

8:15

Door Open

8:45 – 9:00 〈S Building S102/S101〉

Opening Remarks

Masahiko WATANABE
President, JEMS 53rd Annual Meeting
Shujitsu University

9:00 – 10:45 〈S Building S102/S101〉

Symposium 1 Promising Studies on Genome Safety: Detection, Analysis and Mechanisms

Chairs: Atsushi HAKURA (Global Drug Safety, Eisai Co., Ltd.)
Kei-ichi SUGIYAMA (Division of Genome Safety Science, National Institute of Health Sciences)

Introduction 9:00

S1-1 9:02 **Current status of and future prospects for the ecNGS-based mutagenicity evaluation method**
Shoji MATSUMURA
R&D, Safety Science Research, Kao Corporation

S1-2 9:28 **Mechanism of DNA double-strand break repair and mutagenesis**
Masataka TSUDA
Division of Genome Safety Science, National Institute of Health Sciences

S1-3 9:54 **Possible involvement of chromothripsis in chemical carcinogenesis**
Yuji ISHII
Division of Pathology, National Institute of Health Sciences

S1-4 10:20 **Induction mechanism of epimutations and their characteristics compared with mutations**
Toshikazu USHIJIMA¹, Naoko HATTORI^{1,2}
¹Hoshi University, ²Gunma University

11:00 – 12:00 〈S Building S102/S101〉

Oral Session 1

Presentation 7 min, Discussion 2 min, Speaker change 1 min

Chairs: Emiko OKADA (Yakult Central Institute for Microbiological Research)
Megumi SASATANI (Department of Experimental Oncology, RIRBM, Hiroshima University)

- O-1** 11:00 **NADH and copper-mediated oxidative DNA damage induced by rosmarinic acid**
(P-17) Hatasu KOBAYASHI¹, Yuichiro HIRAO^{1,2}, Shosuke KAWANISHI³, Shinya KATO⁴, Yurie MORI¹, Mariko MURATA^{1,5}, Shinji OIKAWA¹
¹Department of Environmental and Molecular Medicine, Mie University Graduate School of Medicine, ²Mie Prefectural College of Nursing, ³Faculty of Pharmaceutical Science, Suzuka University of Medical Science, ⁴Radioisotope Experimental Facility, Advanced Science Research Promotion Center, Mie University, ⁵Faculty of Nursing, Suzuka University of Medical Science
- O-2** 11:10 **Characterization of Bhas42 cells transformed by different chemicals**
(P-23) Toshinori MIURA, Naoteru DENTA, Masaki NAKAGAWA, Masashi SEKIMOTO
Environmental Health Sciences Laboratory
- O-3** **Withdrawal**
- O-4** 11:20 **Formation of DNA double strand breaks after coexposure to UVA1 and UVB was associated with Mre11**
(P-43) Mai NARIMICHI, Yukako KOMAKI, Yuko IBUKI
Graduate Division of Nutritional and Environmental Sciences, University of Shizuoka
- O-5** 11:30 **Establishment of mice with complete human mutations that lack formaldehyde-metabolizing enzymes and their phenotypes**
(P-51) Yoshihiro TAMAKI¹, Jun NAKAMURA², Aya KAWAI¹, Kazunori SHIRAIISHI¹, Toshiya OKADA², Masanobu KAWANISHI¹
¹Laboratory of Environmental Molecular Toxicology, Graduate School of Science, Osaka Metropolitan University, ²Graduate School of Veterinary Sciences, Osaka Metropolitan University
- O-6** 11:40 **Elucidating the Relationship between Environmental Factors and Human Cancer Development Using Next Generation Sequencers**
(P-57) Yukari TOTSUKA¹, Momoko NAGAI², Mamoru KATO²
¹Department of Environmental Health Sciences, Hoshi University, ²Division of Bioinformatics, National Cancer Center Research Institute

13:15 – 14:00 〈S Building S102/S101〉

General Meeting & Awards Ceremony

14:00 – 15:15 〈S Building S102/S101〉

Award Lecture

Chair: Tomonari MATSUDA (Graduate School of Engineering, Kyoto University)

JEMS Award 2024

AW 14:00 **Elucidation of mutation mechanisms using newly constructed Ames tester strains and contribution to the internationalization of the journal Genes and Environment**
Masami YAMADA
Department of Applied Chemistry, National Defense Academy

JEMS Service Award 2024

SA 14:20 **Development of Rodent Gastrointestinal Micronucleus Test and Contribution to its International Standardization**
Wakako OHYAMA
Yakult Central Institute, Yakult Honsha Co., Ltd.

JEMS Encouragement Award 2024

EA-1 14:40 **Studies on de novo germline mutations using whole genome sequencing**
Arikuni UCHIMURA
Department of Molecular Biosciences, Radiation Effects Research Foundation

JEMS Encouragement Award 2024

EA-2 14:55 **Investigation of DNA damage Induced by chemicals using γ -H2AX as a indicator**
Tatsushi TOYOOKA
National Institute of Occupational Safety and Health, Japan

15:30 – 17:15 〈S Building S102/S101〉

Symposium 2 The New Era Shaped by Environmental Genome Monitoring

Chairs: Natsuko KONDO (Biodiversity Division, National Institute for Environmental Studies)
Hiroshi HONDA (R&D Human Health Care, Kao Corporation)

Introduction 15:30

S2-1 15:35 **Metagenomic Analysis of River Water for Bacterial Flora and Drug Resistance Genes**

Takayoshi SUZUKI¹, Kahoko NISHIKAWA²
¹Division of Genome Safety Science, National Institute of Health Sciences, ²Faculty of Commerce

S2-2 15:55 **Wastewater-based Epidemiology: Development and Social Implementation of Highly Sensitive Pathogen Genome Detection Technologies in the Environment**

Masaaki KITAJIMA
Research Center for Water Environment Technology, School of Engineering, The University of Tokyo

S2-3 16:15 **Using biodiversity information through environmental DNA analysis and its challenges**

Natsuko I. KONDO
National Institute for Environmental Studies

S2-4 16:35 **The Utility of Environmental RNA for Assessment of Biodiversity and Stress Response Analysis**

Kaede MIYATA
Kao Corporation

プログラム

Program

受賞講演

招待講演

特別講演

シンポジウム

一般口演

ポスター

研究会定例会

ワークショップ

人名索引

- S2-5** 16:55 **Perpetual, reciprocal dynamics of ecology and evolution in the wild**
 Shunsuke UTSUMI^{1,2}, Fugen OHKUMA², Naoki SHIMAMOTO², Kinuyo YONEYA³
¹Faculty of Environmental Earth Science, Hokkaido University,
²Graduate School of Environmental Science, Hokkaido University,
³Faculty of Agriculture, Kindai University

17:15 – 18:30 〈S Building S-Commons〉

Poster Session Core time for odd numbers

19:15 – 21:15 〈Okayama Plaza Hotel〉

Banquet

8:15

Door Open

8:45 – 9:45 (S Building S102/S101)

Oral Session 2

Presentation 7 min, Discussion 2 min, Speaker change 1 min

Chairs: Akira SASSA (Graduate School of Science, Chiba University)
Shun MATSUDA (Graduate School of Engineering, Kyoto University)

- | | | |
|-------------------------------|-------------|--|
| <p>O-7
(P-02)</p> | <p>8:45</p> | <p>Analysis of double-strand DNA breaks in placental organoids
Katsuhiro HANADA¹, Yoshihiro NISHIDA²
¹Department of Advanced Medicines, Faculty of Medicine, Oita University,
²Department of Obstetrics and Gynecology, Faculty of Medicine, Oita University</p> |
| <p>O-8
(P-10)</p> | <p>8:55</p> | <p>Effect of circadian rhythm disruption induced by time-restricted feeding and exercise on oxidative stress and immune
Yun-Shan LI^{1,3}, Hiroaki FUJIHARA², Koichi FUJISAWA¹, Kazuaki KAWAI¹
¹Department of Environmental Oncology, Institute of Industrial Ecological Sciences, University of Occupational and Environmental Health,
²Department of Ergonomics, Institute of Industrial Ecological Sciences, University of Occupational and Environmental Health, Japan,
³Center for Stress-related Disease Control and Prevention, University of Occupational and Environmental Health, Japan</p> |
| <p>O-9
(P-18)</p> | <p>9:05</p> | <p>Mutations on plasmid DNA irradiated with carbon ion beams
Hiroaki TERATO¹, Yuka TOKUYAMA², Kanae MORI², Midori ISOBE¹
¹Advanced Science Research Center, Okayama University,
²Analytical Research Center for Experimental Sciences, Saga University</p> |
| <p>O-10
(P-36)</p> | <p>9:15</p> | <p>Repair mechanisms and biological effects of DNA damage caused by endogenous mutagene formaldehyde
Yasuyoshi OKA, Tomoo OGI
Department of Genetics, Research Institute of Environmental Medicine, Nagoya University</p> |
| <p>O-11
(P-40)</p> | <p>9:25</p> | <p>Impact of dysregulation of fatty aldehyde metabolism on genome stability
Wataru SAKAI^{1,2}, Tomoya HOTANI^{1,2}, Taketoshi KAJIMOTO³, Taro OKADA³, Masakazu SHINOHARA³, Masayuki YOKOI^{1,2}, Kaoru SUGASAWA^{1,2}
¹Biosignal Research Center, Kobe University, ²Graduate School of Science, Kobe University,
³Graduate School of Medicine, Kobe University</p> |
| <p>O-12
(P-74)</p> | <p>9:35</p> | <p>The induction of cytokines related to allergy in alveolar epithelial cells by oxygenated polycyclic aromatic hydrocarbons
Kentaro MISAKI¹, Takeji TAKAMURA², Hirohisa TAKANO^{3,4}, Ken-ichiro INOUE¹
¹School of Nursing, University of Shizuoka,
²Department of Applied Chemistry, Kanagawa Institute of Technology,
³Institute for International Academic Research, Kyoto University of Advanced Science,
⁴Graduate School of Global Environmental Studies, Kyoto University</p> |

9:45 – 10:30 ‹S Building S102/S101›

Invited Lecture

Chair: Masamitsu HONMA (National Institute of Health Sciences)

- IL** 9:45 **Regulations and current status of radioactive materials in food in Japan after the Fukushima Daiichi nuclear power plant accident; review of research data from the 13 years since the accident**
Hiromi NABESHI
 Division of Foods, National Institute of Health Sciences

10:30 – 11:45 ‹S Building S-Commons›

Poster Session Core time for even numbers

13:15 – 15:15 ‹S Building S102/S101›

Symposium 3 Potential for Computational Genotoxicity

Chairs: Naoki KOYAMA (Chugai Pharmaceutical Co., Ltd.)
 Ayako FURUHAMA (Division of Genome Safety Science, National Institute of Health Sciences)

- S3-1** 13:15 **Potential for Computational Genotoxicity**
Naoki KOYAMA
 Safety and Bioscience Research Dept. Chugai Pharmaceutical Co., Ltd.
- S3-2** 13:32 **US FDA Experience in the Regulatory Application of (Q)SAR**
Naomi Louise KRUHLAK
 US Food and Drug Administration/Center for Drug Evaluation and Research
- S3-3** 14:14 **Toward Fully Automated Genotoxicity Prediction**
Nicolas Ken SHINADA, Suchendra Kumar PALANIAPPAN
 SBX Corporation
- S3-4** 14:45 **Importance of domain knowledge in data analysis: ecNGS analysis**
Kazuki IZAWA
 Division of Genome Safty Science, National Institute of Health Sciences

15:30 – 16:30 ‹S Building S102/S101›

Special Lecture

Chair: Tomonari MATSUDA (Graduate School of Engineering, Kyoto University)

- SL** 15:30 **From “genotoxicity” to “genometoxicity”**
Masamitsu HONMA
 National Institute of Health Sciences

16:30 – 16:45 ‹S Building S102/S101›

The Best Presentation Awards Ceremony & Closing Remarks

Poster Discussion : [odd number] 2024 December 7 (Sat) 17:15-18:30
 [even number] 2024 December 8 (Sun) 10:30-11:45

- P-01 Follow-up study of glutathione-supplemented in vitro gene mutation assays in TK6 cells**
Manabu YASUI¹, Akiko UKAI¹, Masamitsu HONMA², Kei-Ichi SUGIYAMA¹
¹Division of Genome Safety Science, National Institute of Health Sciences,
²General Affairs Department, National Institute of Health Sciences
- P-02 Analysis of double-strand DNA breaks in placental organoids**
 (O-7) Katsuhiro HANADA¹, Yoshihiro NISHIDA²
¹Department of Advanced Medicines, Faculty of Medicine, Oita University,
²Department of Obstetrics and Gynecology, Faculty of Medicine, Oita University
- P-03 Investigation of cytotoxicity indicators in miniaturized Ames test (Ames MPF assay)**
Asami MARUCHI, Ryoko MATSUYAMA, Hiroyuki ASANO
 Toxicology Group, Environmental Health Science Laboratory, Sumitomo Chemical Co., Ltd.
- P-04 Genotoxicity induced in mice lungs by heated tobacco products**
Yukari TOTSUKA¹, Rikako ISHIGAMORI¹, Yukie HARA², Akira USHIYAMA³, Yohei INABA³,
Katsuhiro MIYAJIMA⁴, Noriko KEMURIYAMA⁴
¹Department of Environmental Health Sciences, Hoshi University, ²School of pharmacy, Nihon University,
³Department of Environmental Health, National Institute of Public Health,
⁴Department of Nutritional Science and Food Safety, Tokyo University of Agriculture
- P-05 Mutagenesis in higher eukaryotes associated with transcription**
Katsuyoshi HORIBATA, Tomoko ANDO, Aimi YOSHIDA, Kei-ichi SUGIYAMA
 Division of Genome Safety Science, National Institute of Health Sciences
- P-06 Mechanisms of Reactive oxygen species-dependent DNA damage by the COVID-19 therapeutic drug, the molnupiravir metabolite**
Rinya YOGO^{1,2}, Yurie MORI¹, Hatasu KOBAYASHI¹, Hirota KATSUZAKI³, Yuichiro HIRAO^{1,4},
Hirokazu KOTANI², Shosuke KAWANISHI⁵, Mariko MURATA¹, Shinji OIKAWA¹
¹Department of Environmental and Molecular Medicine, Mie University Graduate School of Medicine,
²Department of Forensic Medicine and Sciences, Mie University Graduate School of Medicine,
³Department of Life Sciences, Graduate School of Bioresources, Mie University,
⁴Department of Home Care Nursing, Mie Prefectural College of Nursing,
⁵Faculty of Pharmaceutical Sciences, Suzuka University of Medical Science
- P-07 Mutagenicity in liver of MutaMouse orally treated with toluene diisocyanate**
Mariko MATSUMOTO¹, Takako ISO¹, Takaaki UMANO¹, Yasumasa MURATA¹, Nozomu HIROSE¹,
Kenichi MASUMURA¹, Katsuyoshi HORIBATA², Kei-ichi SUGIYAMA²
¹Division of Risk Assessment, National Institute of Health Sciences,
²Division of Genome Safety Science, National Institute of Health Sciences
- P-08 Examination of kinetochore analysis by CREST staining**
Kenichiro SUZUKI, Michiyo OBA, Kanako IWAKURA, Sawako KASAMOTO, Shoji MASUMORI,
Fukutaro MIZUHASHI
 BioSafety Research Center Inc.
- P-09 Effects of Ultraviolet and Visible Light on DNA Damage and Repair in Zebrafish Embryos**
Riku HIROTANI, Kazuomi SATO
 Graduate School of Agriculture, Tamagawa University

- P-10 (O-8) Effect of circadian rhythm disruption induced by time-restricted feeding and exercise on oxidative stress and immune**
 Yun-Shan LI^{1,3}, Hiroaki FUJIHARA², Koichi FUJISAWA¹, Kazuaki KAWAI¹
¹Department of Environmental Oncology, Institute of Industrial Ecological Sciences, University of Occupational and Environmental Health,
²Department of Ergonomics, Institute of Industrial Ecological Sciences, University of Occupational and Environmental Health, Japan,
³Center for Stress-related Disease Control and Prevention, University of Occupational and Environmental Health, Japan
- P-11 Toxicity evaluation of advanced materials using mouse liver organoids**
 Rikako ISHIGAMORI¹, Masahiko IMAI¹, Akiko OHNO², Yukari TOTSUKA¹
¹Environmental Health Sciences, Hoshi University,
²Division of Genome Safety Science, Center for Biological Safety and Research, National Institute of Health Sciences
- P-12 Effects of Nanoplastics on Cultured Cells and Zebrafish Embryos**
 Kotaro MURAKAMI¹, Kazuma TAIRA¹, Kazuomi SATO^{1,2}
¹Division of Animal Sciences, College of Agriculture, Tamagawa University,
²Graduate School of Agriculture, Tamagawa University
- P-13 Mutational spectrum analysis in bicyclic aromatic amines**
 Kohei WATANABE¹, Kohei SHIMOMURA¹, Ayaka ANDO¹, Reika SATO¹, Chisaki SUZUKI¹, Madoka TAKEUCHI¹, Noriyuki MIYOSHI², Takuma KOBAYASHI², Yukari TOTSUKA³
¹Laboratory of Environmental Toxicology and Carcinogenesis, School of Pharmacy, Nihon University,
²Food and Nutritional Sciences, University of Shizuoka,
³Department of Environmental Health Sciences, Hoshi University
- P-14 Characteristics of *de novo* mutations in the genome of offspring of acrylamide-treated male mice**
 Kenichi MASUMURA¹, Tomoko ANDO², Katsuyoshi HORIBATA², Yuji ISHII³, Kei-ichi SUGIYAMA²
¹Division of Risk Assessment, National Institute of Health Sciences, ²Division of Genome Safety Science, NIHS,
³Division of Pathology, NIHS
- P-15 MLA and cellular uptake into L5178Y cells for oligonucleotides containing novel modified nucleic acid ALNA[Ms]**
 Ayaka FURUKAWA¹, Noriko UCHIYAMA¹, Tetsuya OOTA¹, Katsuya YAMADA¹, Tomo TAKEGAWA², Shumpei MURATA², Takuya FUJITA¹
¹Safety Research Laboratories, Research Division, Mitsubishi Tanabe Pharma Corporation,
²Modality Laboratories, Research Division, Mitsubishi Tanabe Pharma Corporation
- P-16 Effects of Glutathione Depletion in Aldehyde dehydrogenase(ALDH2)-Deficient Cells**
 Yuka HIRAKAWA¹, Jun NAKAMURA², Masanobu KAWANISHI¹
¹Laboratory of Environmental Molecular Toxicology, Graduate School of Science, Osaka Metropolitan University,
²Graduate School of Veterinary Science, Osaka Metropolitan University
- P-17 (O-1) NADH and copper-mediated oxidative DNA damage induced by rosmarinic acid**
 Hatasu KOBAYASHI¹, Yuichiro HIRAO^{1,2}, Shosuke KAWANISHI³, Shinya KATO⁴, Yurie MORI¹, Mariko MURATA^{1,5}, Shinji OIKAWA¹
¹Department of Environmental and Molecular Medicine, Mie University Graduate School of Medicine,
²Mie Prefectural College of Nursing, ³Faculty of Pharmaceutical Science, Suzuka University of Medical Science,
⁴Radioisotope Experimental Facility, Advanced Science Research Promotion Center, Mie University,
⁵Faculty of Nursing, Suzuka University of Medical Science
- P-18 (O-9) Mutations on plasmid DNA irradiated with carbon ion beams**
 Hiroaki TERATO¹, Yuka TOKUYAMA², Kanae MORI², Midori ISOBE¹
¹Advanced Science Research Center, Okayama University,
²Analytical Research Center for Experimental Sciences, Saga University
- P-19 Exploring the mechanism of micronucleus formation under rat S9 metabolic activation induced by flavor compounds through ToxTracker and high-content assays**
 Tomohiro TAKAHASHI¹, Satoru MUNAKATA¹, Taku WATANABE¹, Ortner VIKTORIA², Wacławek KARIN², Tsuneo HASHIZUME¹
¹Japan Tobacco Inc., ²Oekolab Ges. f. Umweltanalytik

- P-20** **Elucidation of the mechanism of mutagenesis by DNA ribosyltransferase scabin**
Miyuki OHARA¹, Isao KURAOKA², Masanobu KAWANISHI¹
¹Laboratory of Environmental Molecular Toxicology, Graduate School of Science, Osaka Metropolitan University,
²Department of Chemistry, Graduate School of Science, Fukuoka University
- P-21** **The mechanism study of acetamide-induced large micronuclei formation using primary rat hepatocytes**
Yohei YAMAGAMI^{1,2}, Yuji ISHII¹, Shinji TAKASU¹, Kengo KASAMATSU^{1,3}, Meili SOMA¹,
Takeshi TOYODA¹, Tomoaki MURAKAMI², Kumiko OGAWA¹
¹Division of Pathology, National Institute of Health Sciences,
²Laboratory of Veterinary Toxicology, Tokyo University of Agriculture and Technology,
³Laboratory of Veterinary Pathology, Tokyo University of Agriculture and Technology
- P-22** **The oxidation of guanine by singlet oxygen**
Akito KOMI¹, Taishu KAWADA¹, Moka MAEHARA¹, Hitoki MITANI¹, Kanau NASU¹,
Katsuhito KINO^{1,2}
¹Department of Nano Material and Bio Engineering, Faculty of Science and Engineering, Tokushima Bunri University,
²Center for Advance Science and Engineering, Tokushima Bunri University
- P-23** **Characterization of Bhas42 cells transformed by different chemicals**
(O-2) Toshinori MIURA, Naoteru DENTA, Masaki NAKAGAWA, Masashi SEKIMOTO
Environmental Health Sciences Laboratory
- P-24** **Investigation of *in vivo* mutagenicity of 6-methoxyquinoline using *gpt* delta rats**
Shinji TAKASU¹, Yuji ISHII¹, Meili SOMA¹, Kengo KASAMATSU^{1,2}, Yohei YAMAGAMI^{1,3},
Takeshi TOYODA¹, Kumiko OGAWA¹
¹Division of Pathology, National Institute of Health Sciences,
²Laboratory of Veterinary Pathology, Tokyo University of Agriculture and Technology,
³Laboratory of Veterinary Toxicology, Tokyo University of Agriculture and Technology
- P-25** **Establishment of immortalized cells to assess aldehyde toxicity**
Aya KAWAI¹, Jun NAKAMURA², Kazunori SHIRAIISHI¹, Masanobu KAWANISHI¹
¹Department of Biochemistry, Graduate School of Science, Osaka Metropolitan University,
²Graduate School of Veterinary Medicine, Osaka Metropolitan University
- P-26** **Investigation of the mechanism of genotoxicity of estrogen metabolites using MCF-7 cells**
Kohei SUGIHAR¹, Yasuyuki HISHINUMA², Moeka NAMIKI¹, Atsushige ASHIMORI³,
Masashi SEKIMOTO²
¹Graduate School of Environmental Health, Azabu University, ²Department of Environmental Science, Azabu University,
³Graduate School of Medicine, Faculty of Medicine and Health Sciences, Yamaguchi University
- P-27** **Automated micronucleus discrimination for *in vitro* micronucleus testing using general-purpose image analysis**
Kenji TAKESHITA, Shunji FURUKUMA, Hiromichi OGURA
UBE Scientific Analysis Laboratory, Inc.
- P-28** **Functional regulation of DNA helicase RTEL1 via post-translational modifications**
Kosuke MATSUO¹, Remi TAMEDA¹, Hidefumi IWASHITA¹, Yusuke SANADA², Shinsuke ITO³,
Isao KURAOKA¹, Arato TAKEDACHI¹
¹Dpt of Biochem, Grad Sch of Sci, Fukuoka Univ, ²Dpt of Physchem, Faculty of Sci, Fukuoka Univ, ³RIKEN IMS
- P-29** **Study of liver S9 preparation methods**
Sho FUJIWARA, Hatsumi IKUMA, Naomi FUJIWARA, Hisayoshi TAKAGI, Masayasu OZAKI
Biotechnical Center, Japan SLC, Inc.
- P-30** **Evaluation of agonist and antagonist activities of pesticides and other environmentally hazardous chemicals using yeast expressing *Daphnia magna* juvenile hormone receptor**
Mayuko NAKASHIMA¹, Sayoko HARASHIMA^{2,3}, Takashi YAGI^{1,2}, Masanobu KAWANISHI^{1,2}
¹Department of Biological Chemistry, Graduate School of Science, Osaka Metropolitan University,
²Department of Biological Science, Graduate School of Science, Osaka Prefecture University,
³Department of Applied Biological Chemistry, Graduate School of Agriculture, Osaka Metropolitan University

- P-31 Identification of the Novel Crosstalk Between DNA Damage Response and RNA Modifications**
Sujin SONG¹, Akito YOSHIDA¹, Aoshi KITAMURA¹, Asuka TACHIKAWA¹, Yu-Hsien HWANG-FU², Zachary JOHNSON², Kiyoe URA¹, Akira SASSA¹
¹Department of Biology, Faculty of Science, Chiba University, ²Alida Biosciences, Inc.
- P-32 Elucidating the role of O6-methylguanine DNA methyltransferase in regulation of inflammatory response**
Nonoka KONISHI¹, Aoshi KITAMURA¹, Akiko UKAI², Manabu YASUI², Masamitsu HONMA², Kei-ichi SUGIYAMA², Kiyoe URA¹, Akira SASSA¹
¹Department of Biology, Faculty of Science, Chiba University, ²Division of Genome Safety Science, National Institute of Health Science
- P-33 Evaluation of higher genome instability using ATAC-seq as an indicator of chromatin structure change**
Keigo YAMAKITA¹, Manabu YASUI², Masamitsu HONMA², Kei-ichi SUGIYAMA², Ryoji FUJIKI³, Atsushi KANEDA^{3,4}, Kiyoe URA¹, Akira SASSA¹
¹Department of Biology, Faculty of Science, Chiba University, ²Division of Genome Safety Science, National Institute of Health Sciences, ³Graduate School of Medicine and School of Medicine, Chiba University, ⁴Health and Disease Omics Center, Chiba University
- P-34 Visualization for dynamic change in resolution of homologous recombination intermediate**
Yusaku HAMADA¹, Masataka TSUDA^{1,2}
¹Program of Biomedical Science, Graduate School of Integrated Sciences for Life, Hiroshima University, ²Division of Genome Safety Science, National Institute of Health Science
- P-35 Uncovering the role of RNA inosine modification in genome integrity**
Akito YOSHIDA¹, Aoshi KITAMURA¹, Yu-Hsien HWANG-FU², Zachary JOHNSON², Kiyoe URA¹, Akira SASSA¹
¹Department of Biology, Faculty of Science, Chiba University., ²Alida Biosciences, Inc.
- P-36 Repair mechanisms and biological effects of DNA damage caused by endogenous mutagene formaldehyde**
 (O-10) Yasuyoshi OKA, Tomoo OGI
 Department of Genetics, Research Institute of Environmental Medicine, Nagoya University
- P-37 Novel reporter plasmid for evaluating the dynamics of Non-homologous end joining repair in living cells**
Gakuto FUKUSHIMA¹, Kosuke MATSUO¹, Yoshihiro FUJIMURA¹, Haruto KOJIMA¹, Ayano BABA², Hayato NISHINO², Rui ODA², Isao KURAOKA¹, Arato TAKEDACHI¹
¹Functional Biochemistry Group, Department of Chemistry, Graduate School of Science, Fukuoka University, Japan, ²Functional Biochemistry Group, Department of Chemistry, Faculty of Science, Fukuoka University, Japan
- P-38 Novel reporter plasmids for evaluating DNA damage response in living cells**
Yoshihiro FUJIMURA¹, Gakuto FUKUSHIMA¹, Kousuke MATSUO¹, Haruto KOJIMA¹, Ayano BABA², Hayato NISHINO², Rui ODA², Isao KURAOKA¹, Arato TAKEDACHI¹
¹Department of Chemistry, Graduate School of Science, Fukuoka University, ²Department of Chemistry, Faculty of Science, Fukuoka University
- P-39 Homologous Recombination dependent Genomic Instability Mechanism by Incorporation of Deaminated Nucleotides in *Saccharomyces cerevisiae***
Rina MACHII, Tatsuo NUNOSHIBA
 International Christian University
- P-40 Impact of dysregulation of fatty aldehyde metabolism on genome stability**
 (O-11) Wataru SAKAI^{1,2}, Tomoya HOTANI^{1,2}, Taketoshi KAJIMOTO³, Taro OKADA³, Masakazu SHINOHARA³, Masayuki YOKOI^{1,2}, Kaoru SUGASAWA^{1,2}
¹Biosignal Research Center, Kobe University, ²Graduate School of Science, Kobe University, ³Graduate School of Medicine, Kobe University
- P-41 DNA Repair mechanism of 3'-blocking lesion**
Masataka TSUDA
 Division of Genome Safety Science, National Institute of Health Sciences

- P-42** **Competition for transcriptional cofactors in the AhR/Nrf2 and Wnt/ β -catenin pathways**
Mebae KOIKE, Showa KOMATSU, Shun TAKEMOTO, Kazuhiro SHIIZAKI
 Graduate School of Life Sciences, Toyo University
- P-43** **Formation of DNA double strand breaks after coexposure to UVA1 and UVB was associated with Mre11**
 (O-4) Mai NARIMICHI, Yukako KOMAKI, Yuko IBUKI
 Graduate Division of Nutritional and Environmental Sciences, University of Shizuoka
- P-44** **Induction of premature senescence by formaldehyde exposure and associated role of histone H2AX**
Satoko ANDO¹, Yukako KOMAKI^{1,2}, Takashi SUZUKI², Yuko IBUKI^{1,2}
¹Department of Environmental and Life Sciences, School of Food and Nutritional Sciences, University of Shizuoka,
²Graduate Division of Nutritional and Environmental Sciences, University of Shizuoka
- P-45** **Analysis of germline mutational patterns in DNA mismatch repair-deficient mice**
Noriko TAKANO¹, Kyoko HIDAKA^{1,2}, Mizuki OHNO¹
¹Department of Comprehensive Oncology, Faculty of Medical Science, Kyushu University,
²Center for Fundamental Education, The University of Kitakyushu
- P-46** **Construction of mutagenesis assay focusing on “Transcription coupled nucleotide excision repair (TCR)”**
Yuto OUCHI, Kazuhiro SHIIZAKI
 Toyo University, Graduate School of Life Sciences
- P-47** **Evaluation of agonist activity of putative endogenous AhR ligands derived from tryptophan**
Emiri YASUDA¹, Jun NAKAMURA², Masanobu KAWANISHI¹
¹Department of Biochemistry, School of Science, Osaka Metropolitan University,
²Graduate School of Veterinary Sciences, Osaka Metropolitan University
- P-48** **Evaluation of genotoxicity and measurement of spontaneous mutation frequency of colibactin-producing *E. coli***
Azusa KAWAI¹, Osamu TSUBOHIRA², Ai UESHIMA², Yoshimitsu ODA², Yuta TSUNEMATSU³,
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 Haruhiko SUGIMURA⁵, Yukari TOTSUKA⁷, Keiji WAKABAYASHI⁴, Kenji WATANABE³,
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⁵Medical Faculty, Hamamatsu University School of Medicine,
⁶Veterinary Department, Nippon Veterinary And Life Science University,
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- P-49** **Detection of INDEL Mutations Associated with Cardiac Aging in DNA Repair-Deficient Mice**
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- P-50** **Elevated DNA abasic sites in estrogen-induced breast cancer: A possible involvement of lipid mediators**
Yoshinori OKAMOTO, Sakura HIDA, Akira AOKI, Hideto JINNO
 Faculty of Pharmacy, Meijo University
- P-51** **Establishment of mice with complete human mutations that lack formaldehyde-metabolizing enzymes and their phenotypes**
 (O-5) Yoshihiro TAMAKI¹, Jun NAKAMURA², Aya KAWAI¹, Kazunori SHIRAISHI¹, Toshiya OKADA²,
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- P-52** **The effect of age at exposure on radiation-induced carcinogenesis**
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- P-53** **Age-Dependent Cellular Responses to Ionizing Radiation: A Comparative Study in Infant and Adult Mouse Intestinal Crypts**
Guanyu ZHOU, Tiancheng LIU, Satoshi TASHIRO, Megumi SASATANI
Research Institute for Radiation Biology and Medicine, Hiroshima University
- P-54** **Atomic bomb radiation and cancer risk -Estimate from multistage model including cell expansion and comparison with the Life Span Study-**
Masahiko WATANABE¹, Moyu NAKAGAWA¹, Hiroshi HAENO²
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- P-55** **Questioning the linear no-threshold model (LNT): Lessons from Hiroshima/Nagasaki and Fukushima**
Shizuyo SUTOU
Shujitsu University
- P-56** **A Review of the Health Effects of Heated Tobacco Products Through a Literature Search**
Hiroaki ASO, Naoya YOKOTA, Misato YOSHIKAWA, Katsuya SUEMARU, Masahiko WATANABE
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- P-57** **Elucidating the Relationship between Environmental Factors and Human Cancer Development Using Next Generation Sequencers**
(O-6)
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- P-58** **Mutation signature analysis of N-nitroso bile acid conjugates**
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- P-59** **Analysis of Colon Cancer Cell Growth Inhibitory Activity of Compounds from Marine Organisms**
Seita SUZUKI¹, Haruto TAKEGAHARA¹, Takashi KAMADA², Aki KATO³, Kensuke KANEKO¹, Ayumi YAMAMOTO¹
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³Seto Inland Sea Carbon-neutral Research Center, Hiroshima University
- P-60** **Proteomic analysis of anti-tumor effect with Actinidia arguta juice on lung cancer induced by 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanone in mice**
Yuki KITAMURA^{1,2}, Naoko MIYAKE³, Hatasu KOBAYASHI², Shinji OIKAWA², Sahoko ICHIHARA¹, Sakae ARIMOTO⁴
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³School of Pharmaceutical Sciences, Okayama University,
⁴Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama University
- P-61** **Anti-photoaging effects of blackcurrant anthocyanins on UVB-irradiated TK6 cell**
Nannapat NILRAT, Mei YAMAUCHI, Nanami MIURA, Kousuke KOYAMA, Ayumi YAMAMOTO
Material & Biological Engineering Course, National Institute of Technology(KOSEN), Hachinohe College
- P-62** **Effects of Visible Light on Photostress and Mitigation of Oxidative Stress**
Yosuke HIRAGA, Kazuomi SATO
Graduate School of Agriculture, Tamagawa University

- P-63** **Novel reporter plasmids for investigating the dynamics of mismatch repair mechanisms in living cells**
Haruto KOJIMA¹, Yoshihiro FUJIMURA¹, Rui ODA², Hayato NISHINO², Gakuto FUKUSHIMA¹, Ayano BABA², Kosuke MATSUO¹, Isao KURAOKA¹, Arato TAKEDACHI¹
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- P-64** **Development of a Simple and Rapid DNA Methylation Analysis Method Using a Nanopore Sequencer**
Takayoshi SUZUKI, Kei-ichi SUGIYAMA
 Division of Genome Safety Science, National Institute of Health Sciences
- P-65** **Development of efficient w/o emulsion generation methods for single-cell analysis**
Yuki KOBAYASHI, Tomonari MATSUDA
 Department of Environmental Engineering, Graduate School of Engineering, Kyoto University
- P-66** **Whole genome sequence of TA100 strain: lot-to-lot variation of genome genes (BMS pilot study)**
Atsushi HAKURA¹, Masayuki KATO², Kumiko KAWAKAMI³, Miko SARADA⁴, Hajime SUI³, Kei-ichi SUGIYAMA⁵, Katsuyoshi HORIBATA⁵, Kazuyuki MINEGAWA⁶, Mika YAMAMOTO⁷, Masami YAMADA⁸
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- P-67** **Effects of Eight Amino Acids-L-Histidine Mixtures on the Results of Ames Test**
Keita UCHIDA, Masako HIRAMATSU, Kanako SAWADA, Miho AOTSUKA, Yuki OWADA, Wataru SHIMATANI
 Safety Research Institute for Chemical Compounds Co., Ltd. Genotoxicity Section Safety Reseach Div., Nonclinical Buisness Dept.
- P-68** **Miniaturization of in vitro micronucleus tests (microscopic method) using 96-well plates for screening assays**
Satsuki CHIKURA, Rie MORISHIMA, Kumiko OKADA
 Axcelead Tokyo West Partners, Inc.
- P-69** **The structure determination of a novel DNA damage was confirmed by mass spectrometry**
Taishu KAWADA¹, Yoshiyuki TANAKA³, Masayuki MORIKAWA³, Yasuko OKAMOTO³, Katsuhito KINO^{1,2}
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- P-70** **The immobilization of flavin at the end of DNA by click reaction for photooxidation of guanine**
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- P-71** **Synthesis of cationic photosensitizers and photooxidation of guanine**
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- P-72** **Involvement of oxygen in guanine photooxidation**
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- P-73** **Mutagenicity assessment scheme for primary aromatic amines for the target chemicals under Chemical Substances Control Law**
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- P-74** (O-12) **The induction of cytokines related to allergy in alveolar epithelial cells by oxygenated polycyclic aromatic hydrocarbons**
Kentaro MISAKI¹, Takeji TAKAMURA², Hirohisa TAKANO^{3,4}, Ken-ichiro INOUE¹
¹School of Nursing, University of Shizuoka, ²Department of Applied Chemistry, Kanagawa Institute of Technology,
³Institute for International Academic Research, Kyoto University of Advanced Science,
⁴Graduate School of Global Environmental Studies, Kyoto University
- P-75** **Comparison of the results of dose-response analyses based on carcinogenicity data and predicted acceptable intake by the Carcinogenic Potency Categorization Approach (CPCA) for known nitrosamines**
Kaoru INOUE¹, Akira KAWASHIMA¹, Akihiko HIROSE², Kei-ichi SUGIYAMA¹, Yosuke DEMIZU¹, Kiyohiro HASHIMOTO³, Masayuki MISHIMA¹
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³Takeda Pharmaceutical Company Limited
- P-76** **Four genotoxic marker genes (Bax, Btg2, Ccng1, and Cdkn1a) discriminate genotoxic hepatocarcinogens from non-genotoxic hepatocarcinogens and non-genotoxic non-hepatocarcinogens in Open TG-GATEs**
Chie FURIHATA¹, Takayoshi SUZUKI²
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²Division of Genome Safety Science, National Institute of Health Sciences
- P-77** **Effect of organic solvents on Enhanced Ames Test (EAT)**
Shizuka OKAZAKI, Yuko SHIMIZU, Kenzo SETO, Miyu SEKIGUCHI, Wataru TAKAHASHI, Miyuki SHIGANO, Katsuaki YASUNAGA, Tooru FUJIMOTO
 Mediford Corporation
- P-78** **Elimination of mutagenic contaminants from water using cellulose bearing ferrous-phthalocyanine**
Sakae ARIMOTO, Kayoko SANNO, Yuka SOGA, Kaori OHTA, Yuki KITAMURA
 Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama University
- P-79** **Identification and Ultra-Sensitive Quantitation of *N*-Nitroso *N*-Desmethyl Orphenadrine Impurity in Orphenadrine Citrate API Using LC-MS/MS**
Atsushi HANADA¹, Yusuke NAGATO², Lakshmanan D³, Sashank PILLAI³, Rahul BAGHLA⁴, Eshani GALERMO⁴, Ushio TAKEDA¹
¹K.K. AB SCIEX, ²FUJIFILM Toyama Chemical Co., Ltd., ³SCIEX, India, ⁴SCIEX, USA
- P-80** **Study on monitoring surfactants in aquatic environment using fish gut microbiota analysis**
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³National Institute for Environmental Studies
- P-81** **Simultaneous Analysis of Areca Nut- and Tobacco-Specific Nitrosamines Using Liquid Chromatography-Tandem Mass Spectrometry**
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- P-82** **Establishment of a novel reporter assay incorporating metabolic activation system using yeast expressing human nuclear receptors for detecting endocrine disruptors**
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³Radiation Research Center, Osaka Metropolitan University,
⁴Department of Applied Biological Chemistry, Graduate School of Science, Osaka Metropolitan University
- P-83** **Nitrosamine Management Challenges in the Pharmaceutical Industry**
Yosuke MINO
 JAPAN TOBACCO INC.
- P-84** **Upcoming mandate of the SEND implementation of genotoxicity study data based on the SENDIG-Genetox v1.0**
Naoki TORITSUKA^{1,2}, Konomi IINO^{1,3}, Yoshifumi KANEKO^{1,4}, Terukazu KITAHARA^{1,5}, Gen SATO^{1,6}, Chihiro NAKAZAWA^{1,6}, Hiroyuki NITTA^{1,7}
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⁴KYORIN Pharmaceutical Co., Ltd., ⁵Instem Japan K.K., ⁶Eisai Co., Ltd., ⁷Ono Pharmaceutical Co., Ltd.
- P-85** **Predicting of Ames Test Results Using Quantum Chemical Calculations**
Kazuyuki MINEGAWA
 CMIC Pharma Science Co., Ltd.
- P-86** **Exploring How to Standardize SEND Specifications Based on Analyses of Differences Between SEND Datasets of Genetic Toxicology Studies Created by Two Test Facilities**
Tadashi IMAMURA¹, Shinichi HORIKAWA¹, Konomi IINO¹, Atsushi UEMATSU¹, Yuta TONOKI², Junpei TSUKUDA²
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- P-87** **Mutagenicity Prediction of Aromatic Boronic Acids Using Quantum Chemical Calculation**
Minetaka ISOMURA, Naoki KOYAMA, Atsushi HAKURA, Masaki KURAKAMI, Takeo SASAKI, Yusuke NAKATANI, Tsubasa NAKAUE, Tomoki NISHIOKA, Seiji HITAOKA, Taichi ABE
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