isolate (WPI) by sugar beet pectin (SBP) through a Maillard-type reaction in solution. **P.X. Qi**, Y. Xiao

263. Rechargeable antimicrobial N-halamine coatings for food contact surfaces. L.J. Bastarrachea, J.M. Goddard

264. Sodium diffusion in potatoes. J.K. Pandya, A. Kinchla

265. Determination of furan levels in commercial orange juice products and its correlation to the sensory and physiochemical characteristics. M. Kim, M. Kim, K.G. Lee

266. Optimization of essential oils properties by enzymatic modification of their chemical composition: Toward sustainable processes for the production of new fragrant ingredients. S. Antoniotti

267. Analytical chemistry, formation, reduction, chemoprevention, and in vivo exposure of acrylamide. Y. Zhang


269. Differentiation of red Port wines categories according to their volatile carbonyl compounds. N. Moreira, I. Vasconcelos, F. Rogerson, P. Guedes de Pinho

270. Influence of plant-based protein diet on orange-spotted grouper (Epinephelus coioides) white muscle proteome profile. Y. Ko, C. Liou, F. Huang, B. Kazlowski, S. Shu, Y. Tan, Y. Luo, I. Sie

International Entrepreneurship: How To Start a Business and Thrive in the Global Marketplace

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WEDNESDAY MORNING

Section A

Boston Convention & Exhibition Center
Room 212

Challenges in Applied Flavor Sciences

L. Jones, J. W. Marshall, A. J. Taylor, Organizers, Presiding

8:00 Introductory Remarks.

8:10 271. Food’s combinatorial odor codes – new knowledge on how nature recruits volatiles to make our foods smell so good. A. Dunkel, M. Steinhaus, M. Kotthoff, B. Nowak, D. Krautwurst, P. Schieberle, T. Hofmann


9:30 Intermission.


10:20 275. From model food to real food systems: Advances and challenges in relating sensory measurements to in vivo flavor release. J. Le Quere, E. Guichard, P. Schlich


(Withdrawal) 11:10 277. Using in vivo analytical techniques to screen for masking and enhancing solution and to understand flavor interactions on compound level in a complex food flavor system. C. de Jong, A. Villiere, L. Lethuaut, C. Prost

Section B

Boston Convention & Exhibition Center
Room 213

Browned Flavors: Analysis, Formation, & Physiology

D. G. Peterson, P. H. Schieberle, Organizers
M. Granvogl, Organizer, Presiding
V. Somoza, Presiding

8:00 Introductory Remarks.

8:05 278. Covalent polyphenol-protein interactions – challenges and research needs. S. Rohn

8:35 279. Do dietary Maillard reaction products play a role in the progression of noncommunicable diseases? V. Somoza, A. Holik

9:05 280. Kinetic modeling of acrylamide formation during the finish-frying of french fries with variable sugar content. D.P. Balagiannis, J.K. Parker, J. Higley, T. Henson, G. Smith, B.L. Wedzicha, D.S. Mottram

9:35 Intermission.

9:55 281. Producing low acrylamide risk potatoes: A three-year public/private sector collaborative project focused on genetics, agronomy, and storage. N. Halford

10:25 282. Flavor and Acrylamide Formation. J.S. Elmore


11:25 Concluding Remarks.

Section C

Boston Convention & Exhibition Center
Room 209
Environmental Effect on Plant Volatile Formation & Nonvolatile Composition

M. C. Qian, A. M. Rimando, Organizers, Presiding

8:25 Introductory Remarks.

8:30 284. Impact of water deficit on volatile composition of grapes and wine. M.C. Qian, K. Shellie

8:55 285. Influence of sunlight exposure on Pinot noir grape and wine volatile composition. M.C. Qian, F. Yuan

9:20 286. Not your ordinary terreir - the role of pathogenesis related proteins (PRPs) in limiting tannin extraction across winegrape varieties and regions. L.F. Springer, G.L. Sacks

9:45 Intermission.


10:50 289. Postharvest practices to alleviate flavor loss of tomatoes under current marketing systems. J. Bai, B. Elizabeth, A. Plotto, L. Wang


WEDNESDAY AFTERNOON

Boston Convention & Exhibition Center
Room 212

Challenges in Applied Flavor Sciences

L. Jones, J. W. Marshall, A. J. Taylor, Organizers, Presiding

1:00 291. Flavour formation in skimmed milk powder in a low-moisture model system. A. Stewart, A. Ryan, A. Grandison, J.K. Parker

1:20 292. Use of gas chromatography with quadrupole time-of-flight mass spectrometry (GC/Q-ToF) to compare odor formation in meat and model meat systems following the addition of precursor flavors. L. Jones, J. Addison, N. Hawkins, K. Ridgway


2:20 295. 1-p-Menthen-8-thiol, the grapefruit character impact volatile, is a thermally generated artifact in citrus juices. F. Jabapurwala, J. Lin, **R.L. Rouseff**

2:40 Intermission.

3:00 296. Chiral mono-terpene profile in Pinot Gris and Riesling wines determined by head phase-solid phase micro-extraction-multidimensional gas chromatography-mass spectrometry (HS-SPME-MDGC-MS). M. Song, Y. Xia, **E. Tomasino**

3:20 297. Understanding the effects of ethanol-flavor interactions on flavor perception in alcoholic beverages. **C. Ickes**, K.R. Cadwallader

3:40 298. Enantiomeric analysis of volatile chiral compounds in ready-to-drink tea beverages during storage using multidimensional gas chromatography. **F. He**, Y.L. Qian, M.C. Qian

4:00 299. Changes in the key aroma compounds of Shiitake and Oyster mushrooms induced by a thermal treatment. **P. Schmidberger**, P. Schieberle

Section B

Boston Convention & Exhibition Center
Room 213

Chemistry and Bioactivities of Natural Polymethoxyflavones

C. Ho, **Organizer**
S. Li, M. Pan, **Organizers, Presiding**

1:00 Introductory Remarks.

1:05 300. Molecular mechanisms of disease chemoprevention by polymethoxyflavones. **M. Pan**, C. Lai, C. Lo, S. Li, C. Ho

1:30 301. Lipid-lowering activity of citrus polymethoxylated flavones is mediated by down-regulation of lipogenic genes. **Z. Chen**, L. Lei

1:55 302. Citrus polymethoxyflavones and monodemethylated polymethoxyflavones inhibit adipogenesis in 3T3-L1 adipocytes. S. Lin, P. Chen, M. Pan, S. Li, C. Ho, **C.Y. Lo**

2:20 303. Anti-adipogenesis effect of 5-demethylnobiletin and its acetylated derivative in 3T3-L1 preadipocyte model. **Y. Tung**, G. Wei, S. Li, M. Pan, C. Ho

2:45 Intermissions.

3:00 304. Polymethoxyflavones from aged orange peels: Extraction, formulation, and bioefficacy. **Q. Huang**

3:25 305. Molecular characterization of the interactions between polymethoxyflavones and kappa casein. **C. Ma**, H. Xiao, L. He

Section C

Boston Convention & Exhibition Center
Room 209

Environmental Effect on Plant Volatile Formation & Nonvolatile Composition

M. C. Qian, A. M. Rimando, Organizers, Presiding

1:15 Introductory Remarks.


1:45 308. Effect of growing environment on the characteristics of soybeans for food uses. S.K. Chang, S. Meng


2:35 Intermission.


3:15 311. Fresh ginger vs. dry ginger: The impact of temperature on the bioactive components in ginger. S. Sang

3:40 312. Differentiating organic and conventional oregano using ultraperformance liquid chromatography mass spectrometry (UPLC-MS), headspace gas chromatography with flame ionization detection (headspace-GC-FID), and flow injection mass spectrum (FIMS) fingerprints combined with multivariate date analysis. B. Gao, W. Lu, L.L. Yu

Section D

Boston Convention & Exhibition Center
Room 211

General Papers

B. Park, Organizer, Presiding

1:00 Introductory Remarks.

1:30 314. Electrospun water soluble nanofibers for dehydration and storage of bacteriophage for decontamination of agricultural water. C. Koo, S.R. Nugen

1:55 315. Withdrawn.


3:10 Intermission.

3:25 318. Is our salad safe? Efficacy of disinfection techniques to decontaminate spinach leaves and reduce cross-contamination. N. Kinsinger, S.L. Walker

3:50 319. Authentic milk powder variance study and detection of melamine adulteration using Raman spectroscopy and chemometrics. S. Karunathilaka, S. Farris, M. Mossoba, B.J. Yakes

4:15 320. Thermal dependence of riboflavin photodegradation in amorphous sucrose matrices. Y.L. Wang, M. Corradini, R.D. Ludescher


5:05 Concluding Remarks.

THURSDAY MORNING

Section B

Boston Convention & Exhibition Center
Room 213

Chemistry and Bioactivities of Natural Polymethoxyflavones

M. Pan, Organizer
C. Ho, S. Li, Organizers, Presiding

8:00 322. Neuroprotective effect of heptamethoxyflavone in the mouse brain. S. Okuyama, Y. Amakura, M. Yoshimura, T. Yoshida, A. Sawamoto, M. Nakajima, Y. Furukawa

8:25 323. Citrus polymethoxyflavones preventing the development of Alzheimer’s disease by regulating Aβ metabolism. L. Guo, L. Wang, W. Zhang, H. Li, S. Li

8:50 324. 5-Demethylnobiletin synergistically enhances the anticancer activity of paclitaxel in non-small cell lung carcinoma (NSCLC). C. Lin, S. Li, C. Ho

9:15 Intermission.
9:30 325. 5-Acetyloxy-6,7,8,4'-tetramethoxyflavone, a tangeretin derivative, inhibits cell growth in human prostate cancer PC-3 cells. **Y. Chen**, Y. Chen, J. Guo, T. Huang, S. Li, C. Ho


10:20 327. Chemistry and nutraceutical properties of polymethoxyflavones from citrus peels. **S. Li**, C. Ho, M. Pan

10:45 Concluding Remarks.

Section D

Boston Convention & Exhibition Center
Room 209

General Papers

B. Park, **Organizer, Presiding**

8:00 Introductory Remarks.

8:05 328. Biomimicking the stratum corneum to engineer edible oleogel. **T. Wang**

8:30 329. Water alkalinity and hardness in beer brewing. **R. Barth**


9:45 Intermission.

10:00 332. Sugar dialdehydes as glutaraldehyde analogs for cross-linked and immobilized chymotrypsin. **D.E. Wong**, J.M. Goddard

10:25 333. DNA-comprising iron oxide/silica particles as tags against extra virgin olive oil adulteration. **M. Puddu**, D. Paunescu, W.J. Stark, R.N. Grass


11:15 335. **Ginkgo biloba**: A new look at an old plant. **J.D. Williams**, G.R. Boyce

11:40 Concluding Remarks.

Nanoparticles in Food, Agricultural, & Environmental Settings

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THURSDAY AFTERNOON
Nanoparticles in Food, Agricultural, & Environmental Settings

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