



**17<sup>th</sup> ISACB Biennial Meeting  
Tokyo, Japan  
March 12-13, 2021**



**Final Program**

**Organizing Committee:**

Chair: Masanori Aikawa

Co-Chairs: Issei Komuro, Toshiharu Shinoka

Members: Elena Aikawa, Luke Brewster, Nicolas L'Heureux, Ryuichi Morishita, Julie Philippi, Masataka Sata, Cynthia St. Hilaire, Michael Wolf, Masayuki Yoshida

**Day 1: Friday, March 12**

**Opening Session & Keynote Lecture (50 min)**

9:00-9:50 am (7:00-7:50 pm EST, March 11)

Session Chair:

Masanori Aikawa

Brigham and Women's Hospital, Harvard Medical School, USA

Welcome:

Elena Aikawa

ISACB President

Brigham and Women's Hospital, Harvard Medical School, USA

Keynote Lecture:

*My Research: From Vascular Biology to Disease Biology to Translational Research*

Ryozo Nagai

President, Jichi Medical University; Professor Emeritus, Former Chairman, Department of Cardiovascular Medicine, University of Tokyo Faculty of Medicine, Japan

(40 min)

**Edwards Symposium: Heart Valves and Calcification (90 min)**

10:00-11:30 am (8:00-9:30 pm EST, March 11; 2:00-3:30 am in the Netherlands and Belgium, March 12; 3:00-4:30 am South Africa, March 12)

Session Co-Chairs:

Bauer Sumpio, Yale School of Medicine, USA

Joshua Hutcheson, Florida International University, USA

Alexander Clowes MD Memorial Lecture

*Cardiac Valve Replacement Technology in 2021: Challenges, Innovation, Trends and Opportunities*

Frederick J. Schoen

Brigham and Women's Hospital, Harvard Medical School, USA

(22 min)

Invited Speakers:

*Will in-situ tissue engineered heart valves calcify?*

Carlijn Bouten

Eindhoven University of Technology, The Netherlands

(22 min)

*Novel disease driver population of human aortic valves identified via single-cell and proteomic profiling*

Elena Aikawa

Brigham and Women's Hospital, Harvard Medical School, USA

(22 min)

*New anti-calcification strategies in tissue valves*

Bart Meuris

University Hospitals Leuven, Belgium

(22 min)

**Tissue Engineering (80 min)**

11:40 am-1:00 pm (9:40-11:00 pm EST, March 11; 3:40-5:00 am Germany/France. March 12)

Session Co-Chairs:

David Vorp, University of Pittsburgh, USA

James Chow, W. L. Gore, USA

Robert Nerem Memorial Lecture

*Engineering bioresorbable vascular conduits to promote transmural angiogenesis, neo-intima formation*

Gary Bowlin

University of Memphis, USA

(20 min)

Invited Speakers:

*Title: Exploring tissue engineered vascular grafts through appropriate preclinical animal models*

Timothy Pennel

University of Cape Town, South Africa

(20 min)

*Whole heart reconstruction and regeneration: from dream to reality*

Dan Simionescu

Clemson University, USA

(20 min)

*Biological textiles for vascular tissue engineering*

Nicolas L'Heureux (20; 16 + 4)

Inserm/Université de Bordeaux, France

### **Vascular Diseases (80 min)**

1:10-2:35 pm (11:10 pm-12:35 am EST, March 11/12)

#### Session Co-Chairs:

Elena DiMartino, University of Calgary, Canada

Masayuki Yoshida, Tokyo Medical and Dental University, Japan

#### Invited Speakers:

*Vascular remodeling in mice and men: We are still a few miles south of Soledad*

Luke Brewster

Emory University School of Medicine, USA

(20 min)

*Oxidative stress and copper transport proteins in vascular inflammatory disease*

Tohru Fukai

Medical College of Georgia at Augusta University, USA

(20 min)

*Mechanisms of microvascular dysfunction in thoracic aortic disease*

Julie Philippi

University of Pittsburgh School of Medicine, USA

(20 min)

*Searching for novel biomarkers of thoracic aortic aneurysms using Raman microspectroscopy*

Hiromi Yanagisawa

University of Tsukuba, Japan

(20 min)

### **Young Investigator Award Competition (90 min)**

2:45-4:15 pm (12:45-2:15 am EST)\*

#### Session Co-Chairs:

Giovanni Ferrari, Columbia University, USA

Craig Goergen, Purdue University, USA

#### 7 Finalists:

Takehito Okui, Brigham and Women's Hospital, Harvard Medical School, USA

Juline Deppen, Emory University, USA

Hooi Hooi Ng, Florida International University, USA

Yingfei Xue, Columbia University, USA

Farwah Iqbal, Brigham and Women's Hospital, Harvard Medical School, USA

Bilal Mir, RWTH Aachen University, Germany

Ariana Forneris, University of Calgary, USA

(Total 12 min each; 9 min presentation + 3 min Q&A)

**Joint Symposium of Four Societies (100 min, pre-recorded session, available on demand from March 22-April 5)**

4:10-5:50 pm

CVEM  
(25 min)

JVBMO  
(25 min)

ISHR  
*TBA*  
(25 min)

**ISACB**

*Toward Next Generation of Tissue Engineered Vascular Grafts for Pediatric Heart Surgery*

Toshiharu Shinoka

Nationwide Children's Hospital, USA

(25 min)

**Day 2: Saturday, March 13**

**Stem and Progenitor Cells (60 min)**

8:00-9:00 am (6:00-7:00 pm EST, March 12)

Session Co-Chairs: Rebecca Levit, Emory University, USA  
Marie Billaud, Brigham and Women's Hospital, Harvard Medical School,  
USA

Invited Speakers:

*Current update of endothelial progenitor cell biology and medicine*

Takayuki Asahara

Tokai University, Japan

(20 min)

*Therapeutic vascularization for stem cell-based tissue regeneration*

Sara Vasconcelos

Toronto General Hospital Research Institute, Canada

(20 min)

*Bioengineering exosomes from cardiac progenitor cells by miRNA programming as new therapeutic strategy to enhance angiogenesis in ischemic heart*

Masuko Ushio-Fukai

Medical College of Georgia at Augusta University, USA

(20 min)

**Kowa Symposium: Cardiovascular Inflammation and Therapeutics (90 min)**

9:10-10:40 am (7:10-8:40 pm EST, March 12)

Session Co-Chairs:

Shun Ishibashi, Jichi Medical University  
Raul Santos, University of Sao Paulo, Brazil

Invited Speakers:

*Targeting senescent cells for the treatment of cardiovascular aging*

Tohru Minamino  
Juntendo University, Japan  
(22 min)

*Systems approach to target discovery for inflammatory vascular disease*

Masanori Aikawa  
Brigham and Women's Hospital, Harvard Medical School, USA  
(22 min)

*Adaptive immunity in atherosclerosis*

Klaus Ley  
La Jolla Institute for Allergy and Immunology, USA  
(22 min)

*Triglycerides on the rise*

Peter Libby  
Brigham and Women's Hospital, Harvard Medical School, USA  
(22 min)

**New Trends in Cardiovascular Research (60 min)**

10:50-11:50 am (8:50-9:50 pm EST, March 12)

Session Co-Chairs:

Masataka Sata, Tokushima University, Japan  
Alexey Kamenskiy, University of Nebraska Omaha, USA

Invited Speakers:

*Macrophages in the cardiovascular organ crosstalk and multimorbidity*

Ichiro Manabe  
Chiba University, Japan  
(20 min)

*Cardio-oncology: Where do we come from? Who are we? Where are we going?*

Jun-ichi Abe  
University of Texas MD Anderson Cancer Center, USA  
(20 min)

*Innovative therapeutics: gene therapies and vaccines for cardiovascular diseases and COVID-19*

Ryuichi Morishita  
Osaka University, Japan  
(20 min)

**Women Leaders in Science (75 min)**

12:00 pm-1:15 pm (10:00 pm-11:15 am EST, March 12; 3:00-4:15 am, March 13 UK; 4:00-5:15 am March 13 Germany)

Session Co-Chairs:

Agneta Simionescu, Clemson University, USA  
Julie Campbell, University of Queensland, Australia

Invited Speakers:

*Mass spectrometry-enabled cardiovascular biology research: Bridging the gaps across a multidisciplinary endeavor*

Sasha Singh  
Brigham and Women's Hospital, Harvard Medical School, USA  
(15 min)

CD73-dependent mechanisms regulating PAD homeostasis

Cynthia St. Hilaire  
University of Pittsburgh, USA  
(15 min)

Understanding the phenotypic switch of smooth muscle cells in vascular calcification

C. LaShan Simpson  
Mississippi State University, USA  
(15 min)

*Advancing revascularization with extracellular matrix cues*

Ngan Huang  
Stanford University, USA  
(15 min)

*Comorbidity as a driver for cardiovascular calcification*

Claudia Goetsch  
RWTH Aachen University, Germany  
(15 min)

**Industry Research Session (100 min)**

1:25-3:05 pm (tentative) (11:25 pm-1:05 am EST, March 12/13)

Session Co-Chairs:

Michael Wolf, Medtronic, USA  
Art Coury, Northeastern University, USA



Invited Speakers:

*HDL contains a wide range of subparticles influencing metabolism, risk of CHD, and therapy*

Frank Sacks

Harvard T.H. Chan School of Public Health, USA

(15 min)

*Catering for the many: Polymeric TAVR for rheumatic heart disease*

Peter Zilla

University of Cape Town, South Africa

(15 min)

*The Foldax Tria™ heart valve made with the revolutionary polymer LifePolymer™*

David Grainger

University of Utah, USA

and

Ajit Yoganathan

Georgia Institute of Technology, USA

(15 min)

The PolyNova Polymeric Heart Valve System: An Advanced Polymeric System for TAVR

Marvin J. Slepian

University of Arizona, USA

(15 min)

Clinical experience of a pulmonary valved ePTFE conduit

Masaaki Yamagishi

Kyoto Prefectural University of Medicine, Japan

(15 min)

Panel Q&A with all speakers (20 min)

Oral Abstract Presentations:

On Demand (9 min, prerecorded, available through the entire meeting)