



**The 12th INTERNATIONAL CONFERENCE OF FOOD SCIENCE AND TECHNOLOGY
OCTOBER 2 AND 3, 2018
International Center, UC Davis, DAVIS, CA**

Agenda

Monday October 1, 2018

4:00 – 6:00 pm **Registration and Welcome Reception**
Robert Mondavi Institute for Wine and Food Science

Agenda

Tuesday October 2, 2018

8:00 a.m. **Registration** – International Center Foyer

8:30 a.m. **Welcome Ceremony** - International Center Room 1310

- Linda J. Harris, Chair, Department of Food Science and Technology, UC Davis (moderator)
- Ken Burtis, Faculty Advisor to the Chancellor and Provost, UC Davis
- Yan Xu, Vice President, Jiangnan University
- Helene Dillard, Dean, College of Agricultural and Environmental Science, UC Davis
- Michelle Yeh, Director, Confucius Institute, UC Davis

9:30 a.m. **Group photograph** (all welcome) and coffee/tea break

10:00 a.m. **Plenary Session: Food Safety** - International Center Room 1310
Moderators: *Linda J. Harris, UC Davis and Yunfei Xie, Jiangnan University*

10:00 a.m. **Viruses in food systems**

- *Erin DiCaprio, Assistant Professor, Department of Food Science and Technology, UC Davis*

10:30 a.m. **Rapid detection methods for food safety**

- *Yunfei Xie, Deputy Dean, School of Food Science and Technology, Jiangnan University*

11:00 a.m. **Capitalizing on shared interests to advance sustainable safe food systems**

- *Glenn Young, Professor, Department of Food Science and Technology, UC Davis*

11:30 a.m. **Novel approaches for improving fresh produce food safety**

- *Nitin Nitin, Professor, Department of Food Science and Technology, UC Davis*



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12:00 p.m. **Lunch**

1:00 p.m. **Plenary Session: Food and Health** – International Center Room 1310
Moderators: *Bruce German, UC Davis and Bo Jiang, Jiangnan University*

1:00 p.m. **Beer and health**

- *Charles Bamforth, Professor, Department of Food Science and Technology, UC Davis*

1:30 p.m. **Strategy for biosynthesis of low-calorie sugars**

- *Bo Jiang, Professor, School of Food Science and Technology Jiangnan University*

2:00 p.m. **Muscadine grapes (*Vitis rotundifolia*) and wine alleviates symptoms and alters gut microbiota in mice with chronic colitis induced by dextran sulfate sodium**

- *Liwei Gu, Associate Professor, Food Science and Human Nutrition Department, University of Florida*

2:30 p.m. **Exploring the health benefits of wine**

- *Andrew Waterhouse, Professor, Department of Viticulture & Enology, Executive Director, Robert Mondavi Institute, UC Davis*

3:00 p.m. **Coffee/tea break**

3:15 p.m. **Poster Session** – International Center Foyer (see list of posters at the end of the agenda)

4:30 p.m. **Plenary Session: Sensory and Consumer Sciences** – International Center Room 1310
Moderators: *Herbert Stone, Sensory Consulting Services and Fang Zhong, Jiangnan University*

4:30 p.m. **Relating texture to taste and nutrition**

- *Fang Zhong, Professor, School of Food Science and Technology, Jiangnan University*

5:00 p.m. **Tasting good in a world of change**

- *Herbert Stone, Consultant, Sensory Consulting Services*

5:30 p.m. **Rethinking food science communication**

- *Charlotte Biltekoff, Associate Professor, UC Davis*

6:00 p.m. **Wrap up Day 1**

6:30 p.m. **Conference Banquet (ticketed event)** – International House, 10 College Park, Davis, CA



Agenda

Wednesday October 3, 2018

8:30 a.m. – 10:30 a.m. Concurrent Sessions

Technical Session 1 – International Center Room 3119 (Student Competition)

Moderators: *Bo Jiang, Jiangnan University, Charlie Shoemaker, UC Davis*

- 8:30 a.m. **T101* Assessing cumulative dietary organophosphate pesticide exposure from fruit and vegetable consumption in the United States**
- *Jara Torres, E.A. and Winter, C.K., UC Davis*
- 8:45 a.m. **T107* ECG and EGCG dimeric procyanidins reduce colorectal cancer cell growth by inhibiting the lipid rafts-associated receptors EGFR and IGFR**
- *Zhu, W., Mackenzie, G. G., and Oteiza, P. I., UC Davis*
- 9:00 a.m. **T111* Sensory and chemical characterization of commercial fragrant rapeseed oils in China**
- *Zhang, Y., Lai, W., Wang, Z., Wang, X., and Jin, Q., Jiangnan University*
- 9:15 a.m. **T114* Visualized phase behavior of binary blends (coconut oil and palm stearin) and ternary blends (coconut oil, palm kernel stearin and palm stearin)**
- *Liu, C., Cao, C., Meng, Z., Zheng, Z., Xu, Y., and Liu, Y., Jiangnan University*
- 9:30 a.m. **T115* Emulsification and interfacial adsorption properties of gelatinized octenyl succinate anhydride modified waxy maize starch**
- *Wei, L., Li, Y., and Fang, Z., Jiangnan University*
- 9:45 a.m. **T116* Correlation between genomic diversity and volatile flavor profile of *Lactobacillus helveticus***
- *Jiang, Y., Wang, Q., Liu, X., Zhao, J., Zhang, H., and Chen, W., Jiangnan University*
- 10:00 a.m. **T117* Improved control and function of lactic acid bacteria in plant-based foods**
- *Yu, A. O., Goldman, E., Brooks, J., and Marco, M. L., UC Davis*
- 10:15 a.m. **T102 Determination of natural radionuclides intake by consumers of some foodstuffs at Ijebu-Ode in Nigeria**
- *Sowole, O., Tai Solarin University of Education, Nigeria*



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Technical Session 2 – International Center Room 2119

Moderators: Xueming Xu, Jiangnan University, Carl Winter, UC Davis

- 8:30 a.m. **T103 Synergistic antimicrobial activity between physical treatments and lauric arginate: mechanism beyond membrane damage**
- Yang, X., Rai, R., Huu, C. N., and Nitin, N., UC Davis
- 8:45 a.m. **T104 Chemical and toxicological evolution of zearalenone under ozone treatment**
- Xu, Y., Wang Y., and Ji, J., Jiangnan University; Wu, H., Guangzhou GRG Metrology & Test Co., Ltd; Pi, F., Zhang, Y., and Sun, X.: Jiangnan University
- 9:00 a.m. **T105 Sustainable food safety solutions aligning with consumer trends in low and middle income countries**
- Young, G. M. and LeGrand K., UC Davis
- 9:15 a.m. **T108 Geniposide regulates glucose homeostasis via targeting FoxO1/PDK4 in skeletal muscle**
- Li, Y., and Pan, H.: Jiangnan University; Liu, S., Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences; Qian, H., Zhang, H., and Qi, X., Jiangnan University; Zhao, L., and Li, X., Children's Hospital of Fudan University; Wang, L., Jiangnan University; and Ying, H.: Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences
- 9:30 a.m. **T109 Characterization of particle movement during in vitro digestion in the human gastric simulator**
- Keppler, S. and O'Meara, S., UC Davis; Bakalis, S., University of Birmingham, Birmingham (UK), Fryer, P. J., and Bornhorst, G. M., UC Davis
- 9:45 a.m. **T110 Peptidomic and glycomic profiling of commercial dairy products: Identification, quantification and functional analysis**
- Bhattacharya, M., Salcedo, J., and Robinson, R. C., UC Davis Henrick, B. M., UC Davis and Evolve Biosystems and Barile D., UC Davis
- 10:00 a.m. **T118 Bioconversion of cheese whey permeate through fungal fermentation**
- Chan, L.C., Cohen J., Ozturk, G., and de Moura Bell, J.M.L.N, UC Davis
- 10:15 a.m. **T119 A novel electrochemical biosensor for antioxidant evaluation of phloretin based on cell-alginate/L-cysteine/gold nanoparticle-modified glassy carbon electrode**
- Ye, Y., Ji, J., and Pi, F. Jiangnan University; Yang, H., Guangzhou GRE Metrology & Test Co.; Liu, J., Zhang, Y., and Xia, S.: Jiangnan University; Wang, J. S., University of Georgia, Athens, Sun, X., Jiangnan University



Poster Session – International Center Foyer (see list of posters at the end of the agenda)

10:45 a.m. **Coffee/tea break**

11:00 a.m. **Plenary Session: Food Technology and Sustainability** - International Center Room 1310
Moderators, Edward Spang, UC Davis and Peng Zhou, Jiangnan University

11:00 a.m. **Wasted food as a resource**

- *Edward Spang, Assistant Professor, Department of Food Science and Technology, UC Davis*

11:30 a.m. **Structure-modifying pH shift technology applied to enhance functional properties of plant seed proteins**

- *Youling L. Xiong, Professor, Department of Animal and Food Sciences, University of Kentucky*

12:00 p.m. **Stability of dairy proteins in solid and semisolid food matrix**

- *Peng Zhou, Professor, School of Food Science and Technology, Jiangnan University*

12:30 p.m. **Enzyme assisted fermentation of potato pulp: An effective way to reduce water holding capacity and improve drying efficiency**

- *Li Cheng, Associate Professor, Jiangnan University*

1:00 p.m. **Closing ceremony and awards**

1:15 p.m. **Lunch**



Poster Presentations – International Center Foyer

Posters will be available for viewing throughout the conference October 2 and 3, 2018

(* denotes student poster competition participant)

Authors will be present on October 2 from 3:15 to 4:30 p.m.

- P100*** Evaluation of bacterial populations present in spring mix salad and their interactions with *Escherichia coli* O157:H7.
- Liao, C. Auburn University and Wang, L. X. UC Davis
- P101*** Evaluation of porcine gastric mucin as control in human norovirus-bacteria binding experiments
- Yim, I. and DiCaprio, E., UC Davis
- P102** Quantifying the performance of *Enterococcus faecium* NRRL B-2345 as a nonpathogenic surrogate for *Salmonella* Enteritidis PT 30 during dry heating of co-inoculated almonds at 168°C
- Theofel, C. G., Lieberman, V. M., Harris, L. J., UC Davis
- P103** Development of a highly sensitive competitive fluorescence lateral flow assay for the detection of zearalenone
- Fu, Q., and Tang, Y. Jinan University
- P104** A simple and rapid method for detecting the pesticide fipronil on egg shells and in liquid eggs by Raman microscopy
- Tu, Q, University of Massachusetts, Amherst and Northwest Agricultural & Forestry University, Hickey, ME, University of Massachusetts, Amherst, and He, L. L., University of Massachusetts, Amherst
- P105** Anti-depressive effect of *Bifidobacterium* on chronic stress induced mice
- Peijun Tian, Gang Wang, Jianxin Zhao, Hao Zhang and Ji Wei Chen, Jiangnan University
- P106*** Isolation of low-abundant *Bacteroidales* in the human intestine and the analysis of their differential utilization based on plant-derived polysaccharides
- Tan, H. Z., Feng, S. S., Zhao, J. X., Zhang, H., Zhai, Q. X., and Chen, W., Jiangnan University
- P107** Nutrimetabolomic analysis provides new insights into fish collagen peptides supplementation-caused systemic metabolic alterations in high fat diet mice
- Yuhui Yang, Yonghui Shi, Xu Tian, Yanan Wang, Biao Yan, and Guowei Le, Jiangnan University
- P108*** Effects of pork with different oxidation levels on blood glucose, blood lipids and gut microbiota in mice
- Ge. Y., Lin, S., Li, B., Shi, Y., and Le, G., Jiangnan University
- P109*** The potential of γ -aminobutyric acid rice in preventing type 2 diabetes
- Le Guowei, Gao Qiuli, Jiang Yuge, and Shi Yonghui, Jiangnan University
- P110*** Milk as a protein-protease delivery system: pH-specific proteolysis of human milk reveals collections of potential bioactive peptides
- Gan, J., Barile, B., Lebrilla, C., and German, J. B., UC Davis



- P111* The effect of repeated frying cycles of French fries on oxidized fatty acid formation**
- Zhang, Z., UC Davis, Hennebelle, M, Wageningen University, Emami, S., UC Davis, and Taha, A. Y., UC Davis
- P112* Sex-specific associations of anemia and iron-deficiency anemia with the serum and fecal metabolome and fecal microbiome of Peruvian infants**
- McClorry, S., UC Davis, Zavaleta, N., and Llanos, A., Cayetano Heredia Foundation, Casapía, M., Asociación Civil Selva Amazonica, Lönnerdal, B. and Slupsky, C. UC Davis
- P113* Red beets softening influenced by acid and moisture uptake during simulated gastric digestion with varying gastric pH**
- Mennah-Govela, Y.A., Keppler, S. and Bornhorst, G.M., UC Davis
- P114 Protein extract from *Ophiocordyceps sinensis* Induced apoptosis in A549 lung cancer cells by mediating Bax, Bcl-2 and caspase dependent pathway**
- Cao, J. and Wang, Y., Chengdu University of Traditional Chinese Medicine; Yokoyama, W., USDA, ARS, Western Regional Research Center; Zhang, H., Peng, C., and Tong, X., Chengdu University of Traditional Chinese Medicine; Shoemaker, S., and Marco, M., UC Davis; Guo, J., Chengdu University of Traditional Chinese Medicine and UC Davis.
- P115 Yangsheng Tang formulation reversed aging in D-galactose induced mice**
- Cao, J., Wang, Y., and Hou, F., Chengdu University of Traditional Chinese Medicine; Yokoyama, W., USDA, ARS, Western Regional Research Center; Bai, J., and Peng, C., Chengdu University of Traditional Chinese Medicine; Shoemaker, S. and Marco, M., UC Davis; Wu, J., Draco Natural Product Company; and Guo, J., Chengdu University of Traditional Chinese Medicine and UC Davis
- P116* Stability and in vitro digestibility of beta-carotene in nanoemulsions fabricated with different carrier oils**
- Zhou, X., Wang, H., Wang, C., Zhao, C., Peng, Q., Zhang, T., and Zhao, C., Jilin University
- P117 Optimization of the antioxidant capacity and texture properties of compound whole wheat flour by *Fomitopsis pinicola* solid fermentation**
- Zhao J., Tu, J., Liu, G.H., Tang, C.Y., Li, P., Cao, X.T. and Ji, G.S., Jiangsu University of Science and Technology
- P118* The mechanism exploration on the activity changes of antioxidant peptides by PEF technology based on HepG2 cell experimental methods**
- Zhang, S.Y. and Zhao, Y., Dalian Polytechnic University; Liang, R., Jilin University; and Lin, S.Y., Dalian Polytechnic University
- P119 Choreography of lipidomes and transcriptomes reveals the lipid turnover mechanisms of *Schizochytrium* cultured on glycerol**
- Chang, M., Zhang, T., Liu, R., Jin, Q., and Wang, X., Jiangnan University
- P120 Quantification and discovery of electrophilic natural products from daily foods**
- Cheng, X., Dong, W., Tang, X., Sun, J., and Le, G., Jiangnan University
- P121 *Lactobacillus plantarum* ZS2058 produces conjugated linoleic acid to ameliorate colitis**
- Chen, H., Yang, B., Zhang, H. and Chen, W., Jiangnan University
- P122 The contribution of fatty acid oxidation to the flavor formation of grass carp**
- Diao, Y., and Xia, W., Jiangnan University



- P123*** Descriptive sensory analysis of drip brew fractions to evaluate time-evolution of coffee flavor extraction
- *Batali, M., Frost, S., Ristenpart, W., Guinard, J.-X., UC Davis*
- P124** Evaluation of the composition of Chinese bayberry wine and its effects on the color changes during storage
- *Zhang, Z., Li, J., and Fan, L., Jiangnan University*
- P125*** The potential of essential oils to replace calcium propionate in bread
- *Ju, J., Xie, Y., He, Q. and Yao, W., Jiangnan University*
- P126** Use of RATE-ALL-THAT-APPLY as a descriptive sensory methodology to characterize dark chocolates
- *Menezes Ayres, E. M., UC Davis; Castro, I. P. L., Federal University of Rio de Janeiro State, Brazil; Souza, C. N. and Matos, C. B, Executive Commission of the Cocoa Plantation, Brazil*
- P127** Effect of initial concentration on the liquefaction and enzymatic hydrolysates of corn starch
- *Kong, H., Zou, Y., Gu, Z., Li, Z., Jiang, Z., Cheng, L., Hong, Y., and Li, C., Jiangnan University*
- P128*** Chemiluminescence method for rapid detection of radical generation in starch samples
- *Tao, Y., Fan, D. M., Yan, B. W., and Wu, Y. J., Jiangnan University; Lian, H. Z., Wuxi Huashun Minsheng Food Co. Ltd.; Zhao, J. X., and Zhang, H., Jiangnan University.*
- P129*** Optimization of *Agrobacterium tumefaciens*-mediated transformation method of oleaginous filamentous fungus *Mortierella alpina* on co-cultivation materials choice
- *Wang, S., Chen, H., Wang, Y., Tang, X., Zhang, H., Chen, W., and Chen, Y., Jiangnan University*
- P130** Development of rice viscosity fingerprints and identification of their varieties, geographical origin in China using RVA and Raman spectroscopy combined with multivariate data analysis
- *Zhu, L., Zhang, H., Wu, G., Wang, L., Qian, H., and Qi, X., Jiangnan University*
- P131*** Electro-analysis of soluble solid content in orange juice at intermediate frequency
- *Guo, L., Yang, N., Li, D., Zhang, Y., Wu, S., and Xu, X., Jiangnan University*
- P132** The effect of sodium chloride on the rheological properties of Gongmian dough: insight into the possible mechanism
- *Wang, J. and Zhu, K., Jiangnan University*
- P133** Characterization and antifungal properties of gelatin edible films added mint essential oil (*Mentha arvensis*) nano emulsion
- *Scartazzini, L., Di Luccio, M., Cortez, D. C., Rossi, M. J., and Fritz, A.R.M., Universidade Federal de Santa Catarina, Florianopolis, SC, Brazil*



- P134 Cucurmin vacuum infusion in cooked oysters (*Crassostrea gigas*): Effect of the process variables in the physicochemical characteristics of oysters**
- *Koop, B.L., Cargnin, M. A., Fidler, F., Soares, L.S., and Fritz, A.R.M., Universidade Federal de Santa Catarina, Florianopolis, SC, Brazil*
- P135 Mechanical modeling and structural elucidation of interaction between egg yolk lipids and wheat starch in steamed bread**
- *Sang, S., and Chen, Y., Jiangnan University; Zhu, X., and Narsimhan, G., Purdue University; Jin, Z., and Xu, X.: Jiangnan University*
- P136* Environmental footprint metrics for food at UC Davis**
- *Castner, E.A., UC Davis*
- P137* Preparation, preservation and antibacterial properties of nano Ag/ZnO chitosan composite coatings**
- *Wei, X., Sun, T., Wang, M., Li, Q., Zhong, K, Li, Y., and Li, J., Bohai University; Wu, C, Guangdong Xin Chuanghua Technology Environmental Protection Co., Ltd., Li, T., Dalian Nationalities University and Xie, J., Shanghai Ocean University*
- P138* The proton dynamics in sea cucumber ovum peptides (SCOPs) powder and the variation regularity of volatile compounds induced by moisture absorption in sea cucumber peptide powders (SCPPs) during storage**
- *Wang K., Yin H., Zhao Y., and Lin S., Dalian Polytechnic University*
- P139* Microbial diversity and volatile compounds of different fractions of egg white peptides (EWPs) induced by moisture migration during storage**
- *Yang, R., Jilin University; Lin, S., Dalian Polytechnic University; Zhang, S.T., and Zhang, T., Jilin University*
- P140 Investigation the molecular degradation, starch-lipid complexes formation and pasting properties of wheat starch during deep-frying treatment**
- *Yang, Y., Li. Y., Qian H., Zhang, H., Wu, G. C., Qi, X., and Wang, L., Jiangnan University*
- P141 *Antrodia cinnamomea* triterpenoids from solid-state fermented mycelia: production and antitumor activity affected by an elicitor**
- *Zhang, Y., Li, D., Wang, Z., Rao, P., Liang, Y., and Mei, Y., Huazhong Agricultural University*
- P142* Changes of volatile compounds and secondary structure on pine nut (*Pinus koraiensis*) peptide with different humidity and fractions during storage**
- *Yang R. and Zhang T., Jilin University; Wang K, and Lin S., Dalian Polytechnic University*
- P143 Comparative investigation on metabolite changes in production of ‘Wu mi’ from *Vaccinium bracteatum* Thunb. leaves by UPLC–QToF–MS based multivariate data analysis**
- *Fan, M., Li, Y., Wang, L., Qian, H., Zhang, H., Wu, G., and Qi, X., Jiangnan University*



- P144 Assessing the potential for distributed energy generation from food waste using small-scale anaerobic digestion**
- *Pace, S.P., Simmons, C.W., Brigham, J., and Spang, E.S., UC Davis*
- P145 Enzyme-assisted aqueous extraction of oil and protein from almonds and cream de-emulsification**
- *Furlan Goncalves Dias, F., Serrano Pinheiro de Souza, T., Leite Nobrega de Moura, Bell, J. M., UC Davis*
- P146 Sustained release of tea polyphenols from a debranched corn starch–xanthan gum complex carrier**
- *Hong, Y., Liu, W., Gu, Z., Li, Z., Cheng, L., and Li, C., Jiangnan University*
- P147 Characterization of the removal of volatile compounds from pea proteins by ultrafiltration treatment**
- *Zhang, C., Kong, X., Chen, Y., and Hua, Y., Jiangnan University*
- P148 Separation and enrichment of phenolics improved the antibiofilm and antibacterial activity of the fractions from *Citrus medica* L. var. *sarcodactylis* in vitro and in tofu**
- *Lou, Z., and Li, C., Jiangnan University*
- P149 Cloning, expression and bioinformatic analysis of a UDP-glucose pyrophosphorylase gene from *Grifola frondosa***
- *Wu, X., Tao, T., Cui, F., Sun, W., Man, Z., and Liu, W., Jiangsu University*
- P150 Impact of electron beam irradiation on structure and free radical scavenging activity of rice protein and hydrolysates**
- *Li, T., Wang, L., and Chen, Z., Jiangnan University*
- P151 Passion fruit shell flour and rice blends processed into fiber rich expanded extrudates**
- *Leal da Silva Alves, P., Western Regional Research Center, Agricultural Research Service, U.S. Department of Agriculture; Luis Ramirez Ascheri, J., Embrapa Food Technology; Pan J., De J. Berrios, J.; Western Regional Research Center, Agricultural Research Service, U.S. Department of Agriculture. /ARS/USDA*
- P152 Volatile metabolite profiling of the wheat flour in the semi-continuous heating process**
- *Yan Chen, Yufeng Geng, Duo Cai, Xinxin Zhang, Xianbing Xu, Ming Du, Jingfeng Yang, Liang Dong, National Engineering Research Center of Seafood, School of Food Science and Technology, Dalian Polytechnic University.*
- P153 Evaluation of physical properties of extruded snack foods developed from whole oats flour and corn grits by application of Response surface methodology**
- *Mishra, S., and Muthukumarappan, K., Department of Agricultural & Biosystems Engineering, South Dakota State University*

