

26 Oct. Poster Session

Lobby [15:00-17:45] Chair: Yuji Nakamura

AMS2016 11th Asian Microgravity Symposium, Hokkaido University October 25 to 29, 2016

26P-1

Analysis of Structure-Function Relationship of a Thermostable and Organic Solvent-Tolerant Lipase from *Geobacillus* sp. Strain ARM

Raja Noor Zaliha Raja Abd Rahman*, Malihe Masomian, Adam Thean Chor Leow, Mohd Shukuri Mohamad Ali (Enzyme and Microbial Technology Research Centre, Faculty of Biotechnology and Biomolecular Sciences, Universiti Putra Malaysia, Malaysia)

26P-2

Objectives and Outlines of the SSAF2016 / AHIS Program

Kouichi Soga^{1*}, Arisa Noguchi², Mika Teranishi³, Kaori Tomita-Yokotani⁴, Naomi Katayama⁵, Motoshi Kamada⁶, Toko Hashizume⁶, Takahiro Sato⁶, Kyoichi Arakane⁶, Wan Zaki Bin Wan Mamat⁷, Mohd Rani Bin Awang⁷, Uma Rani Sinniah⁸, Mohd Helmy Bin Hashim⁹, Sachiko Yano¹⁰, Fumiaki Tanigaki¹⁰, Yoshimi Osada¹⁰, Yoshiya Fukuda¹⁰ (1 Osaka City University, Japan, 2 Tokyo University of Agriculture, Japan, 3 Tohoku University, Japan, 4 University of Tsukuba, Japan, 5 Nagoya Women's University, Japan, 6 Advanced Engineering Services, Japan, 7 Malaysian Agricultural Research and Development Institute, Malaysia, 8 Universiti Putra Malaysia, Malaysia, 9 National Space Agency of Malaysia, Malaysia, 10 Japan Aerospace Exploration Agency, Japan)

26P-3

Geometrical Condition of Constitutive Ions for Forming Metastable Phase in Sesqui Oxide

Kazuhiro Kuribayashi^{1,2*}, Yuta Kono², Junya Takasaki², Shumpei Ozawa², Yuko Inatomi¹, M. S. Vijaya Kumar³ (1 ISAS/JAXA, Japan, 2 CIT, Japan, 3 Tufts Univ., Japan)

26P-5

The Relationship of Gravidresponse to Circumnutation in Rice Coleoptiles: Analyses with a Gravitropic Mutant and Space-Grown Seedlings

Akie Kobayashi^{1*}, Hye-jeong Kim¹, Yuta Tomita¹, Yutaka Miyazawa^{1,2}, Nobuharu Fujii¹, Sachiko Yano³, Chiaki Yamazaki⁴, Motoshi Kamada⁵, Haruo Kasahara⁶, Toru Shimazu^{3,4}, Yasuo Fusesjima⁴, Hideyuki Takahashi¹ (1 Graduate School of Life Sciences, Tohoku University, Japan, 2 Faculty of Science, Yamagata University, Japan, 3 Japan Aerospace Exploration Agency, Japan, 4 Japan Space Forum, Japan, 5 Advanced Engineering Services Corporation, Ltd., Japan, 6 Japan Manned Space Systems Corporation, Japan)

26P-7

Regulatory Mechanism of Root Hydrotropism and its Potential to Regulate Root Growth Orientation under Microgravity Condition

Yutaka Miyazawa^{1*}, Teppei Moriwaki², Nobuharu Fujii², Hideyuki Takahashi² (1 Faculty of Science, Yamagata University, Japan, 2 Graduate School of Life Sciences, Tohoku University, Japan)

26P-8

Investigation of Space Microgravity Effects on Rice during Flower Transition Stage

Jing Pan, Weining Sun* (Institute of Plant Physiology and Ecology, Shanghai Institutes for Biological Sciences, Chinese Academy of Science, China)

26P-9

The Effect of Gravity on Wettability and Liquid/Solid Interface between Zr-based Alloy and SiC Substrate

Hong Li*, Bo Zhang, Haifeng Zhang (Shenyang National Laboratory for Materials Science, Institute of Metal Research, CAS, Shenyang, China)

26P-10

Effect of Flow Velocity on Flame Spread over Thick PMMA Sheets in Microgravity

Shuangfeng Wang*, Feng Zhu (Key Laboratory of Microgravity (National Microgravity Laboratory), Institute of Mechanics, CAS, China)

26P-12

Study of Comparison between OI (Oxygen Index) and ULOI (Upward Limiting Oxygen Index) - For Improving Fire Safety of Human Spaceflight Program -

Aki Hosogai^{1*}, Yuji Nakamura² (1 Human Spaceflight Technology Directorate, Japan Aerospace Exploration Agency, Japan, 2 Dr. Eng., Toyohashi University of Technology, Japan)

26P-13

The Influence of Long Duration +4G Hypergravity in Vestibular System

Mi Joo Kim¹, Yu Jin Min¹, Dongju Lee¹, Nambeom Kim², Kyu-Sung Kim³, Gyu Cheol Han^{4*} (1 Department of Otorhinolaryngology, Catholic Kwandong University, Korea, 2 Neuroscience Research Institute, Gachon University Graduate School of Medicine, Korea, 3 Department of Otolaryngology-Head and Neck Surgery, College of Medicine, Inha University, Korea, 4 Department of Otolaryngology-Head and Neck Surgery Gachon University of Medicine and Science Graduate School of Medicine, Korea)

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26P-14

Altered Auxin Polar Transport is Essentially Related to Morphogenesis in Response to Changed Gravity Conditions in Etiolated Pea Seedlings

Junichi Ueda¹, Kensuke Miyamoto^{2*}, Eiji Uheda¹, Mariko Oka³, Motoshi Kamada⁴, Toru Shimazu⁵, Akira Higashibata⁵ (1 Graduate School of Science, Osaka Prefecture University, Japan)

26P-15

Hypergravity Environment Changes Plant Growth, Anatomy, Chloroplast Sizes and Photosynthesis of a Moss Physcomitrella Patens

Kaori Takemura¹, Hiroyuki Kamachi², Atsushi Kume³, Tomomichi Fujita⁴, Ichirou Karahara², Yuko T. Hanba^{1*} (1 Kyoto Institute of Technology, Japan, 2 Toyama University, Japan, 3 Kyusyu University, Japan, 4 Hokkaido University, Japan)

26P-16

Osteoclast-derived Exosomes Inhibit Osteogenesis under Simulated Microgravity by using a Three-dimensional Clinostat

Ting Huan^{*}, Dandan Dong, Jian Zhang, Peng Shang (Key Laboratory for Space Bioscience and Space Biotechnology, School of Life Sciences, Northwestern Polytechnical University, China)

26P-17

Alteration of Muscle, Cytoskeleton, and Mitochondria Evokes Carotid Restriction in Spaceflown Nematodes

Akira Higashibata^{1*}, Toko Hashizume², Kanako Nemoto³, Nahoko Higashitani³, Timothy Etheridge⁴, Chihiro Mori³, Tomoko Sugimoto¹, Nathaniel J. Szewczyk⁵, Shoji A. Baba⁶, Yoshihiro Mogami⁶, Keiji Fukui⁷, Atsushi Higashitani³ (1 Human Spaceflight Technology Directorate, Japan Aerospace Exploration Agency, Japan, 2 Advanced Engineering Services Co., Ltd., Japan, 3 Graduate School of Life Sciences, Tohoku University, Japan, 4 College of Life and Environmental Sciences, University of Exeter, UK, 5 Division of Clinical Physiology, Royal Derby Hospital, University of Nottingham, UK, 6 Graduate school of Humanities and Sciences, Ochanomizu University, Japan, 7 Japan Space Forum, Japan)

26P-18

High Quality Thermostable Lipase Crystal Grown using Counter Diffusion in Space

Mohd Shukuri Mohamad Ali^{*}, Raja Noor Zaliha Raja Abd Rahman, Sayangku Norariati Md Aris, Adam Leow Thean Chor, Abu Bakar Salleh (Enzyme and Microbial Technology Research Center, Faculty of Biotechnology and Biomolecular Sciences, Universiti, Malaysia)

26P-19

Method to Observe Magnetic Translation in Low Temperature Condition

Chiaki Uyeda^{*}, Wakana Yamaguchi, Keiji Hosayoshi (Graduate School of Science, Osaka University, Japan)

26P-20

Efficiency of Magnetic Alignment Detected at the Surface of Synthetic Amorphous Silica

Keiji Hisayoshi^{*}, Chiaki Uyeda, K. Hirota (Graduate School of Science, Osaka University, Japan)

26P-21

Effects of Gravity on the Ignition and Combustion Characteristics of Externally Heated Polyethylene Film

Mitsumasa Ikeda (Department of Mechanical and Electrical Engineering, NIT Tokuyama College, Japan)

26P-22

Design and Flight of Japanese First Private Sounding Rocket Reaches the Space

Ryuichiro Kanai^{*}, Takahiro Inagawa (Interstellar Technologies Inc., Japan)

26P-23

Environmental Microbiology Experiment using JAXA Enclosed Habitat Module

Toru Shimazu^{1*}, Takashi Yamazaki^{1,2}, Nobuyasu Yamaguchi³, Tomoaki Ichijo⁴, Masao Nasu^{4,5} (1 JEM Utilization Center, Japan Aerospace Exploration Agency, Japan, 2 Graduate School of Medicine, Teikyo University, Japan, 3 Osaka Prefectural Institute of Public Health, Japan, 4 Graduate School and School of Pharmaceutical Sciences, Osaka University, Japan, 5 Faculty of Pharmacy, Osaka Ohtani University, Japan)

26P-24

Water Potential Management using Centrifugal Force to the Cultivated Soil of a Plant

Torahiko Tanigawa^{*}, Hiroaki Hirai (Life and Environmental Sciences Division, Osaka Prefecture University, Japan)

26P-25

Emerging Model Plant, the Moss Physcomitrella Patens for Experiments on International Space Station: Response to Gravity or Space Radiation

Maki Yokoi^{1*}, Tomomichi Fujita², Atsushi Kume³, Hiroyuki Kamachi⁴, Yuko Hanba⁵, Ichirou Karahara⁴ (1 Grad Sch of Life Sci, Hokkaido Univ, Japan, 2 Grad Sch of Sci., Hokkaido Univ, Japan, 3 Grad Sch of Agr, Kyushu Univ, Japan, 4 Grad Sch of Sci & Eng, Toyama Univ, Japan, 5 Dept of Appl Biol, Kyoto Inst. of Tech, Japan)

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26P-26

Growth and Auxin Polar Transport in Etiolated Pea Seedlings under Hypergravity Conditions

Tadataka Murayama¹, Mariko Oka², Eiji Uheda¹, Junichi Ueda¹, Kensuke Miyamoto^{3*} (*Faculty of Liberal Arts and Sciences, Osaka Prefecture University, Japan*)

26P-27

Transcription Initiation Landscape Changes in Zebrafish Tissues, Mediated by Long-Term Space Flight

Alexander Cherkasov^{1*}, Kirill Arshavsky¹, Vladimir Sychev², Margarita Levinskikh², Oleg Gusev³ (*1 Institute of Fundamental Biology and Medicine, Kazan Federal University, Russia, 2 Institute for Biomedical Problems, Russian Academy of Sciences, Russia, 3 Institute of Fundamental Biology and Medicine, Kazan Federal University, Russia, Division of Genomic Technologies, CLST, RIKEN, Japan, Preventive Medicine and Diagnosis Innovation Program, CLST, RIKEN, Japan*)

26P-28

The Development of Containless Rack for Experimental Research of Material Science in Chinese Manned Space Station

Wei Song*, Jianding Yu, FengYang, Weijia Ren (*Beijing UCAS Space Technology Co., Ltd, China*)

26P-29

Experimental Research on Thermocapillary Migration of Drops by using Digital Holographic Interferometry

Qi Kang*, Shuoting Zhang, Li Duan (*National Microgravity Laboratory / CAS, Institute of Mechanics, Chinese Academy of Sciences, China*)

26P-30

Optical Camera Review in Space Microgravity for Practice the 10th Recoverable Satellite

Hao Sun* (*Shanghai Institute of Technical Physics, Chinese Academy of Sciences, China*)

26P-31

The Development Strategy of Additive Manufacturing in Space on Chinese Manned Spacecraft

Zhang Yingyi*, Zhang Wei, Wang Gong (*Technology and Engineering Center for Space Utilization, Chinese Academy of Sciences, China*)

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26SP-A-1

Surface Oscillation of Aerodynamically Levitated Molten Oxides

Shinya Hakamada^{1*}, Kenta Onodera¹, Masahito Watanabe¹, Florian Kargl² (1 Department of Physics, Gakushuin University, Japan
2 German Aerospace Center (DLR), Germany)

26SP-A-2

Measurement of Interfacial Tension between Molten Oxide and Iron by Modified Oscillating Droplet Method under Microgravity Conditions

Seijiro Taguchi^{*}, Kenta Onodera, Rui Serizawa, Shinya Hakamada, Airi Nakamura, Masahito Watanabe (Department of Physics, Gakushuin University, Japan)

26SP-A-3

Density Measurement of Molten Oxides by using Aerodynamic Levitation Technique

Airi Nakamura^{1*}, Kenta Onodera¹, Masahito Watanabe¹, Akitoshi Mizuno² (1 Department of Physics, Gakushuin University, Japan,
2 National Institute of Technology, Hakodate College, Japan)

26SP-A-4

Surface Tension of Molten Zircaloy Measured by Electromagnetic Levitation

Takuya Nakano, Yu Kudo^{*}, Kazuhiko Kuribayashi, Shumpei Ozawa (Department of Advanced Materials Science and Engineering, Japan)

26SP-A-5

Study on Successive Ignition of Thermally-Thick PMMA in Microgravity

Yuya Sugamura^{1*}, Yuji Nakamura², Aki Hosogai³, Kenta Yashiki⁴ (1 Toyohashi University of Technology, Japan, 2 Toyohashi University of Technology, Japan, 3 Japan Aerospace Exploration Agency, Japan, 4 Toyohashi University of Technology, Japan)

26SP-A-6

Reproducing Microgravity Combustion of Thin Solid using a Narrow-Channel Apparatus: CFD Assessment of Buoyancy Effects

Tomomi Sasaki^{1*}, Kenta Suzuki¹, Yuki Tada¹, Kazunori Kuwana¹, Genichiro Kushida² (1 Yamagata University, Japan, 2 Aichi Institute of Technology, Japan)

26SP-A-7

A Numerical Simulation Study for Predicting the Dissolution Length in Growth of InGaSb under the Microgravity Conditions of the ISS

Xin Jin^{1*}, Takuya Yamamoto¹, Youhei Takagi¹, Yasunori Okano^{1,2}, Yuko Inatomi^{2,3}, Yasuhiro Hayakawa⁴, Sadik Dost⁵
(1 Department of Materials Engineering Science, Osaka University, Japan, 2 ISAS, Japan Aerospace Exploration Agency, Japan, 3 School of Physical Sciences, SOKENDAI, Japan, 4 Research Institute of Electronics, Shizuoka University, Japan, 5 Crystal Growth laboratory, University of Victoria, Canada)

26SP-A-8

Simulation of Molten Sn-3.0Ag-0.5Cu Wetting on Cylindrical and V-Shaped Substrates

Jingxia Liu^{1*}, Yan Wu¹, Mingyan Li², Bingsheng Xu¹, Zhangfu Yuan^{1,2} (1 Department of Energy & Resources Engineering, College of Engineering, Peking University, China, 2 Collaborative Innovation Center of Steel Technology, University of Science and Technology, China)

26SP-A-9

Simulation Study on Wettability of Molten Sn Alloy on the Inclined Cu Substrate

Mingyan Li^{1*}, Bingsheng Xu², jingxia Liu², Likun Zang¹, Zhangfu Yuan^{1,2} (1 Collaborative Innovation Center of Steel Technology, University of Science and Technology, China, 2 Department of Energy & Resources Engineering, College of Engineering, Peking University, China)

26SP-A-10

Research on Improving the Microscopic Imaging Quality for Microgravity Experiments in Space

ZhuLin^{*}, ZhengWeibo, ZhangTao, YuanYongchun (Shanghai Institute of Technical Physics (SITP), Chinese Academy of Sciences, China)

26SP-A-11

Developmental and Age-related Characteristics of the Changes in Cardiovascular Parameters during Long-Term 90 Degrees Head-up Tilting in Anesthetized Rats

Hironobu Nishimura^{1*}, Masao Yamasaki², Tetsuya Hiraiwa¹, Chiho Hashimoto³, Yuri Sakai³, Yusuke Kayama³ (1 Graduate Student, Department of Physiology, Graduate School of Health Sciences, Fujita Health University, Japan, 2 Department of Physiology, Graduate School of Health Sciences, Fujita Health University, Japan, 3 Undergraduate Student, Faculty of Clinical Engineering, School of Health Sciences, Fujita Health University, Japan)

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26SP-A-12

Quantitative Characterization of Formation Process of the Particle Accumulation Structure in the Half-Zone Liquid Bridge

Aro Toyama^{1*}, Misa Ishimura¹, Masakazu Gotoda¹, Toshihiro Kaneko^{2,3}, Ichiro Ueno^{2,3} (1 Div. Mechanical Engineering, Graduate School of Science and Technology, Tokyo University of Science, Japan, 2 Dept. Mechanical Engineering, Fac. Science and Technology, Tokyo University of Science, Japan, 3 Research Institute for Science & Technology (RIST), Tokyo University of Science, Japan)

26SP-A-13

Effect of Dissolved Oxygen on Surface Tension of Molten Iron

Kenta Tanaka*, Masahito Watanabe (Department of Physics, Gakushuin University, Japan)

26SP-A-14

Acceleration of Macroscopic Contact Line of Droplet Spreading on a Substrate after Interaction with Particle

Daichi Kondo^{1*}, Lihong Mu², Motochika Inoue¹, Hiroki Himeda³, Toshihiro Kaneko^{2,3}, Takahiro Tsukahara^{2,3}, Harunori Yoshikawa⁴, Farzam Zoueshthiagh⁵, Ichiro Ueno^{2,3} (1 Division of Mechanical Engineering Graduate School of Science and Technology, Tokyo University of Science, Japan, 2 Research Institute for Science and Technology, Tokyo University of Science, Japan, 3 Department of Mechanical Engineering, Faculty of Science and Technology, Tokyo University of Science, Japan, 4 Laboratoire J.-A. Dieudonné, UMR 7351 CNRS-Université de Nice Sophia Antipolis Parc Valrose, France, 5 Université de Lille 1-IEMN, France)

26SP-A-15

Transitions from Counterflow Flames to Ball-Like Flames and "Flame Balls" in Fuel-Lean Low-Lewis-Number Premixed Flames under Microgravity

Tomoya Okuno^{1*}, Hisashi Nakamura¹, Takuya Tezuka¹, Susumu Hasegawa¹, Koichi Takase¹, Roman Fursenko², Sergey Minaev², Masato Katsuta³, Masao Kikuchi³, Kaoru Maruta^{1,2} (1 Institute of Fluid Science, Tohoku University, Japan, 2 Japan Aerospace Exploration Agency, Japan, 3 International Combustion and Energy Laboratory, Far Eastern Federal University, Russia)

26SP-A-16

Growth of a Terrestrial Cyanobacterium, Nostoc sp. HK-01, under Poor Nutritional Conditions Such as Those Found on Mars

Kotomi Inoue^{1*}, Shunta Kimura¹, Mayumi Arai², Hiroshi Katoh³, Seigo Sato¹, Kaori Tomita-Yokotani¹ (1 Graduate School of Life and Environmental Sciences, University of Tsukuba, Japan, 2 National Museum of Emerging Science and Innovation, Japan, 3 Life Science Research Center, Mie University, Japan)

26SP-A-17

Parabolic Flight Experiment on Dynamics of Free Liquid Films - Revisit of Demonstration by Dr. Pettit on the ISS

Mari Watanabe^{1*}, Eito Nemoto², Shuya Kandani², Ichiro Ueno³, Shinichi Kimura⁴, Chiaki Mukai^{5,6} (1 Department of Applied Physics, Faculty of Science, Tokyo University of Science, Japan, 2 Department of Mechanical Engineering, Faculty of Engineering, Tokyo University of Science, Japan, 3 Department of Mechanical Engineering, Faculty of Science and Technology, Tokyo University of Science, Japan, 4 Department of Electrical Engineering, Faculty of Science and Technology, Tokyo University of Science, Japan, 5 Japan Aerospace Exploration Agency (JAXA), Japan, 6 Tokyo University of Science, Japan)

26SP-A-18

Condensation and Collapse of Vapor Bubble in Hele-Shaw

Hironobu Matsumoto^{1*}, Yusuke Koiwa¹, Toshihiro Kaneko^{2,3}, Ichiro Ueno^{2,3} (1 Division of Mechanical Engineering, School of Science and Technology, Tokyo University of Science, Japan, 2 Department of Mechanical Engineering, Faculty of Science and Technology, Tokyo University of Science, Japan, 3 Research Institute for Science and Technology, Tokyo University of Science, Japan)

26SP-A-19

Investigation of Proteins Responsible for Root Hydrotropism, but not for Gravitropism

Natsuko Taguwa^{1*}, Noriyuki Kuya², Daisuke Takahashi³, Yukio Kawamura⁴, Matsuo Uemura⁴, Hideyuki Takahashi⁵, Yutaka Miyazawa⁶ (1 Graduate School of Science and Engineering, Yamagata University, Japan, 2 National Institute of Agrobiological Sciences, Japan, 3 Max-Planck Institute of Molecular Plant Physiology, Germany, 4 Faculty of Agriculture, Iwate University, Japan, 5 Graduate School of Life Sciences, Tohoku University, Japan, 6 Faculty of Science, Yamagata University, Japan)

26SP-A-20

Effect of Diameter on Spreading Flame over Electrical Wire with Applied AC Electric Fields

Sunho Park*, Seungjae Lim, Jeong Park, Sukho Chung (Graphic Arts Information Engineering, Pukyong National University, South Korea)

26SP-A-21

Error Reduction for Soret Coefficient in Soret-Facet Mission: Measurement of Coefficients on Refractive Indices of Salol / Tert-butyl Alcohol Mixtures by Interferometer

Momoko Tomaru^{1*}, Takuma Osada¹, Shinsuke Suzuki¹, Yuko Inatomi², Masato Katsuta², Taro Shimaoka³ (1 Waseda University, Japan, 2 Japan Aerospace Exploration Agency, Japan, 3 Japan Space Forum, Japan)

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26SP-A-22

The Measurement of Diffusion Coefficients of Liquid Metals by using a In-Situ Fluorescent X-Ray Analysis

Yuya Shimura*, Tadahiko Masaki (*Shibaura Institute of Technology, Japan*)

26SP-A-23

Melting and Solidification of Fe-Cu Alloy by using Aerodynamic Levitation

Sho Saito*, Tadahiko Masaki (*Shibaura Institute of technology, Japan*)

26SP-A-24

Standing-wave-type Oscillatory Flows in Half-zone Liquid Bridge of High Aspect Ratio under Zero Gravity

Toshikazu Eguchi^{1*}, Kosuke Motegi¹, Shoichi Nakamura¹, Masahiro Watanabe², Toshihiro Kaneko^{2,3}, Ichiro Ueno^{2,3}

(*1 Division of Mechanical Engineering, School of Science and Technology, Tokyo University of Science, Japan, 2 Department of Mechanical Engineering, Faculty of Science and Technology, Tokyo University of Science, Japan, 3 Research Institute for Science and Technology (RIST), Tokyo University of Science, Japan*)

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26SP-B-1

X-ray Structural Analysis of Si-Based Liquid Alloy with Aerodynamic Levitation System

Tsuyoshi Koshiba*, Tadahiko Masaki (*Shibaura Institute of Technology, Japan*)

26SP-B-2

Elucidation of the Interaction between UCP3 and Hax-1

Saki Tsugita*, Katsuya Hirasaka², Marie Haruna¹, Edward M. Mills³, Aki Bando¹, Tomoki Abe¹, Cory U. Lago⁴, Sara M. Nowinski³, Ken-ichi Akagi⁵, Hidehito Tochio⁶, Ayako Ohno¹, Shigetada Teshima-Kondo¹, Yuushi Okumura¹, Takeshi Nikawa¹ (*1 Department of Nutritional Physiology, Institute of Health Biosciences, University of Tokushima, Japan, 2 Graduate School of Fisheries Science and Environmental Studies, Nagasaki University, Japan, 3 Division of Pharmacology/Toxicology, University of Texas at Austin, USA, 4 Translational Medicine Branch, National Heart, Lung, and Blood Institute, National Institutes of Health, USA, 5 Section of Laboratory Equipments, National Institute of Biomedical Innovation, Japan, 6 Graduate School of Engineering, Kyoto University, Japan*)

26SP-B-3

Experimental Approach to Triggering of the DNB in Subcooled Flow Boiling

Mizuki Semba*, Osamu Kawanami, Itsuro Honda (*Department of Mechanical Engineering, University of Hyogo, Japan*)

26SP-B-4

Upward Water Infiltration in Porous Media under Microgravity

Naoto Sato^{1*}, Yuichi Maruo¹, Kosuke Noborio² (*1 Graduated school of Agriculture, Meiji University, Japan, 2 School of Agriculture, Meiji University, Japan*)

26SP-B-5

Results of Performance Test of a Glass Heated Section Installed in the Pre-Flight Model on Board ISS

Kotaro Nakamoto^{1*}, Mizuki Semba¹, Osamu Kawanami¹, Haruhiko Ohta², Hitoshi Asano³, Yasuhisa Shinmoto², Ryoji Imai⁴, Koichi Suzuki⁵, Satoshi Matsumoto⁶, Takashi Kurimoto⁶, Michito Sakamoto⁶, Hidemitsu Takaoka⁶, Kenichiro Sawada⁶, Atsushi Okamoto⁶, Masahiro Takayanagi⁶ (*1 Department of Mechanical Engineering, University of Hyogo, Japan, 2 Department of Aeronautics and Astronautics, Kyushu University, Japan, 3 Department of Mechanical Engineering, Kobe University, Japan, 4 Department of Mechanical, Aerospace, and Materials Engineering, Murooran Institute of Technology, Japan, 5 Department of Mechanical Engineering, Tokyo University of Science, Japan, 6 Japan Aerospace Exploration Agency, Japan*)

26SP-B-6

Investigation of Necessary Conditions for Ground-Based Measurement of Soret Coefficients

Takuma Osada^{1*}, Momoko Tomaru¹, Bunpei Shirane¹, Shinsuke Suzuki¹, Yuko Inatomi² (*1 Waseda University, Japan, 2 Japan Aerospace Exploration Agency, Japan*)

26SP-B-7

PIV Measurement of Electrocapillary Flow at the Interface of Two Immiscible Liquid Layers

Makoto Yamaguchi*, Taishi Yano, Koichi Nishino (*Department of Mechanical Engineering, Yokohama National University, Japan*)

26SP-B-8

Microstructure of Transparent LaO_{3/2}-TiO₂ Optical Glasses Prepared by Containerless Aerodynamic Levitator

Chi-Hoon Lee^{1*}, Gye-Hyeok Lee¹, Kyu-Ho Lee¹, Shinichi Yoda², Won-Seung Cho¹ (*1 School of Materials Science and Engineering, Inha University, Korea, 2 Institute of Pulsed Power Science, Kumamoto University, Japan*)

26SP-B-9

Electrochemical Reduction of CO₂ in a Room Temperature Molten Salt

Yoshiyuki Sometani^{1*}, Takuya Goto¹, Masata Sakurai², Hiromitsu Kanakubo³, Yasuhiro Fukunaka⁴ (*1 Doshisha University, Japan, 2 JAXA, Japan, 3 AIST, Japan, 4 Waseda University, Japan*)

26SP-B-10

Investigation of Limiting Oxygen Concentration on Flame Spreading over Kapton Film in Opposed Flow under Microgravity Condition

Takuji Manabe^{1*}, Aki Hosogai², Hiroyuki Torikai¹, Akihiko Ito¹ (*1 Hirosaki University, Japan, 2 JAXA, Japan*)

26SP-B-11

Investigation of Limiting Oxygen Concentration on Flame Spreading over a Thin Paper Sheet in Concurrent Flow under a Microgravity Condition

Miyuki Kudo*, Takuji Manabe, Hiroyuki Torikai, Akihiko Ito (*Hirosaki University, Japan*)

26SP-B-12

Photosynthetic Capacity and Morphological Change of Physcomitrella Patens to Hypergravity

Naoya Sakaguchi^{1*}, Ryuji Kameishi¹, Rina Watanabe¹, Hiroyuki Kamachi², Ichirou Karahara², Atsushi Kume³, Tomomichi Fujita⁴, Yuko T. Hanba¹ (*1 Kyoto Institute of Technology, Japan, 2 Toyama University, Japan, 3 Kyushu University, Japan, 4 Hokkaido University, Japan*)

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26SP-B-13

Numerical Analysis on Surface Oscillation of Electromagnetic Levitation

Teruhiko Seki^{1*}, Toshio Tagawa¹, Hiroki Shibata², Shumpei Ozawa³ (*1 Department of Aerospace Engineering, Tokyo Metropolitan University, Japan, 2 Department of Information and Communication Systems, Tokyo Metropolitan University, Japan, 3 Department of Advanced Materials Science and Engineering, Chiba Institute of Technology, Japan*)

26SP-B-14

The Fluctuation of Arterial Blood Pressure after Transition to Supine Posture from Upright Position in Anesthetized Rats

Tetsuya Hiraiwa^{1*}, Hironobu Nishimura¹, Chiho Hashimoto², Yuri Sakai², Yusuke Kayama², Masao Yamasaki³, (*1 Graduate Student, Department of Physiology, Graduate School of Health Sciences, Fujita Health University, Japan 2 Undergraduate Student, Faculty of Clinical Engineering, School of Health Sciences, Fujita Health University, Japan 3 Department of Physiology, Graduate School of Health Science, Fujita Health University, Japan*)

26SP-B-15

Effects of Low Gravity on Plant Stem Sap Flow

Ayako Tokuda Okuda*, Yoshiaki Kitaya, Hiroaki Hirai (*College of Life, Environment, and Advanced Sciences, Osaka Prefecture University, Japan*)

26SP-B-16

Short Foot Loading Improves Leg Muscle Atrophy and Muscle Protein Homeostasis: to Find a Significance of Standing and a Model Studying Efficient Care

Aya Atomii^{1*}, Eri Fujita¹, Tomoaki Atomii², Miho Shimizu¹, Yoriko Atomii¹ (*1 Tokyo University of Agriculture and Technology, Japan, 2 Teikyo University of Science, Japan*)

26SP-B-17

Influence of the Ignition Method on the Extinction Limit for a Flame Spreading over Electric Wire Insulation in Microgravity

Fumiya Mitsui^{1*}, Masashi Nagachi¹, Koki Kizawa¹, Jean-Marie Citerne², Hugo Dutilleu², Grunde Jomaas³, Guillaume Legros², Nozomu Hashimoto¹, Osamu Fujita¹ (*1 Hokkaido University, Japan, 2 Universite Pierre-et-Marie Curie-Paris, France, 3 Technical University of Denmark, Denmark*)

26SP-B-18

Numerical Study on the Effect of Gas Phase Chemical Reaction Mechanism on Flame Spreading over Polyethylene Insulated Electrical Wire in Microgravity

Hiroki Aita*, Nozomu Hashimoto, Osamu Fujita (*Hokkaido University, Japan*)

26SP-B-19

Effects of Inert Substitutions of Flame Spread on a Thin Wire under Reduced Amphoteric Pressures

Hangjune Kwon*, TerKi Hong, Seul Hyun Park (*Chosun University, Korea*)

26SP-B-20

Evaluation of Flow Development of Vertically Upward One-Component Gas-Liquid Two-Phase Flow based on Void Fraction Characteristics (Preliminary Experiment for Boiling and Two-Phase Flow Experiments on Board ISS)

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Experimental Investigations of Thin Liquid Layer Evaporation and Convection

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Optical Measurements of Thin Film Condensation Process

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Ground-based Research Results of Evaporation & Convection Experiment Preparing for SJ-10 Satellite

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Drop Tower Experimental Investigation of Capillary Flow in Double Channels: Experiment Set-up and Results

Yuan Gao*, Qiu-Sheng Liu, Xiao-Liang Chen (*Institute of Mechanics, Chinese Academy of Sciences, China*)