

The 40th NIR Forum Program

WED, November 13, 2024, p.m.

	Short Course	(Moderator: Eizo Taira)
13:15- 14:45	I-01 Basics: (Institute of Food research, NARO) ○Akifumi Ikehata	
14:45- 15:00	Break	
15:00- 16:30	I-02 Applications: (Graduate School of Bioagricultural Sciences, Nagoya University) ○Tetsuya Inagaki	
16:30- 17:00	Q & A session	

The 40th NIR Forum Executive Committee	
executive committee	Masao Takayanagi (Tokyo University of Agriculture and Technology) Kazuo Osaki (Metrohm Japan Co., Ltd.) Akifumi Ikehada* (NARO) Tetsuya Inagaki (Nagoya University) Mitsuhiro MIYAZAWA (Preventec Co., Ltd.) Takuma GENKAWA (NARO) Eizo Taira (University of the Ryukyus) Masatoshi Yoshimura (The University of Tokyo) Masato TAKEUCHI (Osaka Public University) Kenichi Fuchigami (JFRL) Makoto Yoshida (Kanagawa Prefecture)
Co-op Member Office	Michi Matsumoto (JCNIRS Office, NARO) 2-1-12 Kannondai, Tsukuba, Ibaraki 305-8642, Japan Tel: +81-29-838-8057 E-mail: office@jcnirs.org

General presentations: 15-minute slots, Q&A included

Company Presentations: 5 minutes, no Q&A

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- 9:00 Opening
- 9:30-9:35 Opening Address
- 9:35-9:40 JCNIRS Award ceremony —————(Moderator: Masao Takayanagi)
- 9:40-
10:05 **K-01** JCNIRS Award lecture
Application of Near Infrared Spectroscopy for Rice Quality Inspection
Technology and
Implementation in Rice Grain Elevator and Milling Plant
(Hokkaido Agricultural Structures Council, Professor Emeritus of Hokkaido
University) ○Shuso Kawamura
- 10:05-
10:30 **K-02** Keynote lecture
Recent advances in chemometrics for the analysis of NIR data
(University of Rome La Sapienza, Rome, Italy)
○Federico Marini
- 10:30-
10:50 Break and Poster Display
- Chemometrics ————— (Chairperson: Tetsuya Inagaki)
- 10:50-
11:15 **I-03** Invited lecture
Non-contact heart rate measurement and emotion estimation using video
images captured by an RGB camera
(Chiba University) ○Norimichi Tsumura
- 11:15-
11:30 **O-01**
A new calibration method for overcoming instrument differences -spectral
augmentation concept- (Institute of Food Research, NARO) ○Mizuki Tsuta
- 11:30-
12:30 **Poster Presentation A (odd numbers)/ Company Exhibition**
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- 12:30-
13:30 Lunch

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Sponsor Presentations

(Moderators: Makoto Yoshida, Takuma Gengawa)

13:30-
15:00

C-01 BeatSensing Co., Ltd.

C-02 Metrome Japan Ltd.

C-03 I.R. System Co., Ltd.

C-04 Ad Science Inc.

C-05 Kett Electric Laboratory Co., Ltd.

C-06 Spectral Application Research Laboratory Inc.

C-07 Optomechatronix Inc.

C-08 Sun Instruments Inc. (OtO Photonics Inc.)

C-09 Thermo Fisher Scientific Inc.

C-10 Aprolink Corporation

C-11 KLV Co., Ltd.

C-12 Nireco Corporation

C-13 BLTEC K.K.

C-14 Foss Japan

C-15 Dunamist Co., Ltd.

C-16 Bruker Japan K.K.

15:00-
15:30

Company exhibition and breaks

Agriculture and Food (Chairperson: Akifumi Ikehata)

15:30-
15:55**I-04** Invited lecture

Transmission and hyperspectral near-infrared analysis of dried laver to determine crude protein content

(Department of Chemistry, Hanyang University, Korea)

○ Hoeil Chung

15:55-
16:10**O-02**

Assessment of the quality attributes of immersion vacuum-cooled sausages stuffed in modified casings containing citrus peel extracts, using hyperspectral imaging coupled with chemometrics

(¹Kitami Institute of Technology, ²RIKEN, ³Universidad de Sevilla)○Feng Chao-Hui^{1,2}, Arai Hirofumi¹, Rodríguez-Pulido F. J.³

40th Anniversary Panel Discussion

(Moderator: Masao Takayanagi)

16:15-
17:15**I-05**

"To make NIRs even more widely used"

Chikara Okura (Soma Optics Ltd.)

Shigeaki Morita (Osaka Electro-Communication Univ.)

Kazuo Osaki (Metrome Japan Ltd.)

Eizo Taira (University of Ryukyus)

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- 17:20- JCNIRS Student Travel Award Ceremony
17:50 General Meeting of the Near Infrared Research Society of Japan
(Business report, financial report, announcement of the next year's meeting, etc.; please attend) Anyone is welcome to attend.)
- 18:00- Mixer (held in the lobby of Yayoi Auditorium) *Reservations required*
19:30

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9:00	Opening
9:30-9:35	NIR Advance Award Ceremony —(Moderator: Kenichi Fuchigami)
9:35-9:55	I-06 NIR Advance Award lecture1 Development of endoscopic diagnostic and surgical navigation systems using near-infrared spectroscopic imaging(Health and Medical Research Institute, AIST)○Toshihiro Takamatsu
9:55-10:15	I-07 NIR Advance Award lecture2 Application of near-infrared spectroscopy to non-destructive measurement of fishery product quality (¹ Japan Fisheries Research and Education Agency and ² Food Research Institute of Aomori Prefectural Industrial Technology Research Center) ○Takashi Kimiya ¹ and Yuki Kimura ²
—————	Agriculture and Food —————(Chairperson: Masatoshi Yoshimura)
10:15-10:30	O-03 Optimization of preprocessing and regression models for prediction of fecal starch content in fattening cattle by near-infrared spectroscopy (Mie University Graduate School of Bioresources Faculty of Bioresources)○Masaya Matamura, Takumi Sekoguchi, Yoshimasa Nishikawa, Hirotaka Naito, Atsushi Hashimoto, Makoto Kondo
10:30-10:45	O-04 <i>Student Travel Award</i> Light scattering properties for a coagulation state in soy milk (Division of Mechanical and Space Engineering, Faculty of Engineering, Hokkaido University ¹ , Research Institute for Electronic Science, Hokkaido University ²) ○Koyata Nishikawa ¹ , Hiroyuki Fujii ¹ , Goro Nishimura ² , Kazumichi Kobayashi ¹ , Masao Watanabe ¹
10:45-11:00	O-05 Establishment of a redox evaluation method based on differences in hydration structure around GSH/GSSG (¹ Keio University Global Research Institute, ² Keio University School of Medicine, ³ Keio University School of Science and Technology, ⁴ Kobe University Graduate School of Agriculture)○Yasuhiro Kato ^{1,2,3} , Jelena Muncan ⁴ , Yoshinori Hirano ³ , Roumiana Tsenkova ⁴ , and Masato Yasui ^{1,2}
11:00-11:25	I-08 招待講演 Field phenotyping through near-infrared measurements (Graduate School of Horticulture, Chiba University)○Akira Hama, Oto Kotsuka and Aoi Kimura
11:25-12:25	Poster Presentation B (even numbers) / Company Exhibition
12:25-13:25	Lunch

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———— Engineering Applications ————— (Chairperson: Masato Takeuchi)

13:25-13:50 **I-09** Invited lecture
High-speed near-Infrared spectroscopy of low-transmittance samples using a high-power time-stretch spectrometer(USHIO INC.)○Aya Ikarashi

13:50-14:05 **O-06**
Material Characterization in Hardened Cement by Aquaphotomics Analysis(¹Isol Technica, ²Osaka Metropolitan University, ³Kobe University)
○Satoshi Tamura¹, Yuri Nakamura¹, Hisao Tsunokake², Jelena Muncan³, Roumiana Tsenkova³

14:05-14:20 **O-07**
Kinetic analysis of Claisen rearrangement using inline near-infrared spectroscopy and transient flow method (AIST) ○Yoshihiro Takebayashi, Kiwamu Sue, Sho Kataoka

————— (Chairperson: Mitsuhiro Miyazawa)

14:20-14:35 **O-08**
Simultaneous estimation of snow grain size and density using near-infrared diffuse reflectance measurements
(Kitami Institute of Technology) ○Yasuhiro Harada, Nobuaki Sasaki, and Kouki Tanahashi

14:35-14:50 **O-09** *Student Travel Award*
Comprehensive Application of Near-Infrared Imaging in Monitoring and Optimizing Wood Drying Processes
(Graduate School of Bioagricultural Sciences, Nagoya University)
○Wenpeng Zeng¹, Tetsuya Inagaki¹, Satoru Tsuchikawa¹, Te Ma¹

14:50-15:00 **Break**

15:00-15:15 **O-10**
Identification of Compositions and Determination of the Presence of Double Laying
(Tokyo University of Agriculture and Technology)○Masao Takayanagi, Kohya Akaiwa, Norio Yoshimura

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- Medical and pharmaceutical ————— (Chairperson: Kazuo Osaki)
- 15:15-15:30 **O-11**
Three-dimensional Detection of Core Location in Dry-coated
Tablets Using Near-infrared Spectroscopy
(Nippon Shinyaku Co., Ltd. Odawara Central Factory)
○Takashi Nishii, Satoru Sonoke, Toru Yamaguchi
- 15:30-15:45 **O-12**
Aquaphotomics analysis of near-infrared spectra for skin
evaluation(¹Dr. Recella Co., Ltd., ²Graduate School of Agricultural
Science, Kobe University)○Yoko Osafune^{1,2}, Roumiana Tsenkova²
- 15:45-16:00 **O-13**
Aquaphotomics-Enhanced Near-Infrared Spectroscopy for Non-
Invasive Estimation of Absorbed Radiation Dose in Mice
(Graduate School of Agricultural Science, Kobe University,
Hirosaki University)○Jelena Muncan¹, Masaru Yamaguchi², Ikuo
Kashiwakura², Roumiana Tsenkova¹
- 16:00-16:15 **Best Poster Award Ceremony**
Closing