

Ohio State University at IFT 2005

July 16-20 New Orleans

Pre-Meeting C.E. Programs

FRIDAY July 15 – Saturday 16

Hilton New Orleans Riverside Hotel

Commercializing Nonthermal Technologies

Program Directors: [Howard Q. Zhang](#), USDA ARS Eastern Regional Center; [Bala V.M. Balasubramaniam](#), Ohio State University; Gustavo V. Barbosa-Canovas, Washington State University; C. Patrick Dunne, U.S. Army Natick Soldier R&D Center; Daniel F. Farkas, Oregon State University; James T. C. Yuan, American Air Liquide

July 15 - High Pressure Processing Basics ([Bala Balasubramaniam](#))

July 16 - Ozone Treatment Processing Basics ([Ahmed Yousef](#))

SATURDAY July 16

Hilton New Orleans Riverside Hotel

Understanding Flavor: Background, Modern Advances and Impact of Aging

Program Director: [Jeannine Delwiche](#), Ohio State University

Session Times

Technical

Poster

Morning

9:00 AM – 12:00 PM

8:30 AM – 12:00 PM

Afternoon

2:30 PM – 5:30 PM

2:00 PM – 5:30 PM

SUNDAY July 17 (Afternoon)

Session 11 (Room 393) TECHNICAL: Prismatic views of grantsmanship and federal funding

11-2 3:05 Grants: A view from the trenches, [S. K. SASTRY](#)

Session 17 (Room 296) TECHNICAL: Biotechnology: General

Moderators: R. M. Basel, Lebensmittel Consulting, [H. Wang](#), Ohio State Univ., [P. D. Courtney](#), Ohio State Univ.

17-1 2:35 Production of cell-free xanthan gum from glucose in immobilized cell fermentation and ultrafiltration process, J. HALIM, [S. T. Yang](#)

Session 18A (Room Hall I-2) POSTER: Carbohydrate: General

18A-20 Modeling of moisture migration in rye bread and calculation of effective moisture diffusivity, C. KUSNADI, [G. Kaletunç](#)

Session 18C (Room Hall I-2) POSTER: Food Chemistry: Food composition, analysis and volatiles

18C-7 Photosensitizing effect of lumichrome formed from riboflavin on the soymilk flavor stability, R. HUANG, [D. B. Min](#)

Session 18D (Room Hall I-2) POSTER: Food Microbiology: General

18D-1 Role of membrane lipid saturation in *Lactobacillus acidophilus* survival in the freeze-dried state, J. KAISER and [P. D. Courtney](#)

18D-21 Inactivation of natural spores by pressure assisted thermal processing, J. AHN, [V. M. Balasubramaniam](#)

Session 19 (Room 285, Video Theater) VIDEO

19 3:25 Functional food research at The Ohio State University: From crop to the clinic to the consumer, Ohio State Univ., Dept. of Food Science & Technology

MONDAY July 18 (Morning)

Session 32 (Room 394) TECHNICAL: Food Chemistry: Component interactions and processing effects

32-5 10:05 Characterization of water mobility in stored soy and wheat breads using magnetic resonance imaging, A. LODI, [Y. Vodovotz](#)

Session 33 (Room 395) TECHNICAL: Food Microbiology: General

33-6 10:20 Determination of DNA transition *in vivo* from whole cell DSC thermogram using Bisbenzimidazole, J. LEE, [G. Kaletunç](#)

Session 34 (Room 396) TECHNICAL: Nonthermal Processing: General I

34-2 9:20 Processing effects of pulsed electric fields, high pressure processing or heat treatment on the stability of bovine immunoglobulin G and soy isoflavone in an enriched soymilk, S.-Q. LI, [Q. H. Zhang](#), Y.-Z. Lee, J. A. Bomser, [S. J. Schwartz](#), [V. M. Balasubramaniam](#), C. P. Dunne

34-8 10:50 Approaches for texture and syneresis improvement in scrambled egg patties after high pressure thermal sterilization, G. V. BARBOSA-CÁNOVAS, P. Juliano, M. Toldrà, S. Clark, T. N. Koutchma, [V. M. Balasubramaniam](#), J. Mathews, C. P. Dunne

Session 36B (Room Hall I-2) POSTER: Biotechnology: General

36B-12 Influence of environmental conditions on *Listeria monocytogenes* virulence factor expression, S. E. HANNA, [H. Wang](#)

36B-14 Production and separation of galacto-oligosaccharides from lactose by α -galactosidase immobilized on nanofiltration membrane, S. PRUKSASRI, [S.-T. Yang](#)

Session 36E (Room Hall I-2) POSTER: Fruit & Vegetable Products: General

36E-45 Thermal processing increases isomerization of lycopene precursors from yellow tomatoes, M. RENITA, [S. J. Schwartz](#)

36E-49 Impact of anthocyanin chemical structure on its absorption and excretion in rat, J. HE, B. A. Magnuson, [M. M. Giusti](#)

36E-90 Rapid analysis of lycopene content in tomatoes and tomato products by ATR-IR spectroscopy and multivariate techniques, Y. HALIM, [L. Rodriguez-Saona](#), [S. J. Schwartz](#), D. Francis

MONDAY July 18 (Afternoon)

Session 39 (Room 293) TECHNICAL: Advances in packaging technology required for implementation on novel food processes

39-3 3:35 Packaging requirements for demonstration and commercialization of PEF processing, [H. Q. ZHANG](#), S. Min, Z. T. Jin, Z. Ayhan

Session 42 (Room 296) TECHNICAL: Control of quorum sensing signals and antimicrobial effects on foods

42-6 5:05 Interaction of *Listeria monocytogenes* strains during high pressure processing, [A. E. YOUSEF](#), E. M. Horton

Session 45 (Room 388) TECHNICAL: Fruit & Vegetable Products Division

Health benefits of fruits and vegetables: Biological activity of phytonutrients

Moderators: D. M. Barrett, Univ. of California, Davis; [M. M. Giusti](#), Ohio State Univ.

45-4 4:35 Absorption, excretion, and *in vivo* transformations of different individual anthocyanins as affected by their chemical structure, [M. M. GIUSTI](#)

Session 50 (Room 394) TECHNICAL: Aquatic Food Products: General

50-6 3:50 Consumer assessment of cultured yellow perch *Perca flavescens*, zander *Stizostedion lucioperca*, walleye *Stizostedion vitreum* and ocean perch *Sebastes marinus*, R. E. Liggett, A. R. Warnock, C. D. Goerlitz, I. Herlambang, [J. F. DELWICHE](#)

Session 52 (Room 396) TECHNICAL: Food Engineering: General

52-2 2:50 Particle size, cohesiveness and powder composition effects on electrostatic and nonelectrostatic powder coating, P. RATANATRIWONG, [S. A. Barringer](#)

52-7 4:05 Modeling and optimization of pulsed ohmic heating of foods within a flexible package, S. JUN, [S. K. Sastry](#), J. E. Marcy, R. Mahna, M. H. Perchonok, B. Heskitt

Session 53 (Room 398) TECHNICAL: Product Development: General

53-4 3:20 Effect of crumb density, glycerol, and enzyme addition on bread staling, G. KALETUNÇ, A. H. Barrett

Session 54C (Room Hall I-2) POSTER: Food Chemistry: Food dispersions, lipids and carbohydrates

54C-9 Protoporphyrin photosensitized oxidation of oleic and linoleic acids and α -tocopherol, R. E. KING, M. Y. Lee, and D. B. Min

54C-10 Oxidative and thermal stabilities of sunflower oil and genetically modified high oleic acid sunflower oil, S. Smith, R. E. KING, D. B. Min

Session 54D (Room Hall I-2) POSTER: Food Packaging: General

54D-27 Shelf life extension of soy bread using modified atmosphere packaging, U. M. FERNANDEZ, M. A. Pascall

Session 54F (Room Hall I-2) POSTER: Nonthermal Processing: General I

54F-4 Improving electrode durability of PEF chambers, M. KIM, Q. H. Zhang

54F-11 Inactivation of *Bacillus stearothermophilus* Spores in Egg Patties by Pressure-Assisted Thermal Processing, S. RAJAN, V. M. Balasubramaniam, S. Pandrangi, A. E. Yousef

54F-13 Effect of alternative processing technologies on hydration characteristics of navy beans, R. RAMASWAMY, V. M. Balasubramaniam, S. K. Sastry

54F-14 Resistance of *Bacillus* spores to pressure-temperature combinations, S. PANDRANGI, S. Rajan, V. M. Balasubramaniam, A. E. Yousef

Session 54G (Room Hall I-2) POSTER: Nutraceutical & Functional Foods: General II

54G-5 Broccoli sprout extracts inhibit bladder cancer cell proliferation, R. A. ROSSELOT, S. K. Clinton, S. J. Schwartz, and Q. Tian

54G-7 Effects of demographic and individual characteristics on consumer valuation and willingness to pay for functional foods, R. P. TERATANAVAT, N. H. Hooker

WELCOME ASSEMBLY AND COLLEGE BOWL COMPETITION (HILTON 7:00PM – 11:00PM)

TUESDAY July 19 (Morning)

Session 57 (Room 293) TECHNICAL: Active packaging for non-thermal processing

57-6 11:35 Packaging for nonthermal processing, S. MIN, Q. H. Zhang

Session 59 (Room 295) TECHNICAL: Antioxidant strategies in muscle foods

59-5 11:05 Reduction of warmed-over flavor by natural antioxidant systems, I. U. GRUEN, L. N. Fernando, J. Ahn

Session 62 (Room 391) TECHNICAL: Intervention strategies for fresh produce

Moderators: J. T. C. Yuan, American Air Liquide Corp., Q. H. Zhang, Ohio State Univ.

Session 68 (Room 396) TECHNICAL: Muscle Foods: Biochemistry, color and non-meat ingredients

68-6 10:20 Metabolic proteins associated with carcass and postmortem turkey breast muscle characteristics, M. S. UPDIKE, H. N. Zerby, G. Kaletunç, M. S. Lilburn, M. Wick

Session 69 (Room 398) TECHNICAL: Sensory Evaluation: Sensory quality and consumer assessment

69-3 9:35 Relationship of water activity to cone crispness, C. D. GOERLITZ, J. F. Delwiche

69-6 10:20 Determining what consumers desire in Swiss cheese using partial-least squares regression of descriptive and consumer data, R. E. LIGGETT, M. A. Drake, J. F. Delwiche

69-9 11:05 Relating variance in sweetener acceptance to perception, A. R. WARNOCK, J. F. Delwiche

Session 71A (Room Hall I-2) POSTER: Dairy Foods: General

71A-6 Application of Fourier Transform Infrared (FT-IR) Spectroscopy for monitoring short-chain free fatty acids in Swiss cheese, N. KOCA, L. Rodriguez-Saona, W. J. Harper, V. B. Alvarez

71A-7 Building a library database of Swiss type cheese flavor compounds for electronic nose negative chemical ionization (EN-NCI) application, C. J. KUO, W. J. Harper

71A-13 Development of a pilot plant Swiss cheese process, N. KOCA, C. J. Kuo, T. Ji, W. J. Harper, V. B. Alvarez

71A-30 Peptidase specificity and activity of twenty-nine dairy *Propionibacterium* strains, P. LIMPISATHIAN, [P. D. Courtney](#)

71A-34 Chemical, microbiological, and physical characteristics of commercial Swiss-type cheeses, N. A. KOCAOGLU-VURMA, S. Yurdugul, C. J. Kuo, N. Koca, [W. J. Harper](#), [P. D. Courtney](#)

71A-40 Citrate utilization by nonstarter *Lactobacillus* sp. isolated from Swiss cheese, N. A. KOCAOGLU-VURMA, [P. D. Courtney](#)

Session 71C (Room Hall I-2) POSTER: Food Engineering: General

71C-5 Corona versus tribocharging for electrostatic powder coating, M. B. MAYR, [S. A. Barringer](#)

71C-12 The effect of food substrate and protein powders on electrostatic and non-electrostatic coating, D. SETYO, [S. A. Barringer](#)

71C-16 Improved functionality of food additives with electrostatic coating, A. AMEFIA, J. M. Abu-Ali, and [S. A. Barringer](#)

Session 71D (Room Hall I-2) POSTER: Food Engineering: Heat transfer

71D-18 Kinetics of potato color and texture development during baking, frying and microwaving, M. L. BEBKO, J. M. Abu-Ali, [S. A. Barringer](#)

Session 72 (Room 285, Video Theater) VIDEO

72 10:45 Functional food research at The Ohio State University: From crop to the clinic to the consumer, Ohio State Univ., Dept. of Food Science & Technology

TUESDAY July 19 (Afternoon)

Session 74 (Room 293) TECHNICAL: Food Engineering Division: Calorimetry as a tool for food process design

Moderators: [G. Kaletunç](#), Ohio State Univ., M. H. Tunick, USDA-ARS-Eastern Regional Research Center

74-6 5:05 Evaluation of high pressure processing by calorimetry, [G. KALETUNÇ](#)

Session 82 (Room 392) TECHNICAL: Carbohydrate: General

82-4 3:20 Effect of storage temperature on rheological and thermal properties of high pressure processed starch, [G. Kaletunç](#), A. KING

Session 83 (Room 393) TECHNICAL: Food Chemistry Division: Food Chemistry: Antioxidant and bioactive agents

Moderators: [D. B. Min](#), Ohio State Univ., S. H. Yoon, Korea Food Research Institute

83-5 3:35 Extraction of tomato juice carotenoids and characterization by two dimensional NMR, S. TIZIANI, [S. J. Schwartz](#), [Y. Vodovotz](#)

Session 84 (Room 394) TECHNICAL: Fruit & Vegetable Products: General I

84-3 3:05 Analysis of anthocyanins in fruits by tandem mass spectrometry, Q. TIAN, [M. M. Giusti](#), G. D. Stoner, [S. J. Schwartz](#)

Session 85 (Room 395) TECHNICAL: International: General

85-3 3:35 Citrus limonoid isolation, identification and biological activity study, Q. TIAN, X. Ding, B. Patil, and [S. J. Schwartz](#)

Session 86 (Room 396) TECHNICAL: Nonthermal Processing: General II

86-5 4:05 Inactivation of barotolerant *Listeria monocytogenes* in sausage by combination of high-pressure processing and food-grade additives, Y.-K. CHUNG, M. Vurma, E. J. Turek, [G. W. Chism, III](#), [A. E. Yousef](#)

Session 89E (Room Hall I-2) POSTER: Food Microbiology: Pathogens

89E-8 Classification and identification of selected *Salmonella* serovars in food matrices by Fourier transform infrared (FT-IR) spectroscopy and multivariate analysis, N. A. BALDAUF, L. A. Rodriguez-Romo, [A. E. Yousef](#), [L. Rodriguez-Saona](#)

89E-22 Induction of viable but non-culturable *Escherichia coli* O157:H7 by lactic and acetic acids, Y. LI, J. Ahn, A. Mustapha

Session 89F (Room Hall I-2) POSTER: Muscle Foods: General

89F-17 Glycolytic enzyme associated with reduced viscoelastic properties of thermally induced turkey meat gels, M. S. Updike, K. L. UTRATA, [G. Kaletunc](#), M. S. Lilburn, and [M. Wick](#)

WEDNESDAY July 20 (Morning)

Session 99C (Room Hall I-2) POSTER: Food Engineering: Mass transfer and electric field treatments

99C-15 Pretreatment for uniform ohmic heating of a multicomponent particulate-liquid food system, S. S. SARANG, P. Tulsiyan, [S. K. Sastry](#)

99C-17 Moderate electric field (MEF) treatment effect on growth kinetics of bacteriocin-producing *Lactobacillus acidophilus*, L. LOGHAVI, [S. K. Sastry](#), [A. E. Yousef](#)

99C-18 Electrical conductivity of multicomponent systems during ohmic heating, P. TULSIYAN, [S. K. Sastry](#)

99C-32 Dielectric properties of date fruits as affected by ripening and variety, O. SIPAHIOGLU, C. Bircan, [S. A. Barringer](#)

Session 99E (Room Hall I-2) POSTER: Nonthermal Processing: General II

99E-1 Microbial inactivation efficiency of pilot scale fluid handling system with energy recovery for PEF process of apple cider, Z. T. JIN, M. Kim, S.-Q. Li, [Q. H. Zhang](#)

99E-5 Electrode erosion under high intensity pulsed electric fields, S.-Q. LI, [Q. H. Zhang](#)

99E-11 Effect of high pressure processing on thermo-mechanical properties and proton relaxation of 30% rice and tapioca starch gels, K. RIEDL, [Y. Vodovotz](#)

99E-14 Sensitizing *Listeria monocytogenes* to high-pressure processing by phenolic compounds, M. VURMA, Y.-K. Chung, T. H. Shellhammer, E. J. Turek, [A. E. Yousef](#)

Session 99F (Room Hall I-2) POSTER: Sensory Evaluation: General

99F-4 Comparison of Thurstonian probabilistic modeling of rating data with parametric statistics: Part II, A. N. SHUMAKER, A. R. Warnock, [J. F. Delwiche](#)

Wednesday July 20 (Afternoon)

Session 107 (Room 395) TECHNICAL: Dairy Foods: General II

107-3 2:05 Separation of Galacto-oligosaccharides from mono- and di-saccharides by using granular activated carbon, L. WANG, [S. T. Yang](#), I.-C. Tang