

# PROGRAM

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**Friday, February 8, 2013**

8:55 – 9:00

**Opening Remarks**

President : Hirokazu Nishino

9:00 – 10:00

**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

10:00 – 10:45

**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 Masamoto<sup>1,2)</sup>, Hiroyuki Takuwa<sup>2)</sup>, Takuma Sugashi<sup>1)</sup>, Yukio Yamada<sup>1)</sup>, Yutaka Tomita<sup>3)</sup>, Miyuki Unekawa<sup>3)</sup>, Haruki Toriumi<sup>3)</sup>, Yoshiaki Itoh<sup>3)</sup>, Norihiro Suzuki<sup>3)</sup>, Hiroshi Ito<sup>2)</sup>, Iwao Kanno<sup>2)</sup>  
<sup>1)</sup>University of Electro-Communications, <sup>2)</sup>National Institute of Radiological Sciences, <sup>3)</sup>Keio University

**Y-6 Metabolic responses to mild hypothermia treatments after hypoxia-ischemia in newborn rats**

Toshiki Takenouchi<sup>1)</sup>, Mayumi Kajimura<sup>2,3)</sup>, Tsuyoshi Nakanishi<sup>2,4)</sup>, Takako Hishiki<sup>2,3)</sup>, Yoshiko Nagahata<sup>3)</sup>, Tadao Sugioka<sup>2)</sup>, Akiko Kubo<sup>2)</sup>, Takayuki Morikawa<sup>2)</sup>, Takao Takahashi<sup>1)</sup>, Makoto Suematsu<sup>2,3)</sup>

<sup>2)</sup>Department of Biochemistry, School of Medicine, Keio University, Tokyo,

<sup>3)</sup>JST, ERATO, Suematsu Gas Biology Project, Tokyo, Japan,

<sup>4)</sup>MS Business Unit, Shimadzu Corporation, Kyoto, Japan,

<sup>1)</sup>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 Sato<sup>1)</sup>, Hideyuki Uchida<sup>2)</sup>, Akira Miyayama<sup>2)</sup>, Kosuke Tsukada<sup>1,2)</sup>

<sup>1)</sup>Department of Applied Physics and Physico-Informatics, Keio University,

<sup>2)</sup>Graduate School of Fundamental Science and Technology, Keio University

10:45 – 11:30

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**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, S<sup>1)</sup>, Uchiyama, T<sup>1)</sup>, Tsuruga, E<sup>2)</sup>, Hatakeyama, Y<sup>2)</sup>, Ishikawa, H<sup>1)</sup>, Sawa, Y<sup>2)</sup>

<sup>1)</sup>Department of Oral Growth & Development, Fukuoka Dental College,

<sup>2)</sup>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**

Kazuhito Oba, Hideki Amano, Takehito Sato, Fumihiro Ogawa, Koji Eshima, Shinichiro Okizaki, Hirotoki Okubo, Chie Kurashige, Mariko Kamata, Masayoshi Shichiri, Masataka Majima

Kitasato University

12:00 – 13:00

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**Luncheon Seminar 1**

Chair : Masahiko Nakamura

Sponsored by Takeda Pharmaceutical Co., LTD.

**LS1**

Naoki Kashihara

**EL Approach to understand immune system based on spatiotemporal regulation of immune cells in the entire body**Michio Tomura<sup>1)</sup>, Kenji Kabashima<sup>1)</sup>, Osami Kanagawa<sup>2)</sup><sup>1)</sup>Kyoto University Graduate School of Medicine, <sup>2)</sup>RIKEN**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<sup>1)</sup>, Yutaka Tomita<sup>1)</sup>, Haruki Toriumi<sup>1)</sup>, Takashi Osada<sup>1,2)</sup>,  
Kazuto Masamoto<sup>3,4)</sup>, Yoshiaki Itoh<sup>1)</sup>, Iwao Kanno<sup>4)</sup>, Norihiro Suzuki<sup>1)</sup><sup>1)</sup>Department of Neurology, Keio University, <sup>2)</sup>Department of Neurology, Tachikawa Hospital,<sup>3)</sup>Center for Frontier Science and Engineering, University of Electro-Communications,<sup>4)</sup>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<sup>1)</sup>, Mayumi Kajimura<sup>1,2)</sup>, Tsuyoshi Nakanishi<sup>1,3)</sup>,  
Yoshinori Yukutake<sup>2)</sup>, Yoshiko Nagahata<sup>2)</sup>, Makoto Suematsu<sup>1,2)</sup><sup>1)</sup>Department of Biochemistry, School of Medicine, Keio University, Tokyo,<sup>2)</sup>JST, ERATO, Suematsu Gas Biology Project, Tokyo, Japan,<sup>3)</sup>MS Business Unit, Shimadzu Corporation, Kyoto, Japan**F-4 Cerebral arteriolar responses and immediately after MCAO and reperfusion**Mami Ishikawa<sup>1,2)</sup>, Mayumi Kajimura<sup>1)</sup>, Takayuki Morikawa<sup>1)</sup>, Tomomi Nakamura<sup>1)</sup>,  
Haruna Kamochi<sup>2)</sup>, Akira Ebihara<sup>2)</sup>, Gen Kusaka<sup>2)</sup>, Yuichi Tanaka<sup>2)</sup>, Makoto Suematsu<sup>2)</sup><sup>1)</sup>Department of Biochemistry, School of Medicine, Keio University,<sup>2)</sup>Department of Neurosurgery, Saitama Medical Center, Jichi Medical University

15:15 – 16:00

**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**

Yasoo Sugiura<sup>1,4)</sup>, Mayumi Kajimura<sup>1,2)</sup>, Katsuji Hattori<sup>1)</sup>, Tsuyoshi Nakanishi<sup>1,3)</sup>, Takayuki Morikawa<sup>1)</sup>, Yoshiko Nagahata<sup>2)</sup>, Takako Hishiki<sup>1,2)</sup>, Makoto Suematsu<sup>1,2)</sup>

<sup>1)</sup>Department of Biochemistry, School of Medicine, Keio University, Tokyo,

<sup>2)</sup>JST, ERATO, Suematsu Gas Biology Project, Tokyo, Japan,

<sup>3)</sup>MS Business Unit, Shimadzu Corporation, Kyoto, Japan,

<sup>4)</sup>Department 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 Ushiyama<sup>1)</sup>, Chika Ohsawa<sup>2)</sup>, Shiori Fujita<sup>2)</sup>, Tomomi Suwa<sup>2)</sup>, Masako Ohsawa<sup>1)</sup>, Kazuyuki Ishii<sup>2)</sup>, Makishige Asano<sup>1)</sup>

<sup>1)</sup>National Institute of Public Health, <sup>2)</sup>Meiji Pharmaceutical University

16:00 – 17:00

**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

17:00 – 17:45

**Evening Seminar**

Chair : Hirokazu Nishino

Sponsored by Otsuka Pharmaceutical Co., LTD.

**ES Role of hydrogen sulfide in regulating metabolic systems and microcirculation**

Makoto Suematsu

18:30 –

**Award Ceremony / Reception**

at Shinbasi Atagoyama Tokyo Inn

9:00 – 10:00

**Free Paper 3** [Digestive Organs, Ischemia, Reperfusion]

Chair : Ryota Hokari

**F-8 MALT Lymphoma Stem Cell and its Niche are related to Peculiar Microcirculatory Network in Helicobacter heilmannii-infected Mice Stomach**

Masahiko Nakamura<sup>1)</sup>, Hidenori Matsui<sup>2)</sup>, Tetsufumi Takahashi<sup>1)</sup>, Kanji Tsuchimoto<sup>1)</sup>

<sup>1)</sup>School of Pharmaceutical Sciences, Kitasato University, Tokyo, Japan,

<sup>2)</sup>Kitasato Institute for Life Sciences, Kitasato University, Tokyo, Japan

**F-9 Role of VEGFR1 signaling in liver injury and repair following hepatic ischemia/reperfusion injury in mice**

Hirotohi Ohkubo<sup>1,2)</sup>, Yoshiya Ito<sup>2)</sup>, Tsutomu Minamino<sup>1)</sup>, Kanako Hosono<sup>1)</sup>,  
Masahiko Watanabe<sup>2)</sup>, Masataka Majima<sup>1)</sup>

Departments of <sup>1)</sup>Pharmacology and <sup>2)</sup>Surgery, Kitasato University School of Medicine,  
Kanagawa, Japan

**F-10 Anti-inflammatory effects of carbon monoxide (CO) liberated by CO-releasing molecule on ischemia-reperfusion (I/R)-challenged intestinal injury in mice**

Kazuhiro Katada<sup>1)</sup>, Yuji Naito<sup>1)</sup>, Tomohisa Takagi<sup>1)</sup>, Takaya Iida<sup>1)</sup>, Katsura Mizushima<sup>1)</sup>,  
Hiroyuki Yoriki<sup>1)</sup>, Kazuhiro Kamada<sup>1)</sup>, Kazuhiko Uchiyama<sup>1)</sup>, Osamu Handa<sup>1)</sup>,  
Nobuaki Yagi<sup>1)</sup>, Hiroshi Ichikawa<sup>2)</sup>, Toshikazu Yoshikawa<sup>1)</sup>

<sup>1)</sup>Department of Molecular Gastroenterology and Hepatology, Graduate School of Medical Science,  
Kyoto Prefectural University of Medicine,

<sup>2)</sup>Department of Medical Life System, Faculty of Life and Medical Sciences, Doshisha University

**F-11 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

10:00 – 11:00

**Free Paper 4** [Cancer, Heart, Kidney]

Chair : Tetsuro Yamamoto

**F-12 Development of CAST (cancer stromal targeting) diagnosis and therapy using anti-fibrin monoclonal antibody**

Masahiro Yasunaga<sup>1)</sup>, Takashi Sugino<sup>2)</sup>, Atsushi Tsuji<sup>3)</sup>, Tsuneo Saga<sup>3)</sup>, Shino Manabe<sup>4)</sup>,  
Yasuhiro Matsumura<sup>1)</sup>

<sup>1)</sup>Investigative Treatment Division, National Cancer Center Hospital East,

<sup>2)</sup>Division of Pathology, Shizuoka Cancer Center, Shizuoka,

<sup>3)</sup>Diagnostic Imaging Program, Molecular Imaging Center, National Institute of Radiological  
Sciences,

<sup>4)</sup>Synthetic Cellular Chemistry Laboratory, RIKEN

**F-13 Reprogrammed cancer cells upregulate 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

**F-14 Angiotensin Type 1 Receptor Blocker Enhances H<sub>2</sub>O<sub>2</sub>-induced Coronary Collateral Vasodilatation and Improves Microvascular Endothelial Dysfunction in Diabetes Mellitus and Endothelial H<sub>2</sub>O<sub>2</sub> Production during Acute Coronary Occlusion in Canine Coronary Native Collateral Microcirculation in Vivo**

Toyotaka Yada<sup>1)</sup>, Hiroaki Shimokawa<sup>2)</sup>, Osamu Hiramatsu<sup>1)</sup>, Masami Goto<sup>1)</sup>, Yasuo Ogasawara<sup>1)</sup>, Fumihiko Kajiya<sup>1)</sup>

<sup>1)</sup>Kawasaki Medical School, <sup>2)</sup>Tohoku University Graduate School of Medicine

**F-15 Wide inter-footprocess area in a rat at the early stage of diabetes**

Hiroshi Nakamoto<sup>1)</sup>, Kazuhiko Nakayama<sup>2)</sup>, Noriaki Emoto<sup>2)</sup>, Fumihiko Kajiya<sup>1)</sup>

<sup>1)</sup>Department of Medical Engineering and Systems Cardiology, Kawasaki Medical School, Kurashiki, Okayama, JAPAN,

<sup>2)</sup>Clinical Pharmacy, Kobe Pharmaceutical University, Hyogo, JAPAN

11:00 – 12:00

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**Invited Lecture**

Chair : Hirokazu Nishino

**II Pancreatic Microcirculation and Exacerbation of Acute Pancreatitis**

Yoshifumi Takeyama, Takeshi Yasuda

Department of Surgery, Kinki University Faculty of Medicine

12:15 – 13:15

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**Luncheon Seminar 2**

Chair : Hiroshi Nagata

Sponsored by Daiichi Sankyo Co., LTD. / Astrazeneca Co., LTD.

**LS2**

Hidekazu Suzuki

13:30 – 14:45

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**Council Meeting of JSMC  
General Assembly of JSMC**

14:45 –

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**Closing Remarks**