

External Presentations

Main Submitted Theses and Oral Presentations

April 1, 2018 - March 31, 2019

The papers posted here have been published in English-language journals and in Japanese-language journals with English titles. Conference presentations have been given at international conferences and at Japanese conferences with English titles.

Polymers

New S-SBR/Li-BR for eco tire with state-of-the-art technologies

H. Hama (Energy & Functional Materials Research Laboratory)

Rubber Tech China 2018 - 18th International Exhibition on Rubber Technology (China), September 19 - September 21, 2018

Printed flexible pressure sensor for robot skin (focal)

A. Nakajima*^{2, 3}, T. Miyoshi*², K. Kohiro*^{1, 2}, M. Itagaki*², T. Kamata*^{2, 4}, T. Urabe*^{2, 4} (*¹ Advanced Materials Development Laboratory, *² Japan Advanced Printed Electronics Technology Research Association (JAPER), *³ Konica Minolta, Inc., *⁴ National Institute of Advanced Industrial Science and Technology)

Printing for Fabrication 2018 (Germany), September 23 - September 27, 2018

New halogen-free flame retardant TPEs (ESPOLEX HFFR-TPE)

T. Konishi (Petrochemicals Research Laboratory)

SPE Automotive TPO Engineered Polyolefins Global Conference 2018 (U.S.A.), October 7 - October 10, 2018

Inorganic and metallic materials

Development of low valence Ti doped ZnO sintered compact used for making transparent conductive film

K. Fujiyoshi*, S. Hotta, G. Yoshikawa, K. Nakata (IT-related Chemicals Research Laboratory, * Fukuoka Industrial Technology Center)

Fukuoka Industrial Technology Center Research Reports, No.28 (2018)

Preparation of low refractive index films from silicon alkoxide solutions containing metal nitrates

T. Hayashido*, H. Uchiyama*, H. Kozuka*, K. Masui, K. Nakata (IT-related Chemicals Research Laboratory, * Kansai University)

16th Meeting of the Japanese Sol-Gel Society (Osaka, Japan), August 6 - August 7, 2018

Lithium ion secondary battery using high purity aluminium for anode

T. Yamaguchi, H. Hoshikawa*, T. Kumagai* (Advanced Materials Development Laboratory, * Energy & Functional Material Research laboratory)

The Committee of Battery Technology, the Electrochemical Society of Japan (ECSJ), The 59th Battery Symposium in Japan (Osaka, Japan), November 27 - November 29, 2018

Speciality chemicals

Mechanism study of a high performance stabilizer

R. Soma (Energy & Functional Materials Research Laboratory)

The 10th International Conference of Modification, Degradation and Stabilization of Polymers (Tokyo, Japan), September 2 - September 6, 2018

Development of mixing method with SUMILINK®100 and SUMILINK®200 for various types of rubber composition

T. Nobuoka, S. Nakano, O. Tokuda, Y. Uekita*, S. Seko*, S. Moritomi (Energy & Functional Materials Research Laboratory, *Advanced Polymers Division)

International Rubber Conference 2018 (IRC2018) (Malaysia), September 4 - September 6, 2018

Crop protection chemicals

Management of melanin biosynthesis dehydratase inhibitor (MBI-D)-resistance in *Pyricularia oryzae* using a non-MBI-D fungicidal application program for nursery boxes and a diclocymet and ferimzone mixture for field foliar applications

N. Kimura, A. Fukuchi (Health & Crop Sciences Research Laboratory)

Journal of Pesticide Science, **43**(4), 287 (2018)

Regioselective hydrogen deuterium exchange reaction by iridium catalyst at pyridyl-2-oxymethyl group

T. Kobayashi, M. Kurosawa, T. Fujisawa (Environmental Health Science Laboratory)

IIS 2018 Prague - 13th International Symposium on the Synthesis and Applications of Isotopes and Isotopically Labelled Compounds (Czech), June 3 - June 7, 2018

Norchrysanthemic acid tetrafluorobenzyl esters: potent synthetic pyrethroid family with high airborne activity in ambient temperature against various insects

K. Ujihara (Health & Crop Sciences Research Laboratory)

Pyrethrum Workshop 2018 (U.K.), September 3 - September 5, 2018

Optimizing the CDC bottle bioassay for susceptibility testing of clothianidin

K. Ohashi, N. Sakamoto*2, Y. E. Himeidan*3, J. R. Lucas*4, N. Sakamoto, Y. Shono*1 (Health & Crop Sciences Research Laboratory, *1 Environmental Health Division, *2 Sumika Technoservice Corporation, *3 Vector Health International Ltd., *4 John Lucas Consulting Services)

67th Annual Meeting of the American Society of Tropical Medicine and Hygiene (U.S.A.), October 28 - November 1, 2018

Mosquito control using pyriproxyfen

R. Koganemaru, K. Ohashi (Health & Crop Sciences Research Laboratory)

2018 Entomological Society of America, Entomological Society of Canada, and Entomological Society of British Columbia Joint Annual Meeting (Canada), November 11 - November 14, 2018

The mechanism of greening effect by Mandestrobin treatment

K. Ido, F. Iwahashi, S. Yamato, S. Kawamura (Health & Crop Sciences Research Laboratory)

43th Annual Meeting of the Pesticide Science Society of Japan (Akita, Japan), May 25 - May 27, 2018

Investigation on a direct granulation of agrochemical suspension using fluidized bed

K. Yanagisawa, N. Shimada*1, T. Muroi, T. Ohtsubo, S. Watano*2 (Health & Crop Sciences Sector, *1 Production & Safety Fundamental Technology Center, *2 Osaka Prefecture University)

Pesticide Science Society of Japan, 38th Japan Agricultural Formulation and Application Symposium (Shiga, Japan), October 18 - October 19, 2018

Optical materials and display materials

Latest progress and fundamentals for polymer OLED materials

N. Akino (Advanced Materials Development Laboratory)

2nd OLED Technologies summit (Germany), October 25 - October 26, 2018

Fundamentals and device performance of polymer OLED materials

N. Akino (Advanced Materials Development Laboratory)

The 25th International Display Workshops (IDW '18) (Aichi, Japan), December 12 - December 14, 2018

Medical and pharmaceutical materials

Large scale syntheses of long RNA oligonucleotides

Y. Tanaka, A. Sakata, Y. Ohtani (Health & Crop Sciences Research Laboratory)

TIDES: Oligonucleotide and Peptide Therapeutics (U.S.A.), May 7 - May 10, 2018

Sumitomo's approach for large-scale synthesis of long RNA oligos with high purity

A. Sakata (Health & Crop Sciences Research Laboratory)

TIDES: Oligonucleotide and Peptide Therapeutics (U.S.A.), May 7 - May 10, 2018

Organic synthesis

Facile synthesis of soluble phthalocyanine precursors and their thermal conversion process

Y. Kikukawa, T. Fukuda* (IT-related Chemicals Research Laboratory, * Osaka University)

Chemical Industry, **70**(3), 233 (2019)

Chemical engineering

A numerical method for an incompressible fluid with computational cells of high aspect ratio

S. Senda, N. Shimada (Production & Safety Fundamental Technology Center)

Journal of Chemical Engineering of Japan, **51**(1), 41 (2019)

Handling on computational powder dynamics

M. Abe, N. Shimada (Production & Safety Fundamental Technology Center)

The Society of Powder Technology, Japan, 53th Technical Discussion, "Industrial Application of Numerical Simulation, Powder and Multiphase Flow" (Tokyo, Japan), September 3 - September 4, 2018

Calculation method for dynamic contact angle based on interface-tracking model

Y. Uchihashi, N. Shimada (Production & Safety Fundamental Technology Center)

The Society of Chemical Engineers, Japan, 50th Autumn Meeting (Kagoshima, Japan), September 18 - September 20, 2018

Toxicological safety assessment

Direct photolysis mechanism of pesticides in water

T. Katagi (Environmental Health Science Laboratory)

Journal of Pesticide Science, **43**(2), 57 (2018)

Species differences in the developmental toxicity of procymidone—Placental transfer of procymidone in pregnant rats, rabbits, and monkeys—

H. Tarui, Y. Tomigahara, H. Nagahori, K. Sugimoto*1, M. Mogi*2, K. Nishioka, S. Kawamura, Y. Okuno, N. Isobe, H. Kaneko (Environmental Health Science Laboratory, *1 LSI Medience Corporation, *2 Shin Nippon Biomedical Laboratories, Ltd.)

Journal of Pesticide Science, **43**(2), 79 (2018)

Lack of human relevance for procymidone's developmental toxicity attributable to species difference in its kinetics and metabolism

Y. Tomigahara, H. Tarui, M. Matsui, M. Kurosawa, S. Kawamura, N. Isobe (Environmental Health Science Laboratory)

Journal of Pesticide Science, **43**(2), 114 (2018)

Photodegradation of strobilurin fungicide mandestrobin in water

T. Adachi, Y. Suzuki, M. Nishiyama, R. Kodaka, T. Fujisawa, T. Katagi (Environmental Health Science Laboratory)

Journal of Agricultural and Food Chemistry, **66**(32), 8514 (2018)

Metabolism of strobilurin fungicide mandestrobin in wheat

D. Ando, T. Fujisawa, T. Katagi* (Environmental Health Science Laboratory, * Bioscience Research Laboratory)

Journal of Agricultural and Food Chemistry, **66**(39), 10154 (2018)

Evaluation report on Syrian hamster embryo cell transformation assay

N. Asano*1, T. Tsutsui*2, K. Yamakage*3, S. Kitamoto, T. Kasamatu*4, M. Yamamoto*5 (Environmental Health Science Laboratory, *1 Osaka Shin-Ai College, *2 Nippon Dental University, *3 Hatano Research Institute, Food and Drug Safety Center, *4 ex-Kao Corporation, *5 Astellas Pharma Inc.)

AATEX-JaCVAM, **7**(1), 46 (2018)

Optimization of differentiation condition for K562 cell line and rat erythroleukemia cell line

M. Otani, T. Miyamoto, S. Kawamura (Environmental Health Science Laboratory)

54th Congress of the European Societies of Toxicology (EUROTOX 2018) (Belgium), September 2 - September 5, 2018

Molecular biological analysis of biodegradation behavior in the ready biodegradability test

Y. Takano, S. Takekoshi, K. Takano, Y. Matoba, M. Sato (Environmental Health Science Laboratory)

SETAC North America 39th Annual Meeting (U.S.A.), November 4 - November 8, 2018

Evaluation of the potential carcinogenicity of the pyrethroid imiprothrin in mice

T. Yamada, L. Rhomberg*1, J. K. Haseman*2, P. Greaves*3, H. A. Greim*4, C. Berry*5, S. M. Cohen*6 (Environmental Health Science Laboratory, *1 Gradient, *2 J. K. Haseman Consulting, *3 University of Leicester, *4 Technical University Munich, *5 Queen Mary University of London, *6 University of Nebraska Medical Center)

58th Annual Meeting & ToxExpo (U.S.A.), March 10 - March 14, 2019

Sex differences in susceptibility of rat thyroid to chemicals: serum hormone levels, follicular cell proliferation, and thyroid-related gene expressions

K. Kawamoto, K. Yamaguchi, K. Maeda, J. Yano, H. Asano, T. Utsumi (Environmental Health Science Laboratory)

58th Annual Meeting & ToxExpo (U.S.A.), March 10 - March 14, 2019

Analysis of transporters expression in placenta in rodents

T. Miyamoto, Y. Hosokawa, K. Iwashita, T. Utsumi (Environmental Health Science Laboratory)

The Japanese teratology society 58th Annual Meeting (Tokyo, Japan), July 27 - July 29, 2018

Universal read-across approach to predict toxicities

H. Nagahori, M. Sato (Environmental Health Science Laboratory)

Chem-Bio Informatics Society (CBI) Annual Meeting 2018 (Tokyo, Japan), October 9 - October 11, 2018

Comparison of sensitivity between TA1537 and TA97 for the miniaturized Ames test

Y. Inoue, R. Matsuyama, S. Kitamoto (Environmental Health Science Laboratory)

47th Annual Meeting of the Japanese Environmental Mutagen Society (JEMS) (Kyoto, Japan), November 1 - November 2, 2018

A trial study on the application of MPS (Microphysiological System) to mutagenicity assessment - "Liver-connected" *in vitro* micronucleus assay-

K. Sasaki, R. Kobayashi*1, K. Higashi*2, S. Kitamoto*1, K. Saito*2, T. Satoh*3, K. Shin*3, S. Sugiura*3, T. Kanamori*3 (Research Planning and Coordination Dept., *1 Environmental Health Science Laboratory, *2 Advanced Materials Development Laboratory, *3 National Institute of Advanced Industrial Science and Technology)
47th Annual Meeting of the Japanese Environmental Mutagen Society (JEMS) (Kyoto, Japan), November 1 - November 2, 2018

Development of a novel *in vitro* micronucleus test using human iPS cell-derived lymphocytes

R. Kobayashi, K. Sasaki*1, S. Kitamoto, K. Saito*2, A. Kumagai*3, S. Kitayama*3, Y. Kawai*3, S. Kaneko*3 (Environmental Health Science Laboratory, *1 Research Planning and Coordination Dept., *2 Advanced Materials Development Laboratory, *3 Kyoto University)
47th Annual Meeting of the Japanese Environmental Mutagen Society (JEMS) (Kyoto, Japan), November 1 - November 2, 2018

Mutagenic evaluations for benzene and procarbazine by gene mutation test using TK6 cells

M. Fujikawa, R. Matsuyama, S. Kitamoto (Environmental Health Science Laboratory)
47th Annual Meeting of the Japanese Environmental Mutagen Society (JEMS) (Kyoto, Japan), November 1 - November 2, 2018

Aerobic transformation of chrysanthemic acid derivatives in soil

T. Sugano, R. Kodaka, Y. Suzuki, T. Fujisawa (Environmental Health Science Laboratory)
Pesticide Science Society of Japan, 36th Symposium on Environmental Science of Pesticide (Yamanashi, Japan), November 8 - November 9, 2018

Chemical plant materials engineering

High speed and high accuracy inspection technology for heat exchanger tube of carbon steel

T. Tada, H. Suetsugu (Production & Safety Fundamental Technology Center)
45th Review of Progress in Quantitative Nondestructive Evaluation (QNDE 2018) (U.S.A.), July 15 - July 19, 2018

Life science

Identification of a novel bone marrow cell-derived accelerator of fibrotic liver regeneration through mobilization of hepatic progenitor cells in mice

T. Yanagawa*, H. Sumiyoshi*, K. Higashi, S. Nakao*, R. Higashiyama*, H. Fukumitsu*, K. Minakawa*, Y. Chiba*, Y. Suzuki*, K. Sumida, K. Saito, A. Kamiya*, Y. Inagaki* (Environmental Health Science Laboratory, *Tokai University)
STEM CELLS, **37**, 89 (2019)

Specific alteration of gene expression profile in rats by treatment with thyroid toxicants that inhibit thyroid hormone synthesis

A. Ohara, F. Yamada, T. Fukuda, N. Suzuki, K. Sumida (Environmental Health Science Laboratory)
Journal of Applied Toxicology, **38**(12), 1529 (2018)

Mode of action of piperovatine, an insecticidal piperamide isolated from *Piper piscatorium* (Piperaceae), against voltage-gated sodium channels

T. Suzuki*1, 2, S. Yamato*1, 2 (*1 Health & Crop Sciences Research Laboratory, *2 Kobe University)
Neuro Toxicology, **69**, 288 (2018)

Highly accurate detection and identification methodology of xenobiotic metabolites using stable isotope labeling, data mining techniques, and time-dependent profiling based on LC/HRMS/MS

M. Takahashi*1, Y. Izumi*1, 2, F. Iwahashi, Y. Nakayama*3, M. Iwakoshi, M. Nakao*2, S. Yamato, E. Fukusaki*1, T. Bamba*1, 2 (Health & Crop Sciences Research Laboratory, *1 Osaka University, *2 Kyushu University, *3 Sojo University)
Analytical Chemistry, **90**(15), 9068 (2018)

Difference in larval habitat size between *Aedes aegypti* and *Aedes albopictus* in a dengue-endemic village, Lao People's Democratic Republic

K. Ohashi, M. Takano, T. Xaypangna*1, T. Nishiyama*2 (Health & Crop Sciences Research Laboratory, *1 Khammouane Provincial Health Department, Lao PDR, *2 Kansai Medical University)
Southeast Asian Journal of Tropical Medicine and Public Health, **49**, 761 (2018)

Features of interactions responsible for antifungal activity against resistant type cytochrome bc1: A data-driven analysis based on the binding free energy at the atomic level

A. Arakawa*, Y. Kasai*, K. Yamazaki*, F. Iwahashi (Health & Crop Sciences Research Laboratory, *Sumitomo Dainippon Pharma Co., Ltd.)
PLOS ONE, **13**(11), 1 (2018)

Highly accurate detection and identification methodology of xenobiotic metabolites based on LC/HRMS/MS

M. Takahashi*1, Y. Izumi*1, F. Iwahashi, Y. Nakayama*2, M. Iwakoshi, M. Nakao*1, S. Yamato, E. Fukusaki*3, T. Bamba*1
(Health & Crop Sciences Research Laboratory, *1 Kyushu University, *2 Sojo University, *3 Osaka University)

Mass Spectrometry and Proteomics 2018 (Osaka, Japan), May 15 - May 18, 2018

Mycorrhizal gene coexpression network: a core regulatory module for mycorrhizal formation and functioning under diverse and fluctuating environments

Y. Sugimura*, A. Kawahara, H. Maruyama*, T. Ezawa* (Health & Crop Sciences Research Laboratory, *Hokkaido University)

60th Annual Meeting of the Japanese Society of Plant Physiologists (Aichi, Japan), March 13 - March 15, 2019