

# **The 34th Annual Meeting of the Japanese Society for Biomedical Mass Spectrometry**

## **Program**

**September 10th (Thu.) - 11th (Fri.)**

B Hall in E Campus, Kinki University

3-4-1, Kowakae, Higashi-osaka 577-8502 Japan



Shigeo Ikegawa, Ph.D.

President of the 34th Annual Meeting of  
the Japanese Society for Biomedical Mass Spectrometry

Faculty of Pharmaceutical Sciences, Kinki University

3-4-1 Kowakae, Higashi-osaka 577-8502, Japan

Tel: +81-6-6721-2332 Fax: +81-6-6730-1394

E-mail: [34jsbms-office@phar.kindai.ac.jp](mailto:34jsbms-office@phar.kindai.ac.jp)

## **Time Schedule**

### **September 10 (Thursday)**

<b>8:55</b>	<b>Opening Remarks</b>
<b>9:00-10:50</b>	<b>Symposium 1 (S1-1 - S1-4)</b>
<b>10:50</b>	<b>&lt;Break&gt;</b>
<b>11:00-11:50</b>	<b>Plenary Lecture L1</b>
<b>11:50-12:30</b>	<b>Luncheon Seminar</b> <b>&lt;Board Meeting&gt;</b>
<b>12:30-13:00</b>	<b>&lt;JSBMS General Meeting&gt;</b>
<b>13:00-15:30</b>	<b>Poster Presentation (P1 – P42)</b>
<b>15:30-17:20</b>	<b>Symposium 2 (S2-1 – S2-4)</b>
<b>17:20-17:50</b>	<b>Educational Lecture L2</b>
<b>18:00</b>	<b>Banquet</b>

### **September 11 (Friday)**

<b>9:00-10:50</b>	<b>Symposium 3 (S3-1 – S3-5)</b>
<b>10:50-11:40</b>	<b>Invited Lecture L3</b>
<b>11:40</b>	<b>&lt;Break&gt;</b>
<b>11:50-12:10</b>	<b>JSBMS Junior Award Lecture L4</b>
<b>12:10-12:50</b>	<b>Luncheon Seminar</b>
<b>13:00-14:50</b>	<b>Symposium 4 (S4-1 – S4-6)</b>
<b>14:50</b>	<b>&lt;Break&gt;</b>
<b>15:00-16:50</b>	<b>Symposium 5 (S5-1 – S5-6)</b>
<b>16:50</b>	<b>&lt;Break&gt;</b>
<b>17:00-18:50</b>	<b>Symposium 6 (S6-1 – S6-4)</b>
<b>18:50</b>	<b>Closing Remarks</b>

# Program

## September 10 (Thursday)

**8:55**            **Opening Remarks (Shigeo Ikegawa)**

**9:00-10:50**    **Symposium 1 “Clinical proteomics”**  
Organizer: Toyofumi Nakanishi, Katsuyoshi Masuda

**S1-1 Proteomic profiling of the human kidney glomerular frozen tissue using LC/MS/MS in combination with Laser microdissection**

Hiroko Odani<sup>1</sup>, Miyuki Ito<sup>1</sup>, Akihiko Takasaki<sup>2</sup>, Satoshi Sugiyama<sup>1</sup>

<sup>1</sup>Department of Nephrology, Fujita Health University School of Medicine,

<sup>2</sup>Gifu University of Medical Science

**S1-2 Proteomic differential analysis of early tumors using liquid chromatography-tandem mass spectrometry: Identification and characterization of novel molecular markers for pathological diagnoses**

Takao Kawakami<sup>1,2</sup>

<sup>1</sup>Department of Surgery, Tokyo Medical University

<sup>2</sup>Biomarker Mining Team, Medical ProteoScope Company

**S1-3 Quantitative evaluation of glycan profiles for biomarker analysis: An application to IgG and IgA glycans**

Yoshinao Wada<sup>1</sup>, Machiko Kadoya<sup>1</sup>, Michiko Tajiri<sup>1,2</sup>

<sup>1</sup>Department of Molecular Medicine, Osaka Medical Center and Research Institute for Maternal and Child Health

<sup>2</sup>CREST, Japan Science and Technology Agency

**S1-4 Clinical proteomics for multiple sclerosis and other CNS demyelinating diseases**

Masaya Ikegawa<sup>1</sup>, Mika Komori<sup>2</sup>, Takayuki Kondo<sup>1,2</sup>

<sup>1</sup>Department of Genomic Medical Sciences, Kyoto Prefectural University of Medicine

<sup>2</sup>Department of Neurology, Graduate School of Medicine, Kyoto University

**10:50**            **<Break>**

**11:00-11:50**    **Plenary Lecture L1 (Chair: Yoshinao Wada)**

**Usefulness of mass spectrometry for diagnosis and pathogenesis in hereditary amyloidosis**

Yukio Ando

Department of Diagnostic Medicine, Graduate School of Medical Sciences, Kumamoto University

**11:50-12:30 Luncheon Seminar 1  
(Broad Meeting)**

**12:30-13:00 JSBMS General Meeting**

**13:00-15:30 Poster Presentation**

(Chair: Takashi Furuta)

- P1 ESI-MS-MS determination of iodide and iodate in urine**  
Kayoko Minakata<sup>1</sup>, Masako Suzuki<sup>2</sup>, Sanae Kanno<sup>1</sup>, Kunio Gonmori<sup>1</sup>, Hideki Nozawa<sup>1</sup>,  
Itaru Yamagishi<sup>1</sup>, Koutarou Hasegawa<sup>1</sup>, Walid Ahmed<sup>1</sup>, Kanako Watanabe<sup>1</sup>, Osamu  
Suzuki<sup>1</sup>  
<sup>1</sup>Department of Legal Medicine and <sup>2</sup>Research Equipment Center, Hamamatsu  
University School of Medicine
- P2 Ultra-sensitive assay for Estrone and Estradiol in blood**  
Hitoe Maekubo, Yoko Watanabe, Hidehiko Sasamoto, Seijiro Honma  
ASKA Pharma Medical Co., Ltd.
- P3 Quantitative analysis of urinary 18-hydroxycortisol using LC-MS/MS**  
Shigeki Jin<sup>1</sup>, Norio Wada<sup>2</sup>, Ami Iwabuchi<sup>1</sup>, Yusuke Sato<sup>1</sup>, Toshihiro Sakurai<sup>1</sup>, Yuji  
Takahashi<sup>1,3</sup>, Katsuyuki Yanagisawa<sup>2</sup>, Shu-Ping Hui<sup>4</sup>, Takao Kurosawa<sup>4</sup>, Hitoshi Chiba<sup>1</sup>  
<sup>1</sup>Faculty of Health Sciences, Hokkaido University  
<sup>2</sup>Department of Diabetes and Endocrinology, Sapporo City General Hospital  
<sup>3</sup>Department of Clinical Laboratory, Sapporo City General Hospital  
<sup>4</sup>Faculty of Pharmaceutical Sciences, Health Sciences University of Hokkaido
- P4 A rapid and simultaneous analysis of psychopharmaceuticals in human body fluids  
with ultra-performanced liquid chromatography-tandem mass spectrometry**  
Akira Ishii<sup>1</sup>, Rina Kaneko<sup>1</sup>, Kentaro Imai<sup>1</sup>, Hiroshi Ito<sup>1</sup>, Yuka Uehara<sup>1</sup>, Hideki Hattori<sup>2</sup>,  
Hiroshi Seno<sup>2</sup>, Osamu Suzuki<sup>3</sup>  
<sup>1</sup>Nagoya University Graduate School of Medicine  
<sup>2</sup>Aichi Medical University School of Medicine  
<sup>3</sup>Hamamatsu University School of Medicine
- P5 Backflush column-switching LC/MS using a C<sub>18</sub>-bonded monolithic silica column  
for ultra-fast determination of theophylline in human serum**  
Tetsuya Arinobu<sup>1</sup>, Hideki Hattori<sup>2</sup>, Takeshi Kumazawa<sup>3</sup>, Xiao-Pen Lee<sup>3</sup>, Yoko Mizutani<sup>2</sup>,  
Takayuki Omori<sup>4</sup>, Hiroshi Nishimoto<sup>4</sup>, Sadao Kojima<sup>1</sup>, Akira Ishii<sup>5</sup>, Hiroshi Seno<sup>2</sup>  
<sup>1</sup>Department of Chemistry, Aichi Medical University School of Medicine  
<sup>2</sup>Department of Legal Medicine, Aichi Medical University School of Medicine  
<sup>3</sup>Department of Legal Medicine, Showa University School of Medicine  
<sup>4</sup>Graduate School of Environmental Studies, Nagoya University  
<sup>5</sup>Department of Legal Medicine and Bioethics, Nagoya University Graduate School of  
Medicine

**P6 Development of stable isotope dilution LC-MS/MS analysis of N-terminal thymosin  $\beta$ 4 tetrapeptides (Ac-SDKP and Ac-ADKP)**

Ayaka Ikemura<sup>1</sup>, Koichi Inoue<sup>1</sup>, Kaname Tsustumiuchi<sup>2</sup>, Yoshinari Tsuruta<sup>3</sup>, Tomoaki Hino<sup>1</sup> and Hisao Oka<sup>1,4</sup>

<sup>1</sup> School of Pharmacy, Kinjo Gakuin University

<sup>2</sup> College of Bioscience and Biotechnology, Chubu University

<sup>3</sup> Meiyō Clinic

<sup>4</sup> Graduate School of Human Ecology, Human Ecology Major, Kinjo Gakuin University

(Chair: Motomi Konishi)

**P7 Determination of nucleotides in infant formula and human milk by stable isotope dilution HILIC-MS/MS**

Rutsuko Obara<sup>1</sup>, Koichi Inoue<sup>2</sup>, Tomoaki Hino<sup>2</sup>, Hisao Oka<sup>1,2</sup>

<sup>1</sup> Graduate School of Human Ecology, Human Ecology Major, Kinjo Gakuin University

<sup>2</sup> School of Pharmacy, Kinjo Gakuin University

**P8 Simultaneous determination of naphthalene and p-dichlorobenzene in human specimens by isotope dilution gas chromatography / mass spectrometry**

Kanako Watanabe<sup>1</sup>, Koutarou Hasegawa<sup>1</sup>, Osamu Suzuki<sup>1</sup>

<sup>1</sup> Department of Legal Medicine, Hamamatsu University School of Medicine

**P9 Serum acylcarnitine analyses in children under valproate treatment using HPLC-MS/MS**

Y Nakajima,<sup>1</sup> Y Maeda<sup>2</sup>, H Ohmi<sup>2</sup>, S Ichiki<sup>1</sup>, S Kobayashi<sup>1</sup>, N Ando<sup>1</sup>, T Ito<sup>1</sup>, Y Kurono<sup>2</sup>, N Sugiyama<sup>3</sup>, H Togari<sup>1</sup>

<sup>1</sup> Graduate School of Medical Sciences, Nagoya City University, <sup>2</sup> Graduate School of Pharmaceutical Sciences, Nagoya City University, <sup>3</sup> School of Pharmacy, Aichi-Gakuin University

**P10 Acylcarnitine Profiling Assay For Patients With Fatty Acids Beta Oxidation Disorders: The Effect Of Heat Stress**

Hong Li<sup>1</sup>, Hironori Kobayashi, Yuki Hasegawa<sup>1</sup>, Jamiyan Purevsuren<sup>1</sup>, Yuichi Mushimoto<sup>1</sup>, Seiji Yamaguchi<sup>1</sup>

<sup>1</sup> Department of Pediatrics, Shimane University Faculty of Medicine

**P11 Identification and simultaneous determination of acetylated polyamines in human urine by ESI-TOF MS**

Keiji Samejima<sup>1</sup>, Kyoko Hiramatsu<sup>2</sup>, Keiichi Takahashi<sup>3</sup>, Masao Kawakita<sup>2</sup>, Masaki Kobayashi<sup>4</sup>, Hiroki Tsumoto<sup>5</sup>, Kohfuku Kohda<sup>1</sup>

<sup>1</sup> Research Institute of Pharmaceutical Sciences, Musashino University, <sup>2</sup> The Tokyo

Metropolitan Institute of Medical Science, <sup>3</sup> Department of Surgery, The Tokyo

Metropolitan Komagome Hospital, <sup>4</sup> Department of Legal Medicine, Kyoto Prefectural

University of Medicine, <sup>5</sup> Graduate School of Pharmaceutical Sciences, Nagoya City

University

**P12 Determination of parasiticide imidocarb in biological samples by LC-MS/MS and solid-phase extraction with diatomaceous earth column**

Mari Nunome<sup>1</sup>, Koichi Inoue<sup>2</sup>, Tomoaki Hino<sup>2</sup>, Hisao Oka<sup>1,2</sup>

<sup>1</sup> Graduate School of Human Ecology, Kinjo Gakuin University, Japan

<sup>2</sup> School of Pharmacy, Kinjo Gakuin University, Japan

(Chair: Fumiyo Kasuya)

**P13 High-speed counter-current chromatography/electrospray mass spectrometry for the purification of polypeptide antibiotics of enramycin**

Yasuko Hattori<sup>1</sup>, Koichi Inoue<sup>2</sup>, Tomoaki Hino<sup>2</sup>, Hisao Oka<sup>1,2</sup>

<sup>1</sup> Graduate School of Human Ecology Major, Kinjo Gakuin University

<sup>2</sup> School of Pharmacy, Kinjo Gakuin University

**P14 Rapid analysis of amino acids and the automated data processing method using Fast-GC/MS**

Shuichi Kawana<sup>1</sup>, Katsuhiko Nakagawa<sup>1</sup>, Yuki Hasegawa<sup>2</sup>, Seiji Yamaguchi<sup>2</sup>

<sup>1</sup> Shimadzu Corporation,

<sup>2</sup> Department of Pediatrics, Shimane University School of Medicine

**P15 Study of new amino acids analysis method for diagnosis of amino acid metabolic disorder**

Chunhua Zhang, Zonghai Ruan and Shiziko Komatsubara

Department of research & development of MILS International

**P16 Analysis of guanidino compounds and 5-aminolevulinate by HPLC-MS/MS**

Toshihiro Shinka, Tomiko Kuhara

Division of Human Genetics, Medical Research Institute, Kanazawa Medical University

**P17 Identification of pivaloylcarnitine obstructing newborn screening by tandem mass spectrometry**

Go Sato<sup>1</sup>, Yasuhiro Maeda<sup>1</sup>, Tetsuya Ito<sup>2</sup>, Yoko Nakajima<sup>2</sup>, Sayaka Ichiki<sup>2</sup>, Yukihisa Kurono<sup>1</sup>,

Kazunori Kimura<sup>1</sup>, Hajime Togari<sup>2</sup>, Naruji Sugiyama<sup>3</sup>

<sup>1</sup> Graduate School of Pharmaceutical Sciences, Nagoya City University

<sup>2</sup> Graduate School of Medical Sciences, Nagoya City University

<sup>3</sup> Aichi-Gakuin University, School of Pharmacy

**P18 Transfatty acid in pregnant women and fetus**

Yoshiro Wada<sup>1,2</sup>, Shumi Yamamoto<sup>3</sup>, Hiroyuki Kitajima<sup>4</sup>, Yoshinao Wada<sup>1</sup>

<sup>1</sup> Research Institute, Osaka Medical Center and Research Institute for Maternal and Child Health (Osaka MCHRI), <sup>2</sup> Pediatrics, Izumisano General Hospital, <sup>3</sup> Department of Food Science and Nutrition, Mukogawa Women's University, <sup>4</sup> Division of Neonatology, Osaka Medical Center and Research Institute for Maternal and Child Health (Osaka MCHRI)

(Chair: Nariyasu Mano)

**P19 Enzymatic diagnosis of glutaric aciduria type 1.**

Go Tajima<sup>1</sup>, Nobuo Sakura<sup>2</sup>, Ikue Hata<sup>3</sup>, Yosuke Shigematsu<sup>4</sup>

<sup>1</sup>Department of Pediatrics, Hiroshima University Graduate School of Biomedical Sciences

<sup>2</sup>Nursing House for Children with Severe Motor and Intellectual Disabilities "Suzugamine"

<sup>3</sup>Department of Pediatrics, Faculty of Medical Sciences, University of Fukui

<sup>4</sup>Department of Health Science, Faculty of Medical Sciences, University of Fukui

**P20 GC/MS measurement of mevalonic acid in urine to detect hyperimmunoglobulinemia D with periodic fever syndrome**

Yosuke Shigematsu<sup>1</sup>, Ikue Hata<sup>2</sup>, Hidemasa Sakai<sup>3</sup>, Takahiro Yasumi<sup>3</sup>, Toshio Heike<sup>3</sup>, Ryuta Nishikomori<sup>3</sup>

<sup>1</sup>Department of Health Science, Faculty of Medical Sciences, University of Fukui

<sup>2</sup>Department of Pediatrics, Faculty of Medical Sciences, University of Fukui

<sup>3</sup>Department of Pediatrics, Kyoto University Graduate School of Medicine

**P21 A case of *HSD3B7* deficiency diagnosed by analysis of urinary bile acids using GC/MS and her prognosis**

Hajime Takei<sup>1</sup>, Akina Muto<sup>1</sup>, Atushi Unno<sup>1</sup>, Hiroshi Nittono<sup>1</sup>, Toshiaki Shimizu<sup>2</sup>, Takao Kurosawa<sup>3</sup>, Masahiko Tohma<sup>3</sup>, Masakazu Kobayashi<sup>4</sup>

<sup>1</sup>Junshin Clinic Bile Acid Institute

<sup>2</sup>Department of Pediatrics, Juntendo University School of Medicine

<sup>3</sup>Faculty of Pharmacy, Health Sciences University of Hokkaido

<sup>4</sup>Kobayashi Children Clinic

**P22 Identification of glutathione conjugates of bile acids in rat bile**

Naohiro Hori<sup>1</sup>, Toshihiro Sakai<sup>1</sup>, Kuniko Mitamura<sup>1</sup>, Takashi Iida<sup>2</sup>, Tateaki Wakamiya<sup>3</sup>, Shigeo Ikegawa<sup>1</sup>

<sup>1</sup>Faculty of Pharmaceutical Sciences, Kinki University

<sup>2</sup>College of Humanities and Science, Nihon University

<sup>3</sup>Faculty of Science and Engineering, Kinki University

**P23 LC/ESI-MS/MS analysis on the sulfation of *N*-acetylcysteine conjugated bile acids by rat liver cytosolic fraction**

Toshihiro Sakai<sup>1</sup>, Naohiro Hori<sup>1</sup>, Kuniko Mitamura<sup>1</sup>, Takashi Iida<sup>2</sup>, Shigeo Ikegawa<sup>1</sup>

<sup>1</sup>Faculty of Pharmaceutical Sciences, Kinki University

<sup>2</sup>College of Humanities and Sciences, Nihon University

**P24 Analysis of urinary bile acids in patients with inborn error of bile acid metabolism by LC/MS-MS**

Akina Muto<sup>1</sup>, Hajime Takei<sup>1</sup>, Atushi Unno<sup>1</sup>, Hiroshi Nittono<sup>1</sup>, Toshiaki Shimizu<sup>2</sup>, Takao Kurosawa<sup>3</sup>, Masahiko Tohma<sup>3</sup>, Takashi Iida<sup>4</sup>

<sup>1</sup>Junshin Clinic Bile Acid Institute

<sup>2</sup>Department of Pediatrics, Juntendo University School of Medicine

<sup>3</sup>Faculty of Pharmacy, Health Sciences University of Hokkaido

<sup>4</sup>College of Humanities & Sciences, Nihon University

(Chair: Kazuo Igarashi)

- P25 Salivary bile acids: their determination method using LC–ESI-MS/MS and variations in their concentrations with increased saliva flow rate**  
Tatsuya Higashi<sup>1</sup>, Yujin Shibayama<sup>2</sup>, Kazutake Shimada<sup>2</sup>, Kuniko Mitamura<sup>3</sup>, Shigeo Ikegawa<sup>3</sup>, Toshimasa Toyooka<sup>1</sup>  
<sup>1</sup> School of Pharmaceutical Sciences, University of Shizuoka, <sup>2</sup> Division of Pharmaceutical Sciences, Graduate School of Natural Sciences and Technology, Kanazawa University, <sup>3</sup> Faculty of Pharmaceutical Sciences, Kinki University
- P26 Pico-drop Saliva Mass Spectrometry for Analysis of Smokers**  
Kanao Honda<sup>1</sup>, Iwao Sakane<sup>2</sup>, Hajime Mizuno<sup>1</sup>, Naohiro Tsuyama<sup>1</sup>, Takanori Harada<sup>1</sup>, Tsutomu Masujima<sup>1</sup>  
<sup>1</sup> Graduate School of Biomedical Sciences, Hiroshima University  
<sup>2</sup> Ito en, Ltd.
- P27 Analysis of Oral Medicine in Human Saliva using LC/MS/MS**  
Yukiko Hirabayashi, Yukari Yamamoto, Atsushi Maki  
Advanced Research Laboratory, Hitachi, Ltd.
- P28 GC-MS analysis of plasma level of polyunsaturated long chain fatty acids in elderly living in a Japanese rural community.**  
Itaru Watanabe<sup>1</sup>, Guang-ying Li<sup>2</sup>, Yutaka Kunitake<sup>1</sup>, Kazuhiro Sugataka<sup>1</sup>, Toshihiro Muraoka<sup>1</sup>, Naoki Kojima<sup>3</sup>, Shigeto Yamada<sup>1</sup>.  
<sup>1</sup> Department of Psychiatry, Faculty of Medicine, Saga University; <sup>2</sup> The First Affiliated Hospital to Changchun University of Traditional Chinese Medicine, <sup>3</sup> Kojima Hospital
- P29 A METHOD FOR EVALUATING THE EFFECT OF DRUGS ON FATTY ACID METABOLISM BY LC-ESI-MS/MS**  
Teiichi Masuyama, Ryota Nishizawa, Maya Kazumi, Fumiyo Kasuya,  
Faculty of Pharmaceutical Sciences, Kobegakuin University,
- P30 Analyses for phosphatidylcholine hydroperoxides by LC-MS**  
Shuping Hui<sup>1</sup>, Hitoshi Chiba<sup>2</sup>, Shigeki Jin<sup>2</sup>, Takao Kurosawa<sup>1</sup>  
<sup>1</sup> Faculty of Pharmaceutical Sciences, Health Sciences University of Hokkaido  
<sup>2</sup> Faculty of Health Sciences, Graduate School of Health Sciences, Hokkaido University

(Chair: Yasuhiro Maeda)

- P31 Mass spectrometric analysis of low-molecular metabolites in plasma of hemodialysis patients**  
Emiko Sato<sup>1</sup>, Masahiro Kohno<sup>1</sup>, Masanori Yamamoto<sup>3</sup>, Tatsuya Fujisawa<sup>2</sup>, Koichi Fujiwara<sup>2</sup>, Noriaki Tanaka<sup>2,3</sup>  
<sup>1</sup> NICHe, Tohoku University  
<sup>2</sup> Tanaka-Kitanoda Hospital  
<sup>3</sup> Hojyo-Tanaka Hospital



- P32 A metabolomic analysis approach to the investigation of uremic toxins reduced after administration of Kremezin® in rat**  
Kaori Kikuchi<sup>1</sup>, Yoshiharu Itoh<sup>1</sup>, Ryoko Tateoka<sup>1</sup>, Atsuko Ezawa<sup>1</sup>, Kenjiro Murakami<sup>1</sup>, Toshimitsu Niwa<sup>2</sup>  
<sup>1</sup> Biomedical Research Laboratories, Kureha Corporation  
<sup>2</sup> Department of Advanced Medicine for Uremia, Nagoya University School of Medicine
- P33 Lipid metabolism changes in intestinal polyp formation with Min mice**  
Kazutaka Ikeda<sup>1,2</sup>, Naoya Teraoka<sup>3</sup>, Michihiro Mutoh<sup>3</sup>, Keiji Wakabayashi<sup>3</sup>, Ryo Taguchi<sup>1,2</sup>  
<sup>1</sup> Department of Metabolome, Graduate School of Medicine, The University of Tokyo  
<sup>2</sup> JST-CREST  
<sup>3</sup> National Cancer Center Research Institute. Cancer Prevention Basic Research Project.
- P34 Structural study of the N-glycans of intercellular adhesion molecule-5 (telencephalin)**  
Tomohiro Ohgomor<sup>1</sup>, Osamu Funatsu<sup>2</sup>, Syu-ichi Nakaya<sup>3</sup>, Akinori Morita<sup>1</sup>, Masahiko Ikekita<sup>1,2</sup>  
<sup>1</sup> Faculty of Science and Technology, Tokyo University of Science  
<sup>2</sup> Genome and Drug Research Center, Tokyo University of Science  
<sup>3</sup> Shimadzu corporation
- P35 The modification of N-terminal amyloid-β peptides by copper ion/catecholamine-induced oxidative stress.**  
Madoka Kaneko<sup>1</sup>, Kouichi Inoue<sup>1</sup>, Tomoaki Hino<sup>1</sup>, Hisao Oka<sup>1,2</sup>  
<sup>1</sup> Graduate School of Human Ecology, Human Ecology Major, Kinjo Gakuin University  
<sup>2</sup> School of Pharmacy, Kinjo Gakuin University
- P36 Trypsin-catalyzed <sup>18</sup>O-single incorporation into peptide fragments for quantitative proteomics**  
Masaru Mori<sup>1</sup>, Kohei Abe<sup>1,2</sup>, Hiroaki Yamaguchi<sup>1,2</sup>, Junichi Goto<sup>2</sup>, Miki Shimada<sup>1,2</sup>, Nariyasu Mano<sup>1,2</sup>  
<sup>1</sup> Graduate School of Pharmaceutical Sciences, Tohoku University  
<sup>2</sup> Tohoku University Hospital
- (Chair: Tomoyuki Oe)
- P37 Analysis of chenodeoxycholic acid-binding proteins in rat liver using the new affinity extraction method**  
Yasushi Misawa<sup>1</sup>, Koichi Sato<sup>1</sup>, Masaru Mori<sup>1</sup>, Kohei Abe<sup>1,2</sup>, Hiroaki Yamaguchi<sup>1,2</sup>, Junichi Goto<sup>2</sup>, Miki Shimada<sup>1,2</sup>, Nariyasu Mano<sup>1,2</sup>  
<sup>1</sup> Graduate School of Pharmaceutical Sciences, Tohoku University  
<sup>2</sup> Tohoku University Hospital
- P38 Stem cell differentiation analysis by Real Time Single-cell Mass Spectrometry**  
Naohiro Tsuyama, Hajime Mizuno, Takanori Harada, Tsutomu Masujima  
Graduate School of Biomedical Sciences, Hiroshima University

**P39 Real Time Single-cell Mass Spectrometry for Micro-Analysis Using MarkerView™ Software 2. Application of MarkerView™ Software to Live Single Cell Mass Spectrometry**

Tsutomu Masujima

Graduate School of Biomedical Sciences, Hiroshima University

**P40 Single-Cell Drug Metabolomics by Live Single-Cell MS**

Hajime Mizuno, Sachiko Date, Kiyoshi Takeshima, Naohiro Tsuyama, Takanori Harada, Tsutomu Masujima

Graduate School of Biomedical Sciences, Hiroshima University

**P41 Visualization of dynamic changes of metabolites in the small tissue region.**

Yuki Sugiura<sup>1,2</sup>, Mitsutoshi Setou<sup>2</sup>

<sup>1</sup> Department of Medical Chemistry, Kansai Medical University

<sup>2</sup> Department of Bioscience and Biotechnology, Tokyo Institute of Technology

<sup>3</sup> Department of Molecular Anatomy, Hamamatsu University School of Medicine

**P42 Tissue analysis of mutant mice using imaging mass spectrometry**

Ikuko Yao<sup>1</sup>, Yuki Sugiura<sup>2,3</sup>, Mitsutoshi Setou<sup>3</sup>

<sup>1</sup> Department of Medical Chemistry, Kansai Medical University

<sup>2</sup> Department of Bioscience and Biotechnology, Tokyo Institute of Technology

<sup>3</sup> Department of Molecular Anatomy, Hamamatsu University School of Medicine

**15:30-17:20 Symposium 2 “MS application: from toxicological assessment to personalized medicine”**

Organizer: Tomiko Kuhara, Yosuke Shigematsu

**S2-1 Development in diagnostic process for newborn screening by tandem mass spectrometry**

Yosuke Shigematsu<sup>1</sup>, Ikue Hata<sup>2</sup>, Kazutaka Inaoka<sup>3</sup>, Shosuke Nomachi<sup>4</sup>, Nobuyuki Ishige<sup>5</sup>

<sup>1</sup> Department of Health Science, Faculty of Medical Sciences, University of Fukui,

<sup>2</sup> Department of Pediatrics, Faculty of Medical Sciences, University of Fukui,

<sup>3</sup> Osaka Medical Center and Research Institute for Maternal and Child Health,

<sup>4</sup> Sapporo City Institute of Public Health,

<sup>5</sup> Tokyo Health Service Association.

**S2-2 Assessment of toxicity of chemicals in rats by GC-MS-based metabolomic analysis of urine and plasma.**

Kazuki Mikata<sup>1</sup>, Takako Fukuda<sup>1</sup>, Kiyoko Bando<sup>2</sup>, Jun Sakai<sup>2</sup>, Morimasa Ohse<sup>3</sup>, Tomiko Kuhara<sup>3</sup>

<sup>1</sup> Sumitomo Chemical Co., Ltd.,

<sup>2</sup> Dainippon Sumitomo Pharma Co., Ltd.,

<sup>3</sup> Kanazawa Medical University

**S2-3 Metabolic profiling : from toxicological assessment to personalized medicine**

Tomiko Kuhara

Division of Human Genetics, Medical Research Institute, Kanazawa Medical University

**S2-4 Metabolome analysis of uremic toxins**

Toshimitsu Niwa<sup>1</sup>, Kaori Kikuchi<sup>2</sup>, Ryoko Tateoka<sup>2</sup>, Atsuko Ezawa<sup>2</sup>, Kenjiro Murakami<sup>2</sup>,  
Yoshiharu Itoh<sup>2</sup>,

<sup>1</sup>Department of Advanced Medicine for Uremia, Nagoya University School of Medicine,

<sup>2</sup>Biomedical Research Laboratories, Kureha Corporation

**17:20-17:50 Educational Lecture L2 (Chair: Toshimitsu Niwa)**

**Introductory course of quantitative analysis by mass spectrometry**

Yutaka Hashimoto

Clean Energy Research Center, University of Yamanashi

**18:00 Banquet**

## September 11 (Friday)

### 9:00-10:50     **Symposium 3 “Mass spectrometric approaches to the investigation of bioactive compounds and biomarkers”**

Organizer: Kuniko Mitamura, Tatsuya Higashi

#### S3-1 **Metabolic profiling of rat hair and screening biomarkers using liquid chromatography with electrospray ionization mass spectrometry**

Shinsuke Inagaki, Haruhito Tsutsui, Takumi Noda, Jun Zhe Min, Toshimasa Toyo'oka  
School of Pharmaceutical Sciences, University of Shizuoka

#### S3-2 **Targeted analysis of oxidized bioactive lipids by chiral liquid chromatography-electron capture atmospheric pressure chemical ionization/mass spectrometry (LC-ECAPCI/MS)**

Seon Hwa Lee  
Department of Bio-analytical Chemistry, Graduate School of Pharmaceutical Science,  
Tohoku University

#### S3-3 **Highly sensitive quantitative method for steroid hormones in bio-materials by liquid chromatography-electrospray ionization tandem mass spectrometry**

Mitsunobu Okuyama, Risa Nakagawa, Yoshimitsu Miyashiro, Seiji Honma  
ASKA Pharma Medical Co. Ltd.

#### S3-4 **Urinary cortisone/cortisol ratio adjusted by cortisol concentration may be a new Index of human 11 $\beta$ -HSD2 activity in vivo**

Akitomo Yokokawa, Hiromi Shibasaki, Takashi Furuta  
School of Pharmacy, Tokyo University of Pharmacy and Life Sciences

#### S3-5 **Identification of designer steroids in dietary supplements and doping control**

Masato Okano, Mitsuhiko Sato, Ayako Ikekita, Shinji Kageyama  
Anti-Doping Center, Mitsubishi Chemical Medience Corporation

### 10:50-11:40     **Invited Lecture L3** (Chair: Junichi Goto)

#### **Development of analysis of vitamin D metabolites using LC—MS combined with derivatization**

Kazutake Shimada  
Emeritus Professor of Kanazawa University, Adviser of Aska Pharm. Med. Co.

### 11:40 <Break>

**11:50-12:10 JSBMS Junior Award Lecture L4** (Chair: Tomiko Kuhara)

**Determination of acylcarnitine isomers by HPLC-MS/MS and its application**

Yasuhiro Maeda

Graduate School of Pharmaceutical Sciences, Nagoya City University

**12:10-12:50 Luncheon Seminar 2**

**13:00-14:50 Symposium 4 “Metabolomics for health and disease”**

Organizer: Ryo Taguchi, Eiichiro Fukusaki

**S4-1 Metabolomics reveals cancer-specific energy metabolism**

Tomoyoshi Soga

Institute for Advanced Biosciences, Keio University

**S4-2 Mode-of-action study of drug compounds and biomarker discovery for Alzheimer disease by Metabolomics**

Ken Aoshima<sup>1,2</sup>, Khin Than Myint<sup>1,2</sup>, Taisuke Uehara<sup>1,2</sup>, Tatsuji Nakamura<sup>1,2</sup>, Yoshiaki Sato<sup>1,2</sup>, Hiroki Muto<sup>1,2</sup>, Frank Bernier<sup>1</sup>, Mamoru Yanagimachi<sup>1</sup>, Yoshiya Oda<sup>1,2</sup>

<sup>1</sup> Biomarkers and Personalized Medicine, Eisai Co.,

<sup>2</sup> CREST

**S4-3 Lipidomics for inflammatory diseases**

Ryo Taguchi<sup>1,2</sup>

<sup>1</sup> Department of Metabolome, Graduate School of Medicine, The University of Tokyo

<sup>2</sup> JST, CREST

**S4-4 Lipidomics of rat models of disease and genetically modified mice**

Tetsuyuki Kobayashi<sup>1,2</sup>

<sup>1</sup> Department of Biological Sciences, Graduate School of Humanities and Sciences,

Ochanomizu University, <sup>2</sup> JST, CREST

**S4-5 Metabolic Fingerprinting and its application to high-resolution phenotype analysis**

Eiichiro Fukusaki

Department of Biotechnology, Graduate School of Engineering, Osaka University

**S4-6 Application of supercritical fluid technologies to metabolic profiling**

Takeshi Bamba

Department of Biotechnology, Graduate School of Engineering, Osaka University

**14:50 <Break>**

**15:00-16:50 Symposium 5 “Mass spectrometry: an indispensable tool for keeping food safety**

Organizer: Hitoshi Tsuchihashi, Hisao Oka

**S5-1 Urgent toxicological analysis in a case of intentional chemical food poisoning**

Hitoshi Tsuchihashi

Forensic Science Laboratory, Osaka Prefectural Police Headquarters

**S5-2 An application of isotope dilution method and LC-MS/MS for selective detection and quantitative analysis of toxic substances in food samples**

Osamu Ohtsuru<sup>1</sup>, Hikoto Ohta<sup>1</sup>

<sup>1</sup>National Research Institute of Police Science

**S5-3 Rapid Analysis for Management of Health Crisis**

Yukihiko Yamaguchi

Osaka City Institute of Public Health and Environmental Sciences

**S5-4 The combination of stable isotope ratios of C, O, N and S for geographical origin assignment of tea leaves**

Kenji Suzuki, Masashi Mitsuda, Motomitsu Sawada, Ryoichi Tajima

Safety Science Institute, SUNTORY BUSINESS EXPERT LIMITED

**S5-5 LC/MS/MS analysis of residual drugs in foods**

Hisao Oka<sup>1,2</sup>

<sup>1</sup>School of Pharmacy, Kinjo Gakuin University

<sup>2</sup>Graduate School of Human Ecology, Kinjo Gakuin University

**S5-6 Mushroom Poisoning —New Perspective—**

Kunio Gonmori, Sanae Kanno, Kayoko Minakata, Kanako Watanabe and Osamu Suzuki

Department of Legal Medicine, Hamamatsu University School of Medicine

**16:50 <Break>**

**17:00-18:50 Symposium 6 “Medical mass spectrometry of localized target”**

Organizer: Mitsutoshi Seto, Tsutomu Masujima

**S6-1 Imaging Mass Spectrometry**

Toyofumi Nakanishi<sup>1&2</sup>, Richard M Caprioli<sup>2</sup>

<sup>1</sup>Department of Clinical and Laboratory Medicine, Osaka Medical College

<sup>2</sup>Vanderbilt University School of Medicine, Mass Spectrometry Research Center

**S6-2 Statistics of Imaging Mass Spectrometry**

Shigeki Kajihara<sup>1</sup>, Hiroko Morinaga<sup>1</sup>, Kiyoshi Ogawa<sup>1</sup>, Mitsutoshi Setou<sup>2</sup>

<sup>1</sup>Technology Research Laboratory, Shimadzu Corporation

<sup>2</sup>Department of Molecular Anatomy, Hamamatsu University School of Medicine

**S6-3 Highly-sensitive MS<sup>n</sup> of glycopeptides by localization**

Junko Amano

Laboratory of Glycobiology, The Noguchi Institute

**S6-4 Real Time Single-cell Mass Spectrometry for Micro-Analysis Using MarkerView™ Software**

**— 1. Effective and Rapid Profiling Analysis of Biological Samples Using MarkerView™ Software —**

Kaoru Karasawa

Applied Biosystems Japan Ltd.

**18:50 Closing Remarks**

---

---

**The 34th Annual Meeting of the Japanese Society  
for Biomedical Mass Spectrometry**

President of the 34th Annual Meeting: Shigeo Ikegawa, Ph.D.  
Professor, Faculty of Pharmaceutical Sciences, Kinki University  
3-4-1 Kowakae, Higashi-osaka, 577-8502, Japan  
Tel: +81-6-6721-2332 Fax: +81-6-6730-1394  
E-mail: 34jsbms-office@phar.kindai.ac.jp  
URL: [http://www.phar.kindai.ac.jp/jsbms34/index\\_en.html](http://www.phar.kindai.ac.jp/jsbms34/index_en.html)

**Japanese Society for Biomedical Mass Spectrometry**

President: Tomiko Kuhara, Ph.D.  
Professor, Division of Human Genetics, Medical Research Institute  
Kanazawa Medical University  
Uchinada, Kahokugun, Ishikawa 920-0293, Japan  
Tel: +81-76-286-2464 Fax: +81-76-286-3358  
URL: <http://www.kanazawa-med.ac.jp/~jsbmso/englishindex.html>