

**Thursday, February 21, 2008**

**Opening Remarks**

**8:55-9:00**

**President: Haruyuki Minamitani (Keio Univ.)**

**Applicant's Presentations for Young Investigators Award 9:00-10:45**

**Chairs: Toshio Ohhashi (Shinshu Univ.)**

**Yuichiro Ogura (Nagoya City Univ.)**

**A1**

**The study of the effect of ultraviolet B irradiation on mice subcutaneous microcirculation**

Miyuki Takahashi<sup>1</sup>, Akira Ushiyama<sup>1</sup>, Makishige Asano<sup>1</sup>, Chiyoji Ohkubo<sup>2</sup>

<sup>1</sup>The National Institute of Public Health, Wako, Japan, <sup>2</sup>Department of Environmental Biology, Meiji Pharmaceutical University

**A2**

**In vivo imaging revealed inflammatory cell dynamics in obese adipose tissue microcirculation**

Satoshi Nishimura<sup>1</sup>, Ichiro Manabe<sup>1</sup>, Mika Nagasaki<sup>1</sup>, Yumiko Hosoya<sup>1</sup>, Takashi Kadowaki<sup>2</sup>, Seiryu Sugiura<sup>3</sup>, Ryozi Nagai<sup>1</sup>

<sup>1</sup>Department of Cardiovascular Medicine, The University of Tokyo, Tokyo, Japan, <sup>2</sup>Department of Metabolic Diseases, The University of Tokyo, Tokyo, Japan, <sup>3</sup>Department of Human and Engineered Environmental Studies, Graduate School of Frontier Sciences, The University of Tokyo, Tokyo, Japan

**A3**

**Magnetic targeting of nanometric magnetic fluid loaded liposomes to specific brain intravascular areas: A dynamic imaging study and analysis of CBF with KEIO-IS1 software in mice**

Yutaka Tomita<sup>1</sup>, Charlotte Riviere<sup>4</sup>, Mariesophie Martina<sup>4</sup>, Alexy Trandinh<sup>3</sup>, Elisabeth Pinard<sup>3</sup>, Minoru Tomita<sup>2</sup>, Norihiro Suzuki<sup>2</sup>, Jacques Seylaz<sup>3</sup>

<sup>1</sup>Department of Neurology, Preventive Medicine for Cerebrovascular Disease, Keio University, School of Medicine, Tokyo, Japan, <sup>2</sup>Department of Neurology, Keio University, School of Medicine, Tokyo, Japan, <sup>3</sup>Cardiovascular Research Center Lariboisière, INSERM; Université Paris 7, Paris, France, <sup>4</sup>Laboratoire Matière et Systèmes Complexes, CNRS, Université Paris 7-Denis Diderot, Paris, France

**A4**

**Hb encapsulation in vesicles retards the reaction with NO by intracellular diffusion barrier, and the relevance to the vasoinactive properties of RBCs and Hb-vesicles**

Hiromi Sakai<sup>1</sup>, Atsushi Sato<sup>2</sup>, Shinji Takeoka<sup>2</sup>, Eishun Tsuchida<sup>1</sup>

<sup>1</sup>Research Institute for Science and Engineering, Waseda University, Tokyo, Japan, <sup>2</sup>Graduate School of Advanced Science and Engineering, Waseda University, Tokyo, Japan

## A5

### **Fluid shear stress increases transcription of ephrinB2 gene via Sp1 activation in endothelial progenitor cells**

Syotaro Obi<sup>1,2</sup>, Kimiko Yamamoto<sup>1,3</sup>, Nobutaka Shimizu<sup>1</sup>, Shinichiro Kumagaya<sup>1</sup>, Tomomi Masumura<sup>1</sup>, Yasumasa Shimano<sup>1</sup>, Masahiro Shibata<sup>1</sup>, Takayuki Asahara<sup>2</sup>, Joji Ando<sup>1</sup>

<sup>1</sup>Department of Biomedical Engineering, Graduate School of Medicine, University of Tokyo, Tokyo, Japan,

<sup>2</sup>Department of Regenerative Medicine Science, Tokai University School of Medicine, <sup>3</sup>PREST, JST

## A6

### **Effects of transmural pressure and shear stress on expressions of ICAM-1, VCAM-1 and E-selectin in cultured human aortic endothelial cells**

Hiromichi Nakadate<sup>1</sup>, Eiichi Sekizuka<sup>2</sup>, Ryota Hokari<sup>3</sup>, Soichiro Miura<sup>3</sup>, Haruyuki Minamitani<sup>1</sup>

<sup>1</sup>Graduate School of Science and Technology, Keio University, <sup>2</sup>Department of Internal Medicine, National Hospital Organization Saitama Hospital, <sup>3</sup>Second Department of Internal Medicine, National Defense Medical College

## A7

### **Lymphatic capillary architecture and distribution beneath the buccal mucosa**

Yutaka Sato<sup>1</sup>, Mikiko Masuyama<sup>2</sup>, Yoshinori Ando<sup>3</sup>, Munenori Kikuchi<sup>2</sup>, Masao Onodera<sup>4</sup>, Akira Fujimura<sup>4</sup>, Yohichiro Nozaka<sup>4</sup>

<sup>1</sup>First Department of Maxillofacial Surgery, School of Dentistry, Iwate Medical University, Morioka, Japan,

<sup>2</sup>Department of Orthodontics, School of Dentistry, Iwate Medical University, <sup>3</sup>Department of Periodontology, School of Dentistry, Iwate Medical University, <sup>4</sup>First Department of Oral Anatomy, School of Dentistry, Iwate Medical University

## A8

### **The antioxidant cerebralcare granule attenuates cerebral microcirculatory disturbance during ischemia and reperfusion injury**

Xiangshun Xu<sup>1</sup>, Zhizhong Ma<sup>1</sup>, Fang Wang<sup>1</sup>, Baihe Hu<sup>1</sup>, Chuanshe Wang<sup>1,2</sup>, Yuying Liu<sup>1</sup>, Xinrong Zhao<sup>1</sup>, Lihua An<sup>1</sup>, Xin Chang<sup>1</sup>, Fulong Liao<sup>1</sup>, Jingyu Fan<sup>1</sup>, Hideyuki Nimi<sup>1</sup>, Jingyan Han<sup>1,2</sup>

<sup>1</sup>Tasly Microcirculation Research Center, Peking University Health Science Center, Beijing, China, <sup>2</sup>Dept. of Integration of Chinese and Western Medicine, Peking University Health Science Center, Beijing, China

## **Free Paper 1 Lymphatics**

**10:55-11:40**

**Chairs: Eikichi Okada (Takaoka City Hosp.)**

**Akira Fujimura (Iwate Med. Univ.)**

## F1

### **Heterogeneity in the characterization of human lymphatic endothelial cells between initial and collecting lymph vessels**

Yoshiko Kawai<sup>1</sup>, Maki Kaidoh<sup>1</sup>, Toshio Ohhashi<sup>1</sup>

<sup>1</sup>Department of Physiology, School of Medicine, Shinshu University

## **F2**

### **The supernatants of culture media of breast cancer cells produce overexpression of adhesion molecules on human lymphatic endothelial cells**

Yoshiko Kawai<sup>1</sup>, Maki Kaidoh<sup>1</sup>, Toshio Ohhashi<sup>1</sup>

<sup>1</sup>Department of Physiology, School of Medicine, Shinshu University

## **F3**

### **Lymphatic architecture in the mouse periodontal membrane**

Mikiko Masuyama<sup>1</sup>, Yutaka Sato<sup>2</sup>, Yoshinori Ando<sup>3</sup>, Munenori Kikuchi<sup>1</sup>, Masao Onodera<sup>4</sup>, Akira Fujimura<sup>4</sup>, Hiroyuki Miura<sup>1</sup>, Yohichiro Nozaka<sup>4</sup>

<sup>1</sup>Department of Orthodontics, School of Dentistry, Iwate Medical University, <sup>2</sup>First Department of Maxillofacial Surgery, School of Dentistry, Iwate Medical University, <sup>3</sup>Department of Periodontology, School of Dentistry, Iwate Medical University, <sup>4</sup>First Department of Oral Anatomy, School of Dentistry, Iwate Medical University

## **F4**

### **Lymphatic architecture of the human healthy gingiva**

Yoshinori Ando<sup>1</sup>, Mikiko Masuyama<sup>2</sup>, Yutaka Sato<sup>3</sup>, Munenori Kikuchi<sup>2</sup>, Masao Onodera<sup>4</sup>, Akira Fujimura<sup>4</sup>, Kazushi Kunimatsu<sup>1</sup>, Yohichiro Nozaka<sup>4</sup>

<sup>1</sup>Department of Periodontology, School of Dentistry, Iwate Medical University, <sup>2</sup>Department of Orthodontics, School of Dentistry, Iwate Medical University, <sup>3</sup>First Department of Maxillofacial Surgery, School of Dentistry, Iwate Medical University, <sup>4</sup>First Department of Oral Anatomy, School of Dentistry, Iwate Medical University

## **F5**

### **Development of lymphatic vessels in hypertrophic hearts**

Eikichi Okada<sup>1</sup>

<sup>1</sup>Department of Clinical Pathology, Takaoka City Hospital, Takaoka, Toyama, Japan

## **Luncheon Seminar 1**

**11:55-12:45**

**Chair: Masaya Oda (Int. Univ. Health and Welfare, Sanno Hosp.)**

### **LS1**

#### **Biomarker for anti-angiogenesis inhibitors**

Kazuto Nishio<sup>1</sup>

<sup>1</sup>Department of Genome Biology, Kinki University School of Medicine, Osaka, Japan

Sponsored by: Chugai Pharmaceutical Co.Ltd.

## **Special Lecture**

**13:45-14:35**

**Chair: Hiromasa Ishii (Prof. Emer., Keio University)**

### **SL**

#### **Tumor microvasculature and microenvironment**

Dai Fukumura<sup>1</sup>

<sup>1</sup>Edwin L. Steele Laboratory, Department of Radiation Oncology, Massachusetts General Hospital and Harvard Medical School, Boston, USA

## **Free Paper 2    Angiogenesis and Lymphangiogenesis                    14:50-15:45**

**Chairs: Yohichiro Nozaka (Iwate Med. Univ.)**

**Takashi Ohno (Isehara Kyodo Hosp.)**

**F6**

### **Fabrication of the microvascular within tissue in vitro**

Sachiko Sekiya<sup>1</sup>, Tatsuya Shimizu<sup>1</sup>, Tadashi Sasagawa<sup>1</sup>, Masayuki Yamato<sup>1</sup>, Teruo Okano<sup>1</sup>

<sup>1</sup>Institute of Advanced Biomedical Engineering and Science, Tokyo Women's Medical University, Tokyo, Japan

**F7**

### **Cyclic strain induces selective differentiation of mouse embryonic stem cells into vascular smooth muscle cells**

Nobutaka Shimizu<sup>1,2</sup>, Kimiko Yamamoto<sup>1,3</sup>, Tomomi Masumura<sup>1</sup>, Syotaro Obi<sup>1</sup>, Shinichiro Kumagaya<sup>1</sup>, Takashi Igarashi<sup>2</sup>, Joji Ando<sup>1</sup>

<sup>1</sup>Department of Biomedical Engineering, Graduate School of Medicine, University of Tokyo, Tokyo, Japan,

<sup>2</sup>Department of Pediatrics, Graduate School of Medicine, University of Tokyo, Tokyo, Japan, <sup>3</sup>PRESTO, Japan Science and Technology Agency, Saitama, Japan

**F8**

### **Development of in vivo model with total skin flap chamber for visualizing vascular network remodeling**

Norihiko Ohura<sup>1</sup>, Ichiro Shiokawa<sup>2</sup>, Akihiko Takushima<sup>1</sup>, Shigeru Ichioka<sup>2</sup>, Masahiro Shibata<sup>2</sup>, Kiyonori Harii<sup>1</sup>

<sup>1</sup>Department of Plastic, Reconstructive and Aesthetic Surgery, Kyorin University, Mitaka, Tokyo, Japan,

<sup>2</sup>Department of Biomedical Engineering, Graduate School of Medicine, Tokyo University, Tokyo, Japan

**F9**

### **Roles of leukotriene B4 receptor1 (BLT1) in facilitation of tumor-associated angiogenesis**

Yasuharu Kosaka<sup>1</sup>, Tatunori Suzuki<sup>1</sup>, Kanako Hosono<sup>1</sup>, Takehiko Yokomizo<sup>3</sup>, Sumio Hoka<sup>2</sup>, Masataka Majima<sup>1</sup>

<sup>1</sup>The Department of Pharmacology, Kitasato University School of Medicine, Kanagawa, Japan, <sup>2</sup>Department of Anesthesiology, Kitasato University School of Medicine, <sup>3</sup>Department of Medical Biochemistry, Graduate School of Medical Sciences, Kyushu University

**F10**

### **Roles of an angiotensin II receptor, AT1a signaling in wound healing and angiogenesis**

Maya Kurosaka<sup>1,2</sup>, Hiroto Sakamoto<sup>2</sup>, Tatsunori Suzuki<sup>1</sup>, Kanako Hosono<sup>1</sup>, Yoshikuni Fujita<sup>2</sup>, Masataka Majima<sup>1</sup>

<sup>1</sup>Department of Pharmacology, Kitasato University School of Medicine, Kanagawa, Japan, <sup>2</sup>Department of Endocrinology, Kitasato University School of Medicine, Kanagawa, Japan

**F11**

### **Lymphangiogenesis in gastric low-grade MALT lymphoma formation by helicobacter heilmannii infection**

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

<sup>1</sup>School of Pharmaceutical Sciences, Kitasato University, <sup>2</sup>Kitasato Institute for Life Sciences, Kitasato University

## **Free Paper 3 Tumor**

**15:50-16:35**

**Chairs: Tetsuo Morishita (Tokyo Dent. Coll.)**

**Masahiko Nakamura (Kitasato Univ.)**

### **F12**

#### **Photodynamic therapy with pulsed laser irradiation using Talaporfin sodium: Multi-monitoring of rat subcutaneous tumor model**

Hiroki Matsuo<sup>1</sup>, Tsubasa Tsukahara<sup>1</sup>, Shiho Hakomori<sup>1</sup>, Tsunenori Arai<sup>1</sup>

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

### **F13**

#### **A study on hemodynamics and oxygen diffusion in the early stage of tumor angiogenesis**

Raioh Murakami<sup>1</sup>, Nobuhiko Sasaki<sup>1</sup>, Akira Ushiyama<sup>2</sup>, Haruyuki Minamitani<sup>1</sup>

<sup>1</sup>Graduate School of Science and Technology, Keio University, <sup>2</sup>Department of Environmental Health, National Institute of Public Health

### **F14**

#### **Size-dependent extravasation in tumor with mammary window**

Shinya Fujii<sup>1</sup>, Yoshihisa Kishimoto<sup>2</sup>, Takezo Iida<sup>3</sup>, Akira Ushiyama<sup>4</sup>, Ryo Shirakashi<sup>5</sup>, Shan Siqing<sup>6</sup>, Kazuo Tanishita<sup>2</sup>

<sup>1</sup>Graduate School of Science and Technology, Keio University, Kanagawa, Japan, <sup>2</sup>Department of System Design Engineering, Keio University, Kanagawa, Japan, <sup>3</sup>Nippon Television Network Corporation, Tokyo, Japan, <sup>4</sup>Department of Environmental Health, National Institute of Public Health, Saitama, Japan, <sup>5</sup>Industrial Institute of Science, University of Tokyo, Tokyo, Japan, <sup>6</sup>Department of Radiation Oncology, Duke University Medical Center, Durham, USA

### **F15**

#### **Side population cells of pancreatic cancer cell line over-express VEGF, FGF4**

Toshifumi Azuma<sup>1</sup>, Jiro Nishida<sup>2</sup>, Tetsuo Morishita<sup>2</sup>

<sup>1</sup>Department of Biochemistry, Tokyo Dental College, <sup>2</sup>Department of Internal Medicine, Tokyo Dental College

### **F16**

#### **Arctigenin inhibits human pancreatic tumor growth in combination with gemcitabine**

Chika Miyoshi<sup>1</sup>, Hiroyasu Esumi<sup>1</sup>

<sup>1</sup>Cancer Physiology Project, Research Center for Innovative Oncology, National Cancer Center Hospital East, Chiba, Japan

## **Symposium 1 Protein Modification and Microcirculation 16:40-17:35**

**Chairs: Tetsuro Yamamoto (Kumamoto Univ.)**

**Takeshi Adachi (Keio Univ.)**

**S1-1**

**Post-translational oxidative modifications in redox-sensitive signaling**

Takeshi Adachi<sup>1</sup>

<sup>1</sup>Department of Biochemistry and Integrative Medical Biology, School of Medicine, Keio University, Tokyo, Japan

**S1-2**

**CO regulates the glucose metabolism via protein methylation**

Takehiro Yamamoto<sup>1</sup>, Naoharu Takano<sup>1</sup>, Takuya Iwabuchi<sup>1</sup>, Takako Hishiki<sup>1</sup>, Takeshi Adachi<sup>1</sup>, Makoto Suematsu<sup>1</sup>

<sup>1</sup>Department of Biochemistry and Integrative Medical Biology, School of Medicine, Keio University, Tokyo, Japan

**S1-3**

**Inhibition of advanced glycation end products (AGEs): an implicit goal in clinical medicine?**

Toshio Miyata<sup>1</sup>

<sup>1</sup>Center for Translational and Advanced Animal Research on Human Disease, Tohoku University, School of Medicine, Sendai, Japan

**Evening Seminar**

**18:00-18:50**

**Chair: Toshikazu Yoshikawa (Kyoto Pref. Univ. of Med.)**

**ES**

**Mining gaseous signal transducers by metabolome analysis**

Makoto Suematsu<sup>1</sup>

<sup>1</sup>Department of Biochemistry and Integrative Medical Biology, School of Medicine, Keio University, Tokyo, Japan

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