

Sensing for Agriculture and Food Quality and Safety X

Tuesday - Wednesday 17 - 18 April 2018

Conference Sessions At A Glance

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Poster Session

- 1: Hyperspectral and Multispectral Imaging for Foods
- 2: Sensing for Food Quality and Safety I
- 3: Sensing for Food Quality and Safety II
- 4: High Throughput Inspection
- 5: Visible and Near Infrared Imaging For Foods

Important Dates

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Abstract Due:
9 October 2017

Author Notification:
11 December 2017
Notifications will be sent no later than 12/15/17

Manuscript Due Date:
21 March 2018

Conference Committee

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Conference Chairs

[Moon S. Kim](#), USDA Agricultural Research Service (United States)
[Kuanglin Chao](#), USDA Agricultural Research Service (United States)
[Bryan A. Chin](#), Auburn Univ. (United States)
[Byoung-Kwan Cho](#), Chungnam National Univ. (Korea, Republic of)

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[Haibo Yao](#), Mississippi State Univ. (United States)
[Yibin Ying](#), Zhejiang Univ. (China)
[Seung-Chul Yoon](#), USDA Agricultural Research Service (United States)

TUESDAY 17 APRIL

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Session PTue: Poster Session

Tuesday 17 April 2018

6:00 PM - 8:00 PM

Location: Ballroom Level, Osceola Ballroom C

All symposium attendees – You are invited to attend the evening Interactive Poster Session to view the high-quality posters and engage the authors in discussion. Enjoy light refreshments while networking with colleagues in your field. Authors may set up their posters between 10:00 am and 5:00 pm the day of their poster session. Special daytime previewing prior to the session from 10:00 am to 5:00 pm. Attendees are required to wear their conference registration badges to access the Osceola Ballroom to view the posters.


Posters that are not set up by the 5:00 pm cut-off time will be considered no-shows, and their manuscripts may not be published. Poster authors should accompany their posters from 6:00 to 8:00 pm to answer questions from attendees. All posters and other materials must be removed no later than 8:30 pm. Any posters or materials left behind at the close of the poster session will be considered unwanted and will be discarded. SPIE assumes no responsibility for posters left up after the end of each poster session.

Isolation of highly selective phage-displayed oligopeptide probes for detection of *listeria monocytogenes* in ready-to-eat food

Paper 10665-22

Time: 6:00 PM - 8:00 PM

Author(s): I-Hsuan Chen, Jianguo Xi, Yuzhe Liu, Songtao Du, Shin Horikawa, Tung-Shi Huang, Bryan A. Chin, Sang-Jin Suh, Auburn Univ. (United States)


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Capture of bacterial pathogens in liquid streams by multiple layers of phage based bio-molecular filter

Paper 10665-23

Time: 6:00 PM - 8:00 PM

Author(s): Songtao Du, Yuzhe Liu, Jianguo Xi, I-Hsuan Chen, Xu Lu, Shin Horikawa, Tung-Shi Huang, Bryan A. Chin, Auburn Univ. (United States)


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Quantitative characterization of Raman imaging data for detection of food adulteration

Paper 10665-24

Time: 6:00 PM - 8:00 PM


Author(s): Santosh Lohumi, Lalit M. Kandpal, Chungnam National Univ. (Korea, Republic of); Hoonsoo Lee, Moon S. Kim, Jianwei Qin, Agricultural Research Service (United States); Cho, Byoung-Kwan Cho, Chungnam National Univ. (Korea, Republic of)

[Add To My Schedule](#) **Applications of convolutional neural networks (CNN) for food quality and safety using hyperspectral imaging**

Paper 10665-25

Time: 6:00 PM - 8:00 PM


Author(s): Hoonsoo Lee, Agricultural Research Service (United States); Cho, Byoung-Kwan Cho, Chungnam National Univ. (Korea, Republic of); Moon S. Kim, Agricultural Research Service (United States)

[Add To My Schedule](#) **Olive fruit ripening evaluation and quality assessment by hyperspectral sensing devices**

Paper 10665-26

Time: 6:00 PM - 8:00 PM


Author(s): Silvia Serranti, Giuseppe Bonifazi, Riccardo Gasbarrone, Sapienza Univ. di Roma (Italy)

[Add To My Schedule](#) **Kiwifruits ripening assessment by portable hyperspectral devices**

Paper 10665-27

Time: 6:00 PM - 8:00 PM

Author(s): Silvia Serranti, Giuseppe Bonifazi, Riccardo Gasbarrone, Sapienza Univ. di Roma (Italy)

[Add To My Schedule](#) **Non-destructive method to detect artificially ripened banana using hyperspectral sensing and RGB imaging**

Paper 10665-28

Time: 6:00 PM - 8:00 PM


Author(s): Mithun B.S., Sujit Shinde, Karan Bhavsar, Arijit Chowdhury, Shalini Mukhopadhyay, Kavya Gupta, Brojeshwar Bhowmick, Sanjay Kimbahune, Tata Consultancy Services Ltd. (India)

[Add To My Schedule](#) **Signal recovery for compressive spectrometers**

Paper 10665-29

Time: 6:00 PM - 8:00 PM

Author(s): Chih-Cheng Lu, Industrial Technology Research Institute (Taiwan); Kevin Chen, Google (United States); Li-Ren Huang, Industrial Technology Research Institute (Taiwan); H. T. Kung, Harvard Univ. (United States)

[Add To My Schedule](#) **Evaluation of SERS nanoparticles for detection of Bacillus cereus and Bacillus thuringiensis**

Paper 10665-30

Time: 6:00 PM - 8:00 PM


Author(s): Jeehwa Hong, Jianwei Qin, Jo Ann S. Van Kessel, Mirae Oh, Sagar Dhakal, Hoonsoo Lee, Agricultural Research Service (United States); Dongho Kim, NAQS (Korea, Republic of); Moon S. Kim, Agricultural Research Service (United States); Hyunjeong Cho, NAQS (Korea, Republic of)

[Add To My Schedule](#) **Study of near-infrared imaging spectroscopy for the inspection of peeled potato tubers**

Paper 10665-33

Time: 6:00 PM - 8:00 PM

Author(s): Thomas Arnold, Martin De Biasio, CTR Carinthian Tech Research AG (Austria)

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WEDNESDAY 18 APRIL[Show All Abstracts](#)

**Session 1:
Hyperspectral and Multispectral Imaging for Foods**

Wednesday 18 April 2018

8:00 AM - 10:20 AM


Location: Ballroom Level, Miami 2

Session Chair: [Seung-Chul Yoon](#), USDA Agricultural Research Service (United States)**Study of visible imaging and near-infrared imaging spectroscopy for plant root phenotyping**

Paper 10665-1

Time: 8:00 AM - 8:20 AM


Author(s): Thomas Arnold, CTR Carinthian Tech Research AG (Austria); Gernot Bodner, University of Natural Resources and Life Sciences Vienna (Austria)

[Add To My Schedule](#) **Development of online whole-surface apple inspection system using line-scan hyperspectral imaging technology (Conference Presentation)**

Paper 10665-2

Time: 8:20 AM - 8:40 AM

Author(s): Insuck Baek, Stephen Andrew Gadsden, Univ. of Maryland, Baltimore County (United States); Moon S. Kim, Agricultural Research Service (United States)


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Continuous gradient temperature Raman spectroscopy of unsaturated fatty acids: applications for fish and meat lipids and rendered meat source identification

Paper 10665-3

Time: 8:40 AM - 9:00 AM

Author(s): C. Leigh Broadhurst, Walter F. Schmidt, Julie K. Nguyen, Jianwei Qin, Kuanglin Chao, Moon S. Kim, Agricultural Research Service (United States)


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Hyperspectral imaging for measuring symptom of chilling stress of watermelon leaves (Conference Presentation)

Paper 10665-4

Time: 9:00 AM - 9:20 AM

Author(s): Eunsoo Park, Chungnam National Univ. (Korea, Republic of); Hoonsoo Lee, Moon S. Kim, Agricultural Research Service (United States); Cho, Byoung-Kwan Cho, Chungnam National Univ. (Korea, Republic of)


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Quality measurement of bell peppers using hyperspectral near infrared imaging (Conference Presentation)

Paper 10665-5

Time: 9:20 AM - 9:40 AM

Author(s): Anisur Rahman, Hyungjin Bae, Chungnam National Univ. (Korea, Republic of); Hoonsoo Lee, Insuck Baek, Moon S. Kim, Agricultural Research Service (United States); Changyeun Mo, Rural Development Administration (Korea, Republic of); Cho, Byoung-Kwan Cho, Chungnam National Univ. (Korea, Republic of)


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Multimode optical imaging for food quality and safety applications (Conference Presentation)

Paper 10665-34

Time: 9:40 AM - 10:00 AM

Author(s): Fartash Vasefi, SafetySpect Inc. (United States); Danielle Rosen, Chapman Univ. (United States); Nicholas Booth, Hesam Hafizi, Li Kang, SafetySpect Inc. (United States); Rosalee Hellberg, Chapman Univ. (United States); Daniel L. Farkas, SafetySpect Inc. (United States)


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Hyperspectral fluorescence imaging for disease monitoring and yield estimation of mandarin orange (Conference Presentation)

Paper 10665-6

Time: 10:00 AM - 10:20 AM

Author(s): Jayoung Lee, Chungnam National Univ. (Korea, Republic of); Irina T. Rodriguez, Univ. de Córdoba (Spain); Hyungjin Bae, Jihoon Bae, Chungnam National Univ. (Korea, Republic of); Hee-Young Lee, Life & Technology (Korea, Republic of); Ana G. Varo, Dolores P. Marín, Univ. de Córdoba (Spain); Cho, Byoung-Kwan Cho, Chungnam National Univ. (Korea, Republic of)

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Coffee Break and Dedicated Exhibition Time 10:20 AM - 11:20 AM

**Session 2:
Sensing for Food Quality and Safety I**

Wednesday 18 April 2018

11:20 AM - 12:00 PM

Location: Ballroom Level, Miami 2


Session Chair: Shin Horikawa, Auburn Univ. (United States)

Detection of color dye contamination in spice powder using 1064 nm Raman chemical imaging system

Paper 10665-7

Time: 11:20 AM - 11:40 AM

Author(s): Sagar Dhakal, Kuanglin Chao, Moon S. Kim, Jianwei Qin, Agricultural Research Service (United States); Abigail Bae, River Hill High School (United States)


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MCT-based shortwave infrared hyperspectral imaging system for the detection and quantification of adulterants in powder samples (Conference Presentation)

Paper 10665-8

Time: 11:40 AM - 12:00 PM

Author(s): Hoonsoo Lee, Jianwei Qin, Agricultural Research Service (United States); Cho, Byoung-Kwan Cho, Chungnam National Univ. (Korea, Republic of); Moon S. Kim, Agricultural Research Service (United States)

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Lunch/Exhibition Break 12:00 PM - 1:10 PM

**Session 3:
Sensing for Food Quality and Safety II**

Wednesday 18 April 2018
1:10 PM - 2:50 PM
Location: Ballroom Level, Miami 2


Session Chair: Shin Horikawa, Auburn Univ. (United States)

Infrared fingerprint profiles of compatible and incompatible interactions of the rice blast pathogen using FTIR spectroscopy (Conference Presentation)

Paper 10665-9

Time: 1:10 PM - 1:30 PM

Author(s): Mirae Oh, Jinyoung Y. Barnaby, Hoonsoo Lee, Yulin Jia, Moon S. Kim, Agricultural Research Service (United States)


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Direct, surface-scanning detection of pathogenic bacteria using a wireless biosensor

Paper 10665-10

Time: 1:30 PM - 1:50 PM

Author(s): Shin Horikawa, Yuzhe Liu, Songtao Du, I-Hsuan Chen, Xu Lu, Bryan A. Chin, Auburn Univ. (United States)


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Capture and identification of Salmonella Typhimurium from large volumes of water using phage filter

Paper 10665-11

Time: 1:50 PM - 2:10 PM

Author(s): Xu Lu, Songtao Du, Shin Horikawa, I-Hsuan Chen, Yuzhe Liu, Bryan A. Chin, Auburn Univ. (United States)


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The combination of magnetoelastic (ME) wireless biosensing with surface swab sampling

Paper 10665-12

Time: 2:10 PM - 2:30 PM

Author(s): Yuzhe Liu, Songtao Du, Shin Horikawa, I-Hsuan Chen, Jianguo Xi, Xu Lu, Tung-Shi Huang, Bryan A. Chin, Auburn Univ. (United States)


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Reconfigurable instrument for measuring variations of capacitor's dielectric: an application to olive oil quality monitoring

Paper 10665-13

Time: 2:30 PM - 2:50 PM

Author(s): F. J. Romero-Maldonado, Santiago Juarez, Inmaculada Ortiz-Gomez, Diego P. Morales, A. Salinas-Castillo, Encarnación Castillo, A. García, Univ. de Granada (Spain); Amirhessam Tahmassebi, Anke Meyer-Bäse, Florida State Univ. (United States)

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Session 4: High Throughput Inspection

Wednesday 18 April 2018
2:50 PM - 4:40 PM
Location: Ballroom Level, Miami 2


Session Chair: [Xu Lu](#), Auburn Univ. (United States)

Non-targeted and targeted Raman imaging detection of chemical contaminants in food powders

Paper 10665-14

Time: 2:50 PM - 3:10 PM

Author(s): Jianwei Qin, Moon S. Kim, Kuanglin Chao, Sagar Dhakal, Agricultural Research Service (United States); Cho, Byoung-Kwan Cho, Chungnam National Univ. (Korea, Republic of)


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Real-time machine vision system for online detection of wooden breast myopathy in chicken fillets (Conference Presentation)

Paper 10665-15

Time: 3:10 PM - 3:30 PM

Author(s): Seung-Chul Yoon, Brian Bowker, Kurt Lawrence, Hong Zhuang, Agricultural Research Service (United States)

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Coffee Break 3:30 PM - 4:00 PM

Real-time sorting of melon seed using hyperspectral shortwave infrared imaging (Conference Presentation)

Paper 10665-16

Time: 4:00 PM - 4:20 PM

Author(s): Collins Wakholi, Chungnam National Univ. (Korea, Republic of); Hoonsoo Lee, Insuck Baek, Agricultural Research Service (United States); Eunsoo Park, Chungnam National Univ. (Korea, Republic of); Moon S. Kim, Agricultural Research Service (United States); Hyungjin Bae, Cho, Byoung-Kwan Cho, Chungnam National Univ. (Korea, Republic of)


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Development of high speed dual-camera system for batch screening of aflatoxin contamination of corn using multispectral fluorescence imaging

Paper 10665-17

Time: 4:20 PM - 4:40 PM

Author(s): Deok Han, Haibo Yao, Zuzana Hruska, Russell Kincaid, Mississippi State Univ. (United States); Christopher Ramezanpour, Secure Food Solutions (United States); Kanniah Rajasekaran, Deepak Bhatnagar, Agricultural Research Service (United States)

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Session 5: Visible and Near Infrared Imaging For Foods

Wednesday 18 April 2018

4:40 PM - 5:40 PM

Location: Ballroom Level, Miami 2


Session Chair: [Byoung-Kwan Cho](#), Chungnam National Univ. (Korea, Republic of)

Rapid and non-destructive detection of aflatoxin contamination of peanut kernels using visible/near-infrared (Vis/NIR) spectroscopy

Paper 10665-18

Time: 4:40 PM - 5:00 PM

Author(s): Feifei Tao, Haibo Yao, Zuzana Hruska, Mississippi State Univ. (United States); Yongliang Liu, Kanniah Rajasekaran, Deepak Bhatnagar, Agricultural Research Service (United States)

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Rapid determination of starch content of potato and sweet potato by using NIR hyperspectral chemical imaging

(Canceled)

Paper 10665-19

Time: 5:00 PM - 5:20 PM

Author(s):

Miniature near infrared spectroscopy spectrometer and information and communication technologies to guarantee the integrity of the EU high added-value "acorn Iberian pig ham" (IP)

Paper 10665-20

Time: 5:20 PM - 5:40 PM

Author(s): Ana Garrido-Varo, Cecilia Riccioli, Univ. de Córdoba (Spain); Tom Fearn, Univ. College London (United Kingdom); Emiliano de Pedro, Dolores C. Pérez-Marín, Univ. de Córdoba (Spain)

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