Opening Remarks

President: Hirokazu Nishino

Applicants' Presentations for Young Investigators Award 1

Chair: Masataka Majima

Y-1 Effects of Prostacyclin on Isolated Porcine Retinal Arterioles: Cross-Talk between Nitric Oxide and Prostacyclin
Shinji Ono, Taiji Nagaoka, Tsuneaki Omae, Takayuki Kamiya, Akitoshi Yoshida
Department of Ophthalmology, Asahikawa Medical University, Asahikawa, Japan.

Y-2 Sphingosine 1-phosphate elicits constriction of isolated porcine retinal arterioles
Takayuki Kamiya, Taiji Nagaoka, Tsuneaki Omae, Shinji Ono, Akitoshi Yoshida
Department of Ophthalmology, Asahikawa Medical University

Y-3 Effect of Nitric Oxide on Increased Retinal Blood Flow in Response to Flicker Stimuli in Cats
Takafumi Yoshioka, Taiji Nagaoka, Akitoshi Yoshida
Department of Ophthalmology, Asahikawa Medical University, Asahikawa, Japan

Y-4 Ultra-wide field fluorescein angiography in patients with retinal vascular disorders
Shuichiro Hirahara, Taneto Tomiyasu, Norihiro Suzuki, Ikuko Shimada, Satoshi Ota, Miho Nozaki, Munenori Yoshida, Yuichiro Ogura
Department of Ophthalmology and Visual Science, Nagoya City University Graduate School of Medical Sciences

Applicants' Presentations for Young Investigators Award 2

Chair: Eikichi Okada

Y-5 Repeated 3D live imaging of microvascular-astroglia restructuring induced by hypoxia in mouse cerebral cortex.
Kazuto Masamoto1,2), Hiroyuki Takuwa2), Takuma Sugashi2), Yukio Yamada1), Yutaka Tomita3), Miyuki Unekawa3), Haruki Toriumi3), Yoshiaki Itoh3), Norihiro Suzuki3), Hiroshi Ito2), Iwao Kanno2)
1) University of Electro-Communications, 2) National Institute of Radiological Sciences, 3) Keio University
Y-6  Metabolic responses to mild hypothermia treatments after hypoxia-ischemia in newborn rats
Toshiki Takenouchi1), Mayumi Kajimura2,3), Tsuyoshi Nakanishi2,4), Takako Hishiki2,3), Yoshiko Nagahata3), Tadao Sugiocka2), Akiko Kubo2), Takayuki Morikawa2), Takao Takahashi1), Makoto Suematsu2,3)
2) Department of Biochemistry, School of Medicine, Keio University, Tokyo,
3) JST, ERATO, Suematsu Gas Biology Project, Tokyo, Japan,
4) MS Business Unit, Shimadzu Corporation, Kyoto, Japan,
1) Department of Pediatrics, School of Medicine, Keio University, Tokyo

Y-7  Development of a Cell Culture Microdevice with Oxygen Gradient as a Model for Microvascular Environment
Asako Sato1), Hideyuki Uchida2), Akira Miyayama2), Kosuke Tsukada1,2)
1) Department of Applied Physics and Physico-Informatics, Keio University,
2) Graduate School of Fundamental Science and Technology, Keio University

10:45 – 11:30
Applicants' Presentations for Young Investigators Award 3  Chair : Hidekazu Suzuki

Y-8  Amelioration of NSAID-induced small intestinal lesions by Toll-like receptor 2 agonist through decreasing leukocytes migration to intestinal mucosa.
Kazuyuki Narimatsu, Ryota Hokari, Yuuichi Yasutake, Hirokazu Sato, Chie Kurihara, Yoshikiyo Okada, Chikako Watanabe, Shunsuke Komoto, Kengo Tomita, Atsushi Kawaguchi, Shigeaki Nagao, Soichiro Miura
Department of internal medicine, National Defense Medical College, Saitama, Japan

Y-9  Expression of toll-like receptors in glomerular endothelial cells under diabetic conditions
Takata, S1), Uchiyama, T1), Tsuruga, E2), Hatakeyama, Y2), Ishikawa, H1), Sawa, Y2)
1) Department of Oral Growth & Development, Fukuoka Dental College,
2) Department of Morphological Biology, Fukuoka Dental College

Y-10  Impaired blood flow recovery in streptozotocin induced Diabetes Mellitus mice by down regulation of VEGFR1TK signaling
Kazuhiro Oba, Hideki Amano, Takehito Sato, Fumihiro Ogawa, Koji Eshima, Shinichiro Okizaki, Hiroto Okubo, Chie Kurashige, Mariko Kamata, Masayoshi Shichiri, Masataka Majima
Kitasato University

12:00 – 13:00
Luncheon Seminar 1  Chair : Masahiko Nakamura
Sponsored by Takeda Pharmaceutical Co., LTD.

LS1
Naoki Kashihara
13:15 – 14:15

**Educational lecture**

Chair: Masataka Majima

**El**

**Approach to understand immune system based on spatiotemporal regulation of immune cells in the entire body**

Michio Tomura\(^1\), Kenji Kabashima\(^1\), Osami Kanagawa\(^2\)

\(^1\)Kyoto University Graduate School of Medicine, \(^2\)RIKEN

14:15 – 15:15

**Free Paper 1** [Brain, Nerve]

Chair: Norihiro Suzuki

**F-1**

**Effect of argatroban on laser-induced thrombus formation in murine brain microvasculature observed on intravital fluorescence microscopy**

Hajime Maruyama, Takuya Fukuoka, Norio Tanahashi

Department of Neurology and Cerebrovascular Medicine, Saitama Medical University International Medical Center, JAPAN

**F-2**

**Propagation of changes in diameter of pial arteries and cerebral blood flow following cortical spreading depression in anesthetized mice**

Miyuki Unekawa\(^1\), Yutaka Tomita\(^1\), Haruki Toriumi\(^1\), Takashi Osada\(^1,2\), Kazuto Masamoto\(^3,4\), Yoshiaki Itoh\(^1\), Iwao Kanno\(^4\), Norihiro Suzuki\(^1\)

\(^1\)Department of Neurology, Keio University, \(^2\)Department of Neurology, Tachikawa Hospital, \(^3\)Center for Frontier Science and Engineering, University of Electro-Communications, \(^4\)Molecular Imaging Center, National Institute of Radiological Sciences

**F-3**

**Deletion of HO-2 impairs an ability to maintain ATP and energy charge following acute cerebral ischemia**

Takayuki Morikawa\(^1\), Mayumi Kajimura\(^1,2\), Tsuyoshi Nakanishi\(^1,3\), Yoshinori Yukutake\(^2\), Yoshiko Nagahata\(^2\), Makoto Suematsu\(^1,2\)

\(^1\)JST, ERATO, Suematsu Gas Biology Project, Tokyo, Japan, \(^2\)MS Business Unit, Shimadzu Corporation, Kyoto, Japan, \(^3\)Department of Biochemistry, School of Medicine, Keio University, Tokyo, Japan

**F-4**

**Cerebral arteriolar responses and immediately after MCAO and reperfusion**

Mami Ishikawa\(^1,2\), Mayumi Kajimura\(^1\), Takayuki Morikawa\(^1\), Tomomi Nakamura\(^1\), Haruna Kamochi\(^2\), Akira Ebihara\(^2\), Gen Kusaka\(^2\), Yuichi Tanaka\(^2\), Makoto Suematsu\(^2\)

\(^1\)Department of Biochemistry, School of Medicine, Keio University, \(^2\)Department of Neurosurgery, Saitama Medical Center, Jichi Medical University
Free Paper 2 [Brain, Retinal Circulation, Others]

Chair : Taiji Nagaoka

F-5 Post-stroke administration of cilostazol changes metabolic profiles of ischemic brain in a mouse model
Yasuo Sugiura¹,4), Mayumi Kajimura¹,2), Katsugi Hattori¹, Tsuyoshi Nakanishi¹,3), Takayuki Morikawa¹, Yoshiko Nagahata², Takako Hishiki¹,2), Makoto Suematsu¹,2)
¹Department of Biochemistry, School of Medicine, Keio University, Tokyo,
²JST, ERATO, Suematsu Gas Biology Project, Tokyo, Japan,
³MS Business Unit, Shimadzu Corporation, Kyoto, Japan,
⁴Department of Pulmonary and Thoracic Surgery, Kanagawa National Hospital, Hadano

F-6 Retinal angiography for small animals with ultra-wide-field scanning laser ophthalmoscope (Optos)
Miho Nozaki, Shuichiro Hirahara, Tomoaki Hattori, Satoshi Ohta, Yuichiro Ogura
Department of Ophthalmology and Visual Science, Nagoya City University Graduate School of Medical Sciences

F-7 Effects of the administration of anti-oxidants on ultraviolet B-induced leukocytes adhesion in the mouse dorsal skinfold chamber
Akira Ushiyama¹, Chika Ohsawa², Shiori Fujita², Tomomi Suwa², Masako Ohsawa¹, Kazuyuki Ishii², Makishge Asano¹
¹National Institute of Public Health, ²Meiji Pharmaceutical University

Special Lecture
Chair : Makoto Suematsu

SL Branch or expand? Endothelial cell dynamics regulating vascular patterning
Holger Gerhardt
Vascular Biology Laboratory, London Research Institute – Cancer Research UK, Vascular Patterning Laboratory, Vesalius Research Center, VIB3, Department of Oncology, KU Leuven

Evening Seminar
Chair : Hirokazu Nishino
Sponsored by Otsuka Pharmaceutical Co., LTD.

ES Role of hydrogen sulfide in regulating metabolic systems and microcirculation
Makoto Suematsu

Award Ceremony / Reception
18:30 –
at Shinbasi Atagoyama Tokyu Inn

The 38th Annual Meeting of the Japanese Society for Microcirculation 15
MALT Lymphoma Stem Cell and its Niche are related to Peculiar Microcirculatory Network in Helicobacter heilmannii-infected Mice Stomach
Masahiko Nakamura1), Hidemori Matsui2), Tetsufumi Takahashi1), Kanji Tsuchimoto1)  
1)School of Pharmaceutical Sciences, Kitasato University, Tokyo, Japan,  
2)Kitasato Institute for Life Sciences, Kitasato University, Tokyo, Japan

Role of VEGFR1 signaling in liver injury and repair following hepatic ischemia/reperfusion injury in mice
Hirotoki Ohkubo1,2), Yoshiya Ito2), Tsutomu Minamino1), Kanako Hosono1),  
Masahiko Watanabe2), Masataka Majima1)  
Departments of 1)Pharmacology and 2)Surgery, Kitasato University School of Medicine, Kanagawa, Japan

Anti-inflammatory effects of carbon monoxide (CO) liberated by CO-releasing molecule on ischemia-reperfusion (I/R)-challenged intestinal injury in mice
Kazuhiro Katada1), Yuji Naito1), Tomohisa Takagi1), Takaya Iida1), Katsura Mizushima1),  
Hiroyuki Yoriki1), Kazuhiro Kamada1), Kazuhiiko Uchiyama1), Osamu Handa1),  
Nobuaki Yagi1), Hiroshi Ichikawa2), Toshikazu Yoshikawa1)  
1)Department of Molecular Gastroenterology and Hepatology, Graduate School of Medical Science,  
Kyoto Prefectural University of Medicine,  
2)Department of Medical Life System, Faculty of Life and Medical Sciences, Doshisha University

Involvement of Cross-Linked Ribosomal Protein S19 Oligomers and C5a Receptor in Definitive Erythropoiesis
Hiroshi Nishiura, Jun Chen, Umeko Semba, Tetsuro Yamamoto  
Faculty of Life Science, Kumamoto University

Development of CAST (cancer stromal targeting) diagnosis and therapy using anti-fibrin monoclonal antibody
Masahiro Yasunaga1), Takashi Sugino2), Atsushi Tsuji3), Tsuneo Saga3), Shino Manabe4),  
Yasuhiro Matsumura1)  
1)Investigative Treatment Division, National Cancer Center Hospital East,  
2)Division of Pathology, Shizuoka Cancer Center, Shizuoka,  
3)Diagnostic Imaging Program, Molecular Imaging Center, National Institute of Radiological Sciences,  
4)Synthetic Cellular Chemistry Laboratory, RIKEN

Reprogrammed cancer cells upregurate the expressions of angiogenesis-related genes and reactive oxygen species scavenging genes
Akiko Saito, Hiromi Ochiai, Shoko Okada, Toshifumi Azuma  
Department of Biochemistry, Tokyo Dental College, Japan
Angiotensin Type 1 Receptor Blocker Enhances H₂O₂-induced Coronary Collateral Vasodilatation and Improves Microvascular Endothelial Dysfunction in Diabetes Mellitus and Endothelial H₂O₂ Production during Acute Coronary Occlusion in Canine Coronary Native Collateral Microcirculation in Vivo
Toyotaka Yada¹, Hiroaki Shimokawa², Osamu Hiramatsu¹, Masami Goto¹, Yasuo Ogasawara¹, Fumihiko Kajiya¹
¹Kawasaki Medical School, ²Tohoku University Graduate School of Medicine

Wide inter-footprocess area in a rat at the early stage of diabetes
Hiroshi Nakamoto¹, Kazuhiko Nakayama², Noriaki Emoto², Fumihiko Kajiya¹
¹Department of Medical Engineering and Systems Cardiology, Kawasaki Medical School, Kurashiki, Okayama, JAPAN,
²Clinical Pharmacy, Kobe Pharmaceutical University, Hyogo, JAPAN

11:00 – 12:00
Invited Lecture

Pancreatic Microcirculation and Exacerbation of Acute Pancreatitis
Yoshifumi Takeyama, Takeshi Yasuda
Department of Surgery, Kinki University Faculty of Medicine

12:15 – 13:15
Luncheon Seminar 2

Pancreatic Microcirculation and Exacerbation of Acute Pancreatitis
Yoshifumi Takeyama, Takeshi Yasuda
Department of Surgery, Kinki University Faculty of Medicine

13:30 – 14:45
Council Meeting of JSMC
General Assembly of JSMC

14:45 –
Closing Remarks