

## Poster session

Odd numbers: THU, Nov. 13, 15:10-16:10

Even numbers: FRI, Nov. 14, 11:30-12:30

**Poster Number P-01~P-22 Meeting room in Yayoi auditorium —**

**P-01 Influence of Microgravity on the Water Clusters formed within the Nanopores of Zeolite Materials**

(<sup>1</sup>Department of Applied Chemistry, Graduate School of Engineering, Osaka Metropolitan University, <sup>2</sup>Shimane University, <sup>3</sup>Kobe University, <sup>4</sup>Shiseido Co., Ltd., <sup>5</sup>JAXA)

○Riku Sasamoto<sup>1</sup>, Masato Takeuchi<sup>1</sup>, Kotomi Asano<sup>2</sup>, Mika Ishigaki<sup>2</sup>, Roumiana Tzenkova<sup>3</sup>, Mariko Egawa<sup>4</sup>, Koyo Koizumi<sup>4</sup>, Go Takehi<sup>4</sup>, Naoki Okamoto<sup>4</sup>, Mio Matsui<sup>5</sup>, Aiko Nagamatsu<sup>5</sup>

**P-02 Non-destructive deterioration prediction of waterproof sheets for houses using near-infrared spectra**

(<sup>1</sup>Asahi Kasei Corporation, <sup>2</sup>Asahi Kasei Homes)

○Mayuka Tsuji<sup>1</sup>, Jumpei Sakata<sup>2</sup>, Yoshiki Takata<sup>1</sup> and Kazuki Hammura<sup>1</sup>

**P-03 Modeling light scattering and agglomeration of colloidal suspensions: fast calculations of polydisperse systems**

(Division of Mechanical and Space Engineering, Faculty of Engineering, Hokkaido University)

○Hiroyuki Fujii, Hiromichi Nozaki, Ryuga Sawada, Kazumichi Kobayashi, Masao Watanabe

**P-04 Control of basicity of ZrO<sub>2</sub> catalysts supported with rare-earth oxide for CO<sub>2</sub> immobilization by NH<sub>3</sub>**

(<sup>1</sup>Osaka Metropolitan University, <sup>2</sup>Osaka Prefecture University)

○Atsuhiro Yamagami<sup>1</sup>, Kenta Miyamoto<sup>2</sup>, Masaya Matsuoka<sup>1</sup>, Masato Takeuchi<sup>1</sup>

**P-05 Experimental Investigation of a Novel Spectroscopic Method for a Diffraction Grating-Based SPR Sensor**

(<sup>1</sup>IMRA JAPAN CO., LTD., <sup>2</sup>The University of Electro-Communications, <sup>3</sup>Aswan University)

○Hironori Suzuki<sup>1</sup>, Eslam Abubakr<sup>2,3</sup>, Shiro Saito<sup>1</sup> and Tetsuo Kan<sup>2</sup>

**P-06 Assessment of the effects of subtle gravitational fluctuations on Earth due to the Moon's movement on the hydrogen-bond network in water**

(<sup>1</sup>Shimane Univ., <sup>2</sup>Shiseido Co., Ltd., <sup>3</sup>Osaka Metropolitan Univ., <sup>4</sup>Kobe Univ., <sup>5</sup>JAXA)

○Mika Ishigaki<sup>1</sup>, Koyo Koizumi<sup>2</sup>, Kotomi Asano<sup>1</sup>, Naoki Okamoto<sup>2</sup>, Go Takehi<sup>2</sup>, Riku Sasamoto<sup>3</sup>, Masato Takeuchi<sup>3</sup>, Tsenkova Roumiana<sup>4</sup>, Mio Matsui<sup>5</sup>, Aiko Nagamatsu<sup>5</sup>, Mariko Egawa<sup>2</sup>

**P-07 Development of broad NIR-LEDs with Cr, Na-doped alkaline earth germanate glass phosphors**

(National Defense Academy)

○Moe Suzukawa, Yasushi Nanai, and Nobuaki Kitazawa

**P-08 Development of Near-Infrared Spectroscopic Microscope for Visualizing Anatomical Structures in Deep Tissue**

(<sup>1</sup>Tokyo University of Science, <sup>2</sup>National Institute of Advanced Industrial Science and Technology, <sup>3</sup>The Jikei University School of Medicine, <sup>4</sup>National Center for Child Health and Development)

○Seiya Hayashi<sup>1</sup>, Toshihiro Takamatsu<sup>2</sup>, Masakuni Kobayashi<sup>3</sup>, Kazuki Sumiyama<sup>3</sup>, Toshiki Futakuchi<sup>3</sup>, Naoki Shimojima<sup>4</sup>, Hiroshi Takemura<sup>1</sup>

**P-09 Rapid determination of trace protein content in starch suspensions by a handheld NIR instrument in interactance mode (Part 2): Development of a Temperature-Compensated Calibration Model and Its On-Site Trial**

(<sup>1</sup>SUNUS Co., Ltd., <sup>2</sup>Kawano NIR-office)

○Mitsunori Arima<sup>1</sup>, Ryo Fujishima<sup>1</sup>, and Sumio Kawano<sup>2</sup>

**P-10 Interpretation of near-infrared spectra using simulation based on microscopic Beer-Lambert law in taro crystalline anomalies**

(Graduate School of Agriculture, Ehime University)

○Keiji Konagaya, Taro Kimura, Chihiro Kamida and Noriko Takahashi

**P-11 Rapid Detection of Drought Stress in Sugar Beet Using a Handheld NIR Spectrometer**

(<sup>1</sup>Hokkaido Agricultural Research Center, NARO, <sup>2</sup>Faculty of Agriculture, University of the Ryukyus)

○Kittipon Aparatana<sup>1</sup>, Eizo Taira<sup>2</sup>, and Yosuke Kuroda<sup>1</sup>

- P-12 Development and Application of 3D Food Printing Technology Using Near-Infrared Spectroscopy**  
(<sup>1</sup>Nagoya University Graduate School of Bioagricultural Sciences and  
<sup>2</sup>Northwest A&F University College of Food Science and Engineering)  
○Gao Shaoyang<sup>1</sup>, Tsuchikawa Satoru<sup>1</sup>, Jiang Hao<sup>2</sup>, Inagakai Tetsuya<sup>1</sup>  
and Ma Te<sup>1</sup>
- P-13 Visualization of Hydrophilicity Changes on a Wood Surface Treated with Low-Temperature Plasma Using Near-Infrared Hyperspectral Imaging**  
(<sup>1</sup>Graduate School of Bio-agricultural Sciences, Nagoya University,  
<sup>2</sup>Graduate School of Integrated Science and Technology, Shizuoka University)  
○Yoichiro Tanaka<sup>1</sup>, Te Ma<sup>1</sup>, Tetsuya Inagaki<sup>1</sup>, Hikaru Kobori<sup>2</sup>, Moeko Iuchi<sup>2</sup>  
and Satoru Tsuchikawa<sup>1</sup>
- P-14 Comparison of Performance of Two Hyperspectral Cameras with Different Wavelength Ranges for Mango Stem-end Rot Detection**  
(Faculty of Engineering, University of Miyazaki)  
○Yudai Iwakiri, Kaito Makinose, Atsuhiko Okubo, Akane Himeno,  
Momoko Uchiwada, Yoshito Tokumaru, Masakazu Arai
- P-15 Development of a Sucrose Quantification Method in Sugarcane Juice Using Sugar Standard Solutions**  
(<sup>1</sup>United graduate school of agricultural sciences, Kagoshima University,  
<sup>2</sup>Faculty of Agriculture, University of Ryukyus)  
○Miki Horie<sup>1</sup>, Eizo Taira<sup>2</sup>
- P-16 Assessment of UV-C light in preventing the deterioration of clear cane juice and spectroscopic monitoring of the juice quality**  
(<sup>1</sup>The United Grad. Sch. of Agri. Sci., Kagoshima University, <sup>2</sup>Faculty of Agri., Ryukyus University.)  
○Akeme Cyril Njume<sup>1,2</sup>, Yoshiaki Shinzato<sup>2</sup>, Eizo Taira<sup>2</sup>
- P-17 A Comparison of Accuracy between Spectral Image Machine Learning and Reflectance Spectrum Analysis for Early Detection of Mango Stem-End Rot**  
(Faculty of Engineering, University of Miyazaki)  
○Akane Himeno, Atsuhiko Ohkubo, Kaito Makinose, Yudai Iwakiri,  
Momoko Uchiwada, Yoshito Tokumaru, Masakazu Arai

**P-18 Automatic AI sorting of peeling coated tablets using near-infrared (NIR) imaging**

(Nippon Shinyaku Co., Ltd., Odawara Central Factory)

○H. Nohara, T. Nishii, T. Ishizu, K. Tanaka, S. Sonoike, H. Kato,  
T. Yamaguchi

**P-19 Effects of Simulated Microgravity on Water in Different Confined States**

(<sup>1</sup>Shiseido Co., Ltd., <sup>2</sup>Osaka Metropolitan University, <sup>3</sup>Shimane University, <sup>4</sup>Kobe University, <sup>5</sup>JAXA)

○Koyo Koizumi<sup>1</sup>, Go Takehi<sup>1</sup>, Naoki Okamoto<sup>1</sup>, Riku Sasamoto<sup>2</sup>,  
Masato Takeuchi<sup>2</sup>, Kotomi Asano<sup>3</sup>, Mika Ishigaki<sup>3</sup>, Roumiana Tzenkova<sup>4</sup>,  
Mio Matsui<sup>5</sup>, Aiko Nagamatsu<sup>5</sup>, Mariko Egawa<sup>1</sup>

**P-20 Detection of polyurethane fibers in polyester fabrics using a handheld near-infrared spectrometer (Part 2)**

(<sup>1</sup>Nissenken Quality Evaluation Center, <sup>2</sup>Tokyo University of Agriculture and Technology)

○Miyuki Funahashi<sup>1</sup>, Takeshi Ando<sup>1</sup>, Norio Yoshimura  
and Masao Takayangi<sup>2</sup>

**P-21 PLS-Based Calibration Transfer Method Using Small Standardization Sample Sets**

(<sup>1</sup>Nagoya University, <sup>2</sup>Ryukyu University,)

○Bin Li<sup>1</sup>, Eizo Taira<sup>2</sup>, Tetsuya Inagaki<sup>1</sup>

**P-22 Detection of single-component region from any blind dataset without pure component spectra**

(<sup>1</sup>Graduate of Science and Technology, University of Tsukuba, <sup>2</sup>National Food Research Institute, and <sup>3</sup>Faculty of Life and Earth Sciences, University of Tsukuba)

○Nguyen Minh-Quan<sup>1,2</sup>, Tsuta Mizuki<sup>2</sup>, Kokawa Mito<sup>3</sup>

**Poster Number P-23~P-28 Lobby of Yayoi auditorium —**

**P-23 Simulation study for interpreting PCA results via comparison with 2DCOS**

(Institution of Food Research, NARO)

○Takuma Genkawa, Akifumi Ikehata

**P-24 Fiber probe-type portable near-infrared spectroscopy systems**

(<sup>1</sup>Spectra Design Ltd., <sup>2</sup>Graduate School of Technology, Industrial and Social Science, Tokushima University, <sup>3</sup>Institute of Post-LED Photonics, Tokushima University)

○Ryoichi Fukasawa<sup>1</sup>, Takao Ueda<sup>2</sup>, Takeshi Yasui<sup>3</sup>

**P-25 Estimation of Calcium Ion Concentration in Cherry Tomato Leaves Using Visible–NIR Spectroscopy with Genetic Algorithm-Based Wavelength Selection**

(Graduate School of Engineering, Toyama Prefectural University)

○Reo Nagamitsu and Tomohisa Takaya

**P-26 Estimation of Nitrate and Calcium Ion Concentrations in Japanese Mustard Spinach Cultivated Outdoors by FT-NIR Spectroscopy**

(Graduate School of Engineering, Toyama Prefectural University)

○Yuki Fuji, Tomohisa Takaya

**P-27 NIR spectra of adamantane in solutions**

(School of Science and Engineering, Kindai University)

Tomoyuki Komoto, Teppei Kinugawa, ○Yusuke Morisawa

**P-28 Development of inline NIR spectroscopic measurement system in plastic compounding processes**

(<sup>1</sup>AIST Integrated research center for circular technology, <sup>2</sup>AIST Research institute of sustainable chemistry)

○Yuta Hikima<sup>1,2</sup>, Keita Sakakibara<sup>2</sup>, Hiroomi Watanabe<sup>1,2</sup>