



# SEMMELWEIS SYMPOSIUM 2019

## TRANSLATIONAL MEDICINE FROM SINGLE MOLECULES TO THE CARDIOVASCULAR SYSTEM



# PROGRAM

5-7 NOVEMBER 2019  
BUDAPEST, HUNGARY

Semmelweis University  
Basic Medical Science Centre



<http://semmelweis.hu/250/en/>

# WELCOME MESSAGE

SEMMELWEIS SYMPOSIUM 2019

TRANSLATIONAL MEDICINE FROM SINGLE MOLECULES TO THE CARDIOVASCULAR SYSTEM



**Dear Colleagues,**

It is our great pleasure to welcome you to the annual Semmelweis Symposium, the most prestigious scientific event of Semmelweis University, enabling the international exchange of ideas and the transfer of knowledge in the field of medical and health sciences. This year, our University is celebrating its 250th anniversary. The last day of Semmelweis Symposium on the 7th of November is the jubilee day of the foundation of our institution. On this festive occasion, Semmelweis Symposium will be more extensive and exclusive than ever before, which will be ensured by many world-renowned speakers representing leading universities and institutes around the world.

The topic of the Symposium this year is the cardiovascular system: presentations will include topics from single molecules to the operating room, offering an exciting translational program for participants. The sessions of the Symposium will cover a wide range of cardiovascular diseases and the latest rapidly developing technologies, such as cardioprotection and cell death, cardiotoxicity and drug safety, heart failure, cardiac regeneration, cardiovascular comorbidities, cardiac inflammation, imaging, and extracellular vesicles. As a research university, we place a large emphasis on the identification and support of talented students, for they are the ones who will be the healers and scientists of the future. The poster session of the Symposium will showcase - among others - the scientific work of our students. Do not hesitate to have a look at these exciting projects in the lobby of the conference venue!

We are proud that the cardiovascular research is accounted as an overarching activity in the majority of the Departments of our University and that the majority of our scientific output is related to the cardiovascular field. These activities are concentrated in the Heart and Vascular Center, which is one of the largest cardiovascular centers in the European Union, providing medical education and patient care at the highest internationally competitive and recognised level. The experimental and clinical research, focusing mainly on ischemic heart diseases, cardiomyopathies as well as diagnosis and therapy of arrhythmias is an integrative part of the clinical work. The Center is the coordinator of the National Heart Program, aiming to reduce cardiovascular mortality through innovative diagnostic and therapeutic methods and services, supported by the National Research, Development and Innovation Office.

Research, development and innovation have always been at the heart of Semmelweis University, as we believe that this ensures the highest quality patient care and the best scientists and clinicians of the future. Apart from cardiovascular research, the University has gained international reputation in the fields of oncology, brain research, neurosciences, molecular and translational medicine, pharmaceutical research, bioimaging, biotechnology, and regenerative medicine - to name a few. The research, development, and innovation strategy of Semmelweis University aims to increase the proportion of translational research and to bring our University closer to the health industry and to the needs of the market by initiating a wide range of industrial collaborations. The recently started Health Industry-Biotechnology Science Park project is a huge step in this direction. It is planned to be one of the largest biomedical research and innovation centers in the region which will play a significant role in the renewal of the research and knowledge base that can be quickly utilized in everyday treatment and patient care.

Semmelweis University celebrates the 250-year anniversary of its foundation with pride, joy and ambitious plans for the future. Our significant academic work and scientific achievements led us to our current internationally recognized position, and we believe that the past 250 years have equipped us with the tools and expertise needed to place Semmelweis University among the TOP 100 universities of the world and the TOP 5 in Europe on the short term. To realize this, it is essential to be innovative and to continuously expand our international network. Semmelweis Symposium provides a unique opportunity to exchange ideas on the latest scientific achievements through presentations by distinguished international speakers.

As Chairs of the event, we wish you a great time at the jubilee Semmelweis Symposium in Budapest!

Béla Merkely  
Rector

Péter Ferdinandy  
Vice-Rector for Science & Innovations

Miklós Kellermayer  
Dean of the Faculty of Medicine

# PROGRAM AT A GLANCE

SEMMELWEIS SYMPOSIUM 2019

TRANSLATIONAL MEDICINE FROM SINGLE MOLECULES TO THE CARDIOVASCULAR SYSTEM



05-07 Nov

## SEMMELWEIS SYMPOSIUM

Semmelweis University, Basic Medical Science Centre,  
1094 Budapest, Tűzoltó utca 37-43.  
<http://semmelweis.hu/eok/en/>

05 Nov

- 11:30 - 18:00 Registration Open  
**12:00 - 12:45 Welcome Reception**  
12:45 - 13:00 Rector's Welcome  
13:00 - 13:15 Doctor Honoris Causa Award Ceremony I.  
13:15 - 14:00 Keynote Lecture 1  
14:00 - 14:30 Doctor Honoris Causa Award Ceremony II.  
14:30 - 15:15 Keynote Lecture 2  
**15:15 - 15:40 Coffee Break & Poster Viewing**  
15:40 - 16:30 Keynote Lecture 3  
16:30 - 17:20 Session 1 - Imaging  
**17:20 - 17:45 Coffee Break & Poster Viewing**  
17:45 - 18:30 Keynote Lecture 4  
18:30 - 19:45 Session 2 - Cardiotoxicity & Cardioprotection  
  
**20:00 - 23:00 Opening Dinner including Concert of the Medic Orchestra**  
*Venue: Symposium Venue*

06 Nov

- 08:00 - 18:00 Registration Open  
08:30 - 10:05 Session 3 - Extracellular Vesicles  
**10:05 - 10:30 Coffee Break & Poster Viewing**  
10:30 - 11:15 Keynote Lecture 5  
11:15 - 12:30 Session 4 - Translational Medicine  
**12:30 - 13:30 Lunch Break & Poster Viewing**  
13:30 - 14:15 Keynote Lecture 6  
14:15 - 15:55 Session 5 - Cardioprotection & Cardiotoxicity  
**15:55 - 16:30 Coffee Break & Poster Viewing**  
16:30 - 17:15 Keynote Lecture 7  
17:15 - 18:15 Session 6 - Comorbidity  
  
**22:00 - 02:00 Young Researchers' Party**  
*4BRO Downtown - 1075 Budapest, Király utca 13.*

07 Nov

- 07:45 - 18:00 Registration Open  
08:00 - 09:20 Session 7 - Heart Failure  
**09:20 - 10:00 Coffee Break & Poster Viewing**  
10:00 - 11:45 Session 8 - Single Molecules  
10:00 - 10:45 Keynote Lecture 8  
**11:45 - 13:00 Semmelweis 250 Birthday Ceremony & Lunch**  
13:00 - 13:45 Keynote Lecture 9  
13:45 - 15:25 Session 9 - Inflammation  
**15:25 - 15:45 Coffee Break & Poster Viewing**  
15:45 - 17:20 Session 10 - Regenerative Medicine  
15:45 - 16:30 Keynote Lecture 10  
17:30 - 18:30 Closing Ceremony & Semmelweis 250 Best Poster Awards  
  
**19:30 - 20:30 Semmelweis 250 Opera/Saxophone/Harpsichord Concert**  
*Inner City Parish Church - 1056 Budapest, Március 15. tér*

*J.C. Bach: Sonata in F-major (Allegro, Rondo) ; W.A.Mozart: Sonata in C-major (Allegro, Menuett, Rondo) Performers: Dr. Gergely and Zsombor Tóth-Vajna of Semmelweis University, harpsichord*

*Vivaldi-Bach: Concerto in A minor BWV 593 (RV 522) ; G. F. Händel: Rinaldo - Lascia ch'io pianga ; J. S. Bach: Contrapunctus I. BWV 1080/1; Caccini: Ave Maria ; G. F. Händel: Water Music; HWV 348-350; G. F. Händel: Let the Bright Seraphim Performers: Ingrid Kertesi Opera Singer & the Budapest Saxophone Quartet*



# DETAILED SCIENTIFIC PROGRAM

SEMMELWEIS SYMPOSIUM 2019

TRANSLATIONAL MEDICINE FROM SINGLE MOLECULES TO THE CARDIOVASCULAR SYSTEM



05 Nov

## Day 1. Tuesday

Semmelweis University Basic Medical Science Centre, 1094 Budapest, Tűzoltó utca 37-43.

11:30 - 18:00	<b>Registration Open</b>
12:00 - 12:45	<b>Opening Reception</b>
12:45 - 13:00	<b>Rector's Welcome Remarks</b> <i>Béla Merkely</i>
13:00 - 13:15	<b>Doctor Honoris Causa Award Ceremony I.</b> <i>Awardee: Michel Komajda</i>
13:15 - 14:00	<b>Keynote Lecture 1</b> <b>Diabetes and Heart Failure: Where Do We Stand, Where Do We Go?</b> <i>Michel Komajda</i>
14:00 - 14:30	<b>Doctor Honoris Causa Award Ceremony II.</b> <i>Awardee: Jeroen Bax</i>
14:30 - 15:15	<b>Keynote Lecture 2</b> <b>CT Imaging and Interventional Cardiology</b> <i>Stephan Achenbach</i>
15:15 - 15:40	<b>Coffee Break &amp; Poster Viewing</b>
15:40 - 17:20	<b>SESSION 1 - IMAGING</b>
	<b>Chairmen:</b> <i>Béla Merkely, Pál Maurovich Horvat</i>
15:40 - 16:30	<b>Keynote Lecture 3</b> <b>CTA: Atherosclerosis, Coronary Stenosis, Flow Reserve, and Shear Stress - in the Search for the Vulnerable Plaque</b> <i>Jeroen Bax</i>
16:30 - 16:55	<b>Session 1.1</b> <b>Molecular Imaging in Cardiovascular Diseases</b> <i>David Newby</i>
16:55 - 17:20	<b>Session 1.2</b> <b>Novel Imaging Techniques and Treatment Strategies in Aortic Stenosis</b> <i>Marc Dweck</i>
17:20 - 17:45	<b>Coffee Break &amp; Poster Viewing</b>
17:45 - 18:30	<b>Keynote Lecture 4</b> <b>"Power My Heart" - The Magical Functions of the Mitochondria</b> <i>Rainer Schulz</i>
18:30 - 19:45	<b>SESSION 2 - CARDIOTOXICITY &amp; CARDIOPROTECTION</b>
	<b>Chairmen:</b> <i>Péter Ferdinandy, Pál Pacher</i>
18:30 - 18:55	<b>Session 2.1</b> <b>Cardiotoxicity of Anti-Cancer Drugs - a Never Ending Story of Challenges</b> <i>Pietro Ameri</i>
18:55 - 19:20	<b>Session 2.2</b> <b>Cancer Drugs and The Heart</b> <i>Giorgio Minotti</i>
19:20 - 19:45	<b>Session 2.3</b> <b>Translational Development of Noncoding RNA Therapeutics</b> <i>Thomas Thum</i>
20:00 - 23:00	<b>Opening Dinner &amp; Concert of the Medic Orchestra (Symposium Venue)</b>



# DETAILED SCIENTIFIC PROGRAM

SEMMELWEIS SYMPOSIUM 2019

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06 Nov

## Day 2. Wednesday

Semmelweis University Basic Medical Science Centre, 1094 Budapest, Tűzoltó utca 37-43.

08:00 - 18:00 Registration Open

### 08:30 - 10:05 SESSION 3 - EXTRACELLULAR VESICLES

#### Chairmen:

*Edit Buzás, Zoltán Giricz*

08:30 - 08:50

#### Session 3.1

**Extracellular Vesicles - from Biomarkers to Gene Therapy**

*Bence Gyoergy*

08:50 - 09:10

#### Session 3.2

**Exosomes and Epitranscriptome in Remodeling and Repair of the Heart**

*Susmita Sahoo*

09:10 - 09:35

#### Session 3.3

**Advancing Therapeutic Application of Extracellular Vesicles for Myocardial Repair**

*Joost Sluijter*

09:35 - 10:05

#### Session 3.4

**Extracellular Vesicles and Coagulation**

*Rienk Nieuwland*

10:05 - 10:30

Coffee Break & Poster Viewing

10:30 - 11:15

#### Keynote Lecture 5

**Cardiovascular Risk in Inflammatory Arthritis - from Bench to Bedside: State of Art 2019?**

*Michael Nurmohamed*

11:15 - 12:30

### SESSION 4 - TRANSLATIONAL MEDICINE

#### Chairmen:

*Zoltán Benyó, Ákos Koller, Zoltán Ungvári*

11:15 - 11:40

#### Session 4.1

**Taking the Lipid Mediator Lysophosphatidic Acid from the Bench to Clinic**

*Gabor J Tigyi*

11:40 - 12:05

#### Session 4.2

**GPCR Signaling in Smooth Muscle Cells: from Single-Cell Expression to the Identification of New Functions**

*Nina Wettschureck*

12:05 - 12:30

#### Session 4.3

**Surgical Treatment of Asymptomatic Carotid Artery Disease: the Mayo Clinic experience**

*Peter Gloviczki*

12:30 - 13:30

Lunch Break & Poster Viewing

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06 Nov

## Day 2. Wednesday

Semmelweis University Basic Medical Science Centre, 1094 Budapest, Tűzoltó utca 37-43.

**13:30 - 14:15** **Keynote Lecture 6**  
**The Power of Digitalization Transforming Cardiovascular Medicine**  
*Gerhard Hindricks*

### 14:15 - 15:55 **SESSION 5. - CARDIOPROTECTION & CARDIOTOXICITY**

**Chairmen:**

*Péter Ferdinandy, Zoltán Giricz*

**14:15 - 14:40** **Session 5.1**  
**Myocardial Protection in the Light of Remote Ischemic Conditioning**  
*Bruno Podesser*

**14:40 - 15:05** **Session 5.2**  
**Protecting the Heart from Injury - Bench-to-Bedside in Action**  
*Derek Hausenloy*

**15:05 - 15:30** **Session 5.3**  
**Novel Targets and Therapeutic Strategies that Bring New Hopes in Cardioprotection**  
*Gemma Vilahur*

**15:30 - 15:55** **Session 5.4**  
**Cardiovascular Effects of Endocannabinoids, Marijuana and Synthetic Cannabinoids**  
*Pál Pacher*

**15:55 - 16:30** **Coffee Break & Poster Viewing**

**16:30 - 17:15** **Keynote Lecture 7**  
**The WHF Perspective on the Global Burden of Cardiovascular Disease in the 21st Century**  
*Fausto Pinto*

### 17:15 - 18:45 **SESSION 6 - COMORBIDITY**

**Chairmen:**

*Andrea Fekete, Péter Sótónyi*

**17:15 - 17:45** **Session 6.1**  
**Challenges and Innovations in Aortic Therapies**  
*E. Sebastian Debus*

**17:45 - 18:15** **Session 6.2**  
**Novel Approaches to Manage Diuretic Resistance**  
*Chris S Wilcox*

**18:15 - 18:45** **Session 6.3**  
**Preeclampsia and Long-term Cardiorenal Risks**  
*Jennifer M Sasser*

**22:00 - 02:00** **Young Researchers' Party (4BRO Downtown)**

# DETAILED SCIENTIFIC PROGRAM

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07 Nov

## Day 3. Thursday

Semmelweis University Basic Medical Science Centre, 1094 Budapest, Tűzoltó utca 37-43.

07:45 - 18:00 Registration Open

### 08:00 - 09:20 SESSION 7 - HEART FAILURE

**Chairmen:**

*Béla Merkely, Tamás Radovits*

08:00 - 08:25

**Session 7.1**

**Targeting Transcription to Treat Acute Heart Failure?**

*Johannes Backs*

08:25 - 08:55

**Session 7.2**

**The Metabolic Road of Co-morbidities to Understanding the Pathophysiology of HFpEF: The role of Inflammatory Signaling Pathways in Cardiac Function Modulation**

*Nazha Hamdani*

08:55 - 09:20

**Session 7.3**

**Cutting the Gordian Knot on Heart Failure Treatment: from Drugs to Devices**

*Petar Seferovic*

09:20 - 10:00 Coffee Break & Poster Viewing

### 10:00 - 11:45 SESSION 8 - SINGLE MOLECULES

**Chairmen:**

*Miklós Kellermayer, András Málnási-Csizmadia*

10:00 - 10:45

**Keynote Lecture 8**

**Co-Temporal Force and Fluorescence Measurements Reveal a Ribosomal Gear-shift Mechanism of Translation Regulation by mRNA**

*Carlos Bustamante*

10:45 - 11:15

**Session 8.1**

**Protein Nanomechanics in Health and Disease**

*Jorge Alegre-Cebollada*

11:15 - 11:45

**Session 8.2**

**Muscle Contraction: from Myofibrils to Macromeres to Molecules**

*Dilson Rassier*

11:45 - 13:00

SEMMELWEIS



BIRTHDAY CEREMONY & LUNCH



# DETAILED SCIENTIFIC PROGRAM

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07 Nov

## Day 3. Thursday

Semmelweis University Basic Medical Science Centre, 1094 Budapest, Tűzoltó utca 37-43.

**13:00 - 13:45** **Keynote Lecture 9**  
**Molecular Motors: Nature's Tiniest Protein Machines**  
*Jonathon Howard*

### 13:45 - 15:25 SESSION 9 - INFLAMMATION

**Chairmen:**  
*Zoltán Varga, Gergő Szanda*

**13:45 - 14:10** **Session 9.1**  
**Macrophage Contribution to Type 2 Diabetes Independently of Inflammation**  
*Myriam Aouadi*

**14:10 - 14:35** **Session 9.2**  
**Involvement of CB1R and iNOS Signaling in the Pathogenesis of Diabetic Dyslipidemia**  
*Tony Jourdan*

**14:35 - 15:00** **Session 9.3**  
**Diabesity-Induced Chronic Kidney Disease: When Kidneys Get the Munchies**  
*Yossi Tam*

**15:00 - 15:25** **Session 9.4**  
**Cannabinoid Type 1 Receptors (CB1R) in Pulmonary Fibrosis: Paracrine Control on Immunometabolism for Driving Fibroproliferative Microenvironment**  
*Resat Cinar*

### 15:25 - 15:45 Coffee Break & Poster Viewing

### 15:45 - 17:20 SESSION 10 - REGENERATIVE MEDICINE

**Chairmen:**  
*Péter Sótónyi, Gábor Földes*

**15:45 - 16:30** **Keynote Lecture 10**  
**Regenerating Cell and Tissue Function In Vitro and In Vivo**  
*Christopher Chen*

**16:30 - 16:55** **Session 10.1**  
**Cell Therapies for Myocardial Repair in Ischaemic Heart Disease and Heart Failure - Current Status**  
*Rosalinda Madonna*

**16:55 - 17:20** **Session 10.2**  
**Allografts in the Setting of Graft Infection**  
*Anne Catherine Lejay*

### 17:30 - 18:30 CLOSING CEREMONY & SEMMELWEIS SYMPOSIUM BEST POSTER AWARDS

**19:30 - 20:30** Semmelweis 250 Opera/Saxophone/Harpsichord Concert (Inner City Parish Church)

# SYMPOSIUM CHAIRS

SEMMELWEIS SYMPOSIUM 2019

TRANSLATIONAL MEDICINE FROM SINGLE MOLECULES TO THE CARDIOVASCULAR SYSTEM



## BÉLA MERKELY

*Rector of Semmelweis University, Director of the Heart and Vascular Center, Semmelweis University, Budapest, Hungary*

Professor Béla Merkely obtained his MD in 1991 from Semmelweis University, Faculty of Medicine, in Budapest, Hungary, after which he performed a fellowship at the Ruprecht-Karls University of Heidelberg, Germany. He was board certified in cardiology in 1998 and obtained his PhD in ventricular arrhythmias in 1999. In 2006, he became a Doctor of the Hungarian Academy of Sciences (DSc). From 2007 until present, he is Chairman and Director of the Semmelweis University Heart and Vascular Center. In 2008, he was appointed as Professor at Semmelweis University. In 2015, he became President of Semmelweis University Hospital and Vice-Rector for Clinical Affairs, and in 2018, he was appointed as Rector of Semmelweis University.



## PÉTER FERDINANDY

*Vice-rector for Science and Innovations, Director of the Department of Pharmacology and Pharmacotherapy at Semmelweis University, Budapest, Hungary*

Professor Péter Ferdinandy received an MD diploma in 1991 and a PhD degree in 1995 from the University of Szeged. He became a registered clinical pharmacologist in 1999 and completed MBA studies in Finance and Quality Management in 2004 at the Budapest University of Technology and Economics. He was a postdoctoral fellow for 2 years at the Department of Pharmacology, University of Alberta, Edmonton, Canada. He was the president of the International Society for Heart Research, European Section, chair of the Working Group of Cellular Biology of the Heart, European Society of Cardiology. He has been listed among the most influential scientists in the field of pharmacology and toxicology on the "highly cited" researcher list in 2014 and 2017.



## MIKLÓS KELLERMAYER

*Dean of the Faculty of Medicine, Chairman of the Department of Biophysics and Radiation Biology, Semmelweis University, Budapest, Hungary*

Miklós Kellermayer is the dean of the Faculty of Medicine and chairman of the Department of Biophysics and Radiation Biology at Semmelweis University, Budapest, Hungary. Trained as a medical doctor and having had international research experience in single-molecule biophysics, he currently focuses on biomolecular mechanics, cytoskeletal nanobiology, protein folding and in vivo imaging. He supervises the Georg von Békésy Biophysics Research Center that houses state-of-the-art instrumentation that allows imaging and manipulation from single molecules to small-animal organisms. He is a Howard Hughes Medical School International Alumnus, member of the Academia Europaea and has authored more than one hundred original research papers.



## PÁL MAUROVICH HORVAT

Associate Professor of Cardiology and Radiology, Director of the Medical Imaging Center, Semmelweis University, Budapest, Hungary

Associate Professor of Cardiology and Radiology, director of the Semmelweis University's Medical Imaging Center and chairman of the Department of Radiology, elected Nuclear Cardiology & Cardiac CT vice president of the European Association of Cardiovascular Imaging (EACVI), chair of the Web and Communication Committee of the EACVI, member of the e-Committee of the European Society of Cardiology and the vice president of the Hungarian Society of Cardiology. Dr. Maurovich-Horvat graduated from the Semmelweis University in 2006, studied clinical effectiveness at the Harvard University, where he graduated in 2012. He has been awarded by the Momentum Grant of the Hungarian Academy of Sciences in 2013 and 2019. He is the author of more than 100 papers with citations over 3500.



## EDIT BUZÁS

Professor and Chair at the Department of Genetics, Cell- and Immunobiology, Semmelweis University, Budapest, Hungary

Edit Buzás is Professor and Chair at the Department of Genetics, Cell- and Immunobiology, Semmelweis University, Budapest, Hungary. Her earlier research at the University of Debrecen (Hungary), Rush University (Chicago, IL, USA) and McGill University (Montreal, Canada) focused on autoimmunity. She is a laureate of the Carol-Nachman Preis für Rheumatologie (Germany). Since 2006, her research has focused on extracellular vesicles. She is Executive Chair Education of the International Society for Extracellular Vesicles (ISEV), organizer of the 2nd ISEV Workshop (2013, Budapest) and Chair of the Annual Meeting of ISEV in Rotterdam, the Netherlands (2016). She serves as Associate Editor of the Journal of Extracellular Vesicles. She is Vice Chair of the 2020 Gordon Research Conference on Extracellular Vesicles. She is Vice Chair of the Hungarian Society of Immunology.



## ZOLTÁN GIRICZ

Senior Research Associate, Department of Pharmacology and Pharmacotherapy, Semmelweis University, Budapest, Hungary

Zoltan Giricz graduated as Pharmacist and received his PhD in Biochemistry at the University of Szeged, Hungary. He published on matrix metalloproteases in cardioprotection against ischemia/reperfusion injury and on the development of cardioprotective interventions in the presence of metabolic co-morbidities. In the last 8 years he has been focusing on the role of extracellular vesicles in cardioprotection against ischemic heart diseases. The number of his publication is over 50, with a cumulative impact factor of more than 210, with citations above 2500. He is a member of the International Society for Extracellular Vesicles and the International Society for Heart Research. He has participated in a number of EU COST actions.



# SESSION LEADERS

SEMMELWEIS SYMPOSIUM 2019

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## ZOLTÁN BENYÓ

Professor of Physiology, Head of the Institute of Translational Medicine, President of the Doctoral Council, Semmelweis University, Budapest, Hungary

Zoltán Benyó MD, PhD, DSc is professor of physiology, head of the Institute of Translational Medicine and president of the Doctoral Council at the Semmelweis University, Budapest. His main field of research is cardiovascular physiology and pathophysiology with emphasis on the molecular mechanisms of signal transduction pathways involved in the regulation of blood pressure, microcirculation and angiogenesis. He has been the recipient of the Sigma-Aldrich Young Scientist Award, Alexander von Humboldt Fellowship, Richter Gedeon Research Award, NATO Science Fellowship, Alexander von Humboldt Fellowship and Marie Curie Individual Fellowship.



## ÁKOS KOLLER

Professor, University of Physical Education, Semmelweis University, Budapest, Hungary

In 1976, Dr. Koller started researching the coronary and brain circulation (Prof AGB Kovach). Then, in 1982 continued his research at Cerebrovascular Res Center, at University of Pennsylvania, on pial microcirculation, regarding the role of adenosine, NADH level/metabolism and spreading depression. Then, in Tucson, AZ he learned all topics of classical in vivo microcirculation from Prof. Paul C Johnson. In 1987, he moved to New York Medical College, Valhalla, NY (Prof. Gabor Kaley) and studied the vasomotor role of endothelium of microvessels of various tissues, especially the effects of hemodynamic forces in acute and chronic conditions and the modulation of microvascular function by age, gender, exercise and various diseased conditions.



## ANDREA FEKETE

Associate Professor, Head of the Diabetes Research Group of the Hungarian Academy of Sciences and Semmelweis University, Budapest, Hungary

Dr. Fekete is a pediatrician with a special interest in experimental diabetology and nephrology at the Semmelweis University, Hungary. She is also a leader of the research group of diabetes at the Hungarian Academy of Sciences and a member of the Hungarian Ethical Committee that supervises human research projects. She is experienced for 15 years in basic science and has more than 70 publications in leading journals of nephrology. With her biotech start-up company, she actively takes part in several drug development and R&D projects.



## TAMÁS RADOVITS

Associate Professor, Deputy Director for Scientific Affairs, Heart and Vascular Center, Department of Cardiology, Semmelweis University, Budapest, Hungary

Tamás Radovits acquired his medical diploma at Semmelweis University in 2004 with "summa cum laude" distinction. As a PhD-student he performed experimental cardiovascular research at the University of Heidelberg, Germany and obtained his PhD degree in 2008. Currently, he is specialist for internal medicine, associate professor and deputy director for scientific affairs at the Heart and Vascular Center of Semmelweis University. The topic of his research activity is the role of nitro-oxidative stress and NO signaling in the pathogenesis and treatment of cardiovascular diseases, especially heart failure. He is author of 129 publications, cumulative impact factor of publications: 392, independent citations: 989, H-index: 22.



## ZOLTÁN VARGA

Senior Research Associate, Department of Pharmacology and Pharmacotherapy, Semmelweis University, Budapest, Hungary

Zoltan Varga works as a Senior Research Associate at the Department of Pharmacology and Pharmacotherapy of the Medical Faculty of Semmelweis University. He did his postdoctoral training at the NIH from 2015-2018. He received the Junior Prima award in 2017, and is currently a leader of the Cardiometabolic Immunology Research Group of the Hungarian Center of Excellence in Molecular Medicine at the Semmelweis University. His research covers areas of molecular cardiology, metabolic syndrome, and cardiovascular immunology, placing special emphasis on inflammatory interorgan interactions in these disease states.



## PÉTER SÓTONYI

Head of Department, Department of Vascular and Endovascular Surgery, Semmelweis University, Budapest, Hungary

Péter Sótónyi was born in 1971 in Budapest, Hungary. After graduating with summa cum laude from Semmelweis University as a general medical practitioner he prolonged his studies at the School of PhD Studies of Semmelweis University and obtained his PhD degree with summa cum laude in 2004. He has been working at Semmelweis University ever since. Today Professor Sótónyi is head of Department of Vascular and Endovascular Surgery and deputy director of Heart and Vascular Center of the University. He is also president of Semmelweis University's Resident Training, Committee, Board of Vascular Surgery. His clinical interests are: aortic pathology (open and endovascular repair), hybrid perferial vascular procedures, treatment of ilio-caval thrombo-embolic disorders.



## GÁBOR FÖLDES

Associate Professor, Heart and Vascular Center, Department of Cardiology, Semmelweis University, Budapest, Hungary

Dr. Gábor Földes is an Associate Professor at the Heart and Vascular Centre, Semmelweis University. He has been working as a clinician (Internal Medicine and Cardiology) in Budapest and London since 2002. On the academic side, he received his PhD in cardiovascular biology in 2002. In 2006 he completed a fellowship on cardiac progenitor cells at Harvard University as well as cell therapy training at University of Pennsylvania in 2019. He has held longer visiting positions at the National Heart and Lung Institute, Imperial College London, and University of Oulu. In addition to his clinical background, Dr. Földes has extensive, translatable experience of stem cell biology, cardiovascular biology and pathology. Current research interests of his stem cell group at the Heart and Vascular Centre are in new cellular and therapeutic mechanisms in vascular disease and developing novel therapeutic and diagnostic strategies for patients with peripheral artery disease. Their major research contributions to date have been to develop new vascular cell types from stem cells and to perform successful experiments with human pluripotent stem cell-derived vascular grafts.

05 Nov



### MICHEL KOMAJDA

Professor of Cardiology, Department of Cardiology, Saint Joseph Hospital, University Pierre et Marie Curie, Paris, France

Prof. Michel Komajda's main fields of interest are pharmacology of heart failure, neuro-hormones in heart failure, genetics of dilated and hypertrophic cardiomyopathy. He was President of the European Society of cardiology in 2010-2012 and has occupied the positions of Treasurer and General Secretary of the French Society of Cardiology and was President of this Society in 2002-2003. He is member of the Editorial Boards of European Heart Journal, European Journal of Heart Failure and Circulation. He is the author of over 300 peer-reviewed papers, mostly in heart failure.



### STEPHAN ACHENBACH

Professor of Cardiology, President-Elect of ESC, Chairman of the Department of Cardiology, University of Erlangen-Nürnberg, Erlangen, Germany

Prof. Stephan Achenbach is the Chairman of the Department of Cardiology and Professor of Medicine at the University of Erlangen, Germany. His main clinical interests are Interventional Cardiology, General Cardiology as well as Cardiac Imaging. His research is focused on cardiac intervention and cardiac imaging, mainly computed tomography, with an emphasis on imaging of coronary atherosclerosis and imaging to support coronary and structural interventional procedures. Stephan Achenbach was the Founding President of the Society of Cardiovascular Computed Tomography. He is President Elect and Board Member of the European Society of Cardiology (ESC) and was Chairperson of the ESC Congress Programme Committee 2016-2018.



### JEROEN BAX

Professor of Cardiology, Past-President of ESC, Director of Noninvasive Imaging and the Echo-Lab, Department of Cardiology, Leiden University Medical Centre, Leiden, The Netherlands

Prof. Jeroen Bax is immediate Past-President of the European Society of Cardiology, Director of non-invasive imaging and Director of the Echo-Lab at the Leiden University Medical Center. His main interests include clinical cardiology, heart failure, cardiac resynchronization therapy and the application of all different imaging modalities to these clinical fields. Professor Bax has authored numerous papers and holds several positions in national and international scientific organizations, as well as serving on the editorial boards of many different journals.



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### DAVID NEWBY

Professor, BHF Duke of Edinburgh Chair of Cardiology, University of Edinburgh; Director of the Wellcome Trust Clinical Research Facility; Director of Edinburgh Imaging facilities; Consultant Interventional Cardiologist, Royal Infirmary of Edinburgh, Edinburgh, United Kingdom

Prof. Newby graduated from the University of Southampton with a Bachelor of Science and Bachelor of Medicine, and obtained Doctorates in Medicine, Philosophy and Science. He is British Heart Foundation Duke of Edinburgh Chair of Cardiology at the University of Edinburgh, Director of the Wellcome Trust Clinical Research Facility, Director of Edinburgh Imaging facilities, and a Consultant Interventional Cardiologist at Royal Infirmary of Edinburgh. Professor Newby was awarded the British Association of Pharmaceutical Physicians' Prize, the Croom Lectureship, the BUPA research award for the best emerging clinical researcher in the UK, the John French Award, the Goodall-Strickland Medal, the Parmley Prize and British Medical Journal Research Awards 2014.



### MARC DWECK

Associate professor, British Heart Foundation; Senior Lecturer, Consultant Cardiologist, University of Edinburgh, Edinburgh, United Kingdom

Marc Dweck is a BHF Reader in Cardiology and Consultant Cardiologist at the University of Edinburgh. His research program is centred around the use of multi-modality imaging to improve our understanding of cardiovascular pathophysiology and ultimately to improve patient assessment, care and outcomes. In particular it has focused on two major areas i) coronary atherosclerosis and the factors associated with plaque rupture; and ii) the pathogenesis of aortic stenosis and the development of novel therapeutic strategies.



### RAINER SCHULZ

Professor, Chairman of Physiology, Justus-Liebig University, Giessen, Germany

Prof. Schulz has established and led an independent research group within the Department of Pathophysiology, University of Essen, Medical School, and since January 2011 is Chairman of Physiology at the Justus-Liebig University Giessen. He is recognized for his research on myocardial ischemia/reperfusion injury and protection from it. His research group uses a translational approach from subcellular particles towards large animal model to define new targets involved in IRI and investigate novel treatment strategies for protecting the heart. One focus of his research is the importance of mitochondrial derived reactive oxygen species for IRI and protection from it. More recently, the work is dedicated to pulmonary hypertension and right ventricular remodelling.



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### PIETRO AMERI

Assistant Professor in Cardiology, Director of the Heart Failure Program and the Laboratory of Cardiovascular Biology, Cardiac and Vascular Research Center, University of Genova, Genova, Italy

Pietro Ameri graduated in Medicine at the University of Genova (Italy) in 2006. After the residency, he received his PhD in 2014. He is now Assistant Professor in Cardiology in Genova, where he directs the Heart Failure Program and the Laboratory of Cardiovascular Biology within the Cardiac and Vascular Research Center at the IRCCS Ospedale Policlinico San Martino University Hospital. He is chair of the Cardio-Oncology Committee of the IRCCS Italian Cardiovascular Network and a major focus of his research activity is the interaction between cancer, anticancer therapies and heart failure.



### GIORGIO MINOTTI

Professor of Pharmacology and Clinical Pharmacology, Dean of the School of Medicine at the University Campus Bio-Medico of Rome, Italy

Dr. Giorgio Minotti is Professor of Pharmacology and Dean of the School of Medicine at the University Campus Bio-Medico of Rome. He authored over 100 papers, mostly focusing on pharmacokinetics, pharmacodynamics, and clinical correlates of anticancer drugs cardiovascular toxicity. He is Editor-in-Chief of Chemotherapy, Deputy Editor of Cardio-Oncology, member of the Editorial Board of Journal of Pharmacology and Experimental Therapeutics. His work has been awarded by Academic Press Inc., NATO Scientific Affairs Division, Southern Europe New Drugs Organization, Italian Ministry of University, Italian Association for Cancer Research.



### THOMAS THUM

Professor, Institute of Molecular and Translational Therapeutic Strategies, Hannover Medical School, Hannover, Germany

Prof. Thomas Thum studied medicine in Hannover, with state examination in 2001 and board examination for internal medicine/cardiology in 2009/2010. He received his PhD at the Imperial College, London (2008). He is a full professor and director of the Institute of Molecular and Translational Therapeutic Strategies at the Hannover Medical School, and Visiting Professor at the Imperial College. Thomas Thum (co-) authors > 300 publications and is a distinguished reviewer, board member, patent holder, and founder.

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### **BENCE GYOERGY**

Head of Clinical Translation, Institute of Molecular and Clinical Ophthalmology Basel, Switzerland

Dr. Gyoergy graduated in 2009 from Semmelweis Medical School then worked as a PhD Student at Semmelweis University with Prof. Edit Buzas and studied extracellular vesicles. After graduation he continued his research as a post-doctoral fellow at Harvard Medical School and Massachusetts General Hospital with Profs. Xandra Breakefield, Casey Maguire and David Corey. Currently he is Head of Clinical Translation at the Institute of Molecular and Clinical Ophthalmology in Basel. His group focuses on developing new vectors for gene therapy and translating CRISPR/Cas9 based gene editing and base editing technologies into the clinic. Besides research he works as an ophthalmologist and regularly sees patients with inherited retinal dystrophies.



### **SUSMITA SAHOO**

Associate Professor of Medicine, Cardiology, Cardiovascular Research Center, Icahn School of Medicine at Mount Sinai, New York, USA

Dr. Susmita Sahoo is an Associate Professor at the Cardiovascular Research Center, Icahn School of Medicine at Mount Sinai, New York. She has completed her education and training at the Indian Institute of Technology, Mumbai, and at the Northwestern University, Chicago. Her laboratory studies exosomes and epitranscriptome in cardiac regeneration and develops innovative cell-free therapeutic agents and gene delivery vehicles for the heart. Dr. Sahoo has several high-impact publications and patent applications to her name and is the recipient of AHA-BCVS Outstanding Early Career Investigator Award<sup>1</sup> and Harold and Golden Lampert Award among others for her outstanding contribution to scientific research.



### **JOOST SLUIJTER**

Professor, Cellular and Translational Cardiology, University Medical Center, Utrecht, The Netherlands

Prof. Joost Sluijter is a Medical Biologist. After being a postdoctoral research fellow at Indiana University-Purdue University, he returned to the University Medical Centre Utrecht in 2006. In his research group, they focus on stimulating cardiac regeneration. In recent years, they identified miRNAs that can push cell lineage specifications and how they could improve progenitor cell transplantation, specifically improving local delivery and cell retention. In this work, they have started to use 3D-bioprinting and advanced technologies of cardiac tissue engineering and is studying the use of secreted vesicles by these cells as a novel approach to induce cardiac repair.





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### RIENK NIEUWLAND

Principal Investigator and Head of Laboratory of Experimental Clinical Chemistry, Academic Medical Centre, University of Amsterdam, Amsterdam, The Netherlands

Dr. Nieuwland's research focuses on isolation, detection and functional characterization of extracellular vesicles (EVs), and on standardization of EV measurements. For example, they introduced size-exclusion chromatography, improved understanding of EV detection, and studied the clinical relevance of (EV-dependent) coagulation in health and disease. Dr. Nieuwland coordinate METVES II ([www.metves.eu](http://www.metves.eu)), a European Metrology Programme for Innovation and Research funded project, in which healthcare, metrology and industry collaborate to standardize concentration measurements of EVs, and he is active in ISEV (International Society on Extracellular Vesicles) and ISTH (International Society on Thrombosis and Haemostasis).



### MICHAEL NURMOHAMED

Professor of Rheumatology, Amsterdam University Medical Centers; Head of Rheumatology Research Department of Reade, Amsterdam, The Netherlands

Michael Nurmohamed is professor of Rheumatology at the Amsterdam University Medical Centers, Netherlands. His chair has a focus on cardiovascular comorbidities in rheumatic diseases. He is also Head of Rheumatology Research Department of Reade, Amsterdam, The Netherlands, where he also works as Rheumatologist and Clinical Research Scientist since 2000. His main scientific interests include cardiovascular co-morbidities in rheumatic diseases. Dr. Nurmohamed has (co)authored over 400 publications, is a regular reviewer for several international journals and an editorial board member of Annals of Rheumatic Diseases, Arthritis Research Therapy, Journal of Rheumatology, The Open Rheumatology Journal and PlosOne.



### GABOR J. TIGYI

Harriet Van Vleet Endowment Professor, Department of Physiology, Associate Vice Chancellor for Research, University of Tennessee Health Science Center, Memphis, USA

Dr. Tigyi is Harriett Van Vleet Endowed Professor of the Department of Physiology and Associate Vice Chancellor for Research of the University of Tennessee Health Science Center Memphis. Dr. Tigyi's primary interest concerns the physiological and pathophysiological role of lysophospholipid mediators. He is a Scientific Advisor of and recipient a Honorary Doctorate from Semmelweis University. He is External Member of Hungarian Academy of Sciences (HAS), the European Academy. He serves on the President's Strategic Advisory Committee of the HAS. He holds numerous awards including the Arany Janos, the Wheeley, and the Nagayoshi Nagai prizes. His over 220 publications have a Hirsch index of 66 with over 14,000 citations.



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### NINA WETTSCHURECK

Professor of Molecular Pharmacology, Max Planck Institute for Heart and Lung Research, Bad Neuheim; Center for Molecular Medicine, Goethe University, Frankfurt, Germany

Nina Wettschureck is Professor of Molecular Pharmacology at the Max Planck Institute for Heart and Lung Research in Bad Nauheim and the Center for Molecular Medicine, Goethe University, Frankfurt, Germany. After receiving her MD at the University of Frankfurt, she was a post-doctoral fellow at the Universities of Berlin and Heidelberg, where she received her Habilitation for Pharmacology and Toxicology. Since 2009 she leads a group focusing on various aspects of GPCR signaling in the cardiovascular and immune system.



### PETER GLOVICZKI

Emeritus Professor of Surgery, Division of Vascular and Endovascular Surgery, Mayo Clinic, Rochester, Minnesota, USA

Peter Gloviczki is Editor-in-Chief of the Journal of Vascular Surgery, the Roberts Emeritus Professor of Surgery, previous Division Chair and Director of Gonda Vascular Center at Mayo Clinic Minnesota. He received his medical degree in 1972 at Semmelweis University. He has authored 437 peer-reviewed publications, edited seven textbooks, has 30,200 citations, an h-index of 96. Past President of the Society for Vascular Surgery and International Union of Angiology, among others. Honorary member of the Hungarian Surgical and Angiology societies, he was awarded the "Doctor Honoris Causa" degree from Semmelweis University and the Officer's Cross of the Order of Merit of Hungary.



### GERHARD HINDRICKS

Professor of Cardiology, Medical Director, Heart Center Leipzig, University of Leipzig; Managing Director, Leipzig Heart Institute, Leipzig, Germany

Gerhard Hindricks, MD, PhD, is a Professor of Cardiology at the University of Leipzig, Germany. He heads one of the largest electrophysiology departments in Europe, providing services for up to 5000 patients and performing almost 2500 interventions for arrhythmias per year. His career spans three decades and he was part of the team which carried out the first radiofrequency catheter ablations in the world in the late 1980s in Munster, Germany. He later helped develop radiofrequency catheter ablation on a clinical basis. In addition to catheter ablation, his research interests include electrical therapy of heart failure, with a particular focus on cardiac resynchronization therapies, and prevention of sudden cardiac death using medical and non-medical treatment modalities such as catheter ablation of ventricular tachycardia.

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### **BRUNO K PODESSER**

Professor, Center for Biomedical Research, Division of Biomedical Research, Medical University of Vienna, Vienna, Austria

After receiving his medical degree from the University of Vienna, Dr. Podesser trained in general and cardiac surgery at General Hospital in Vienna. With a Max Kade fellowship he went to Boston University between 1996/97. In 2001 he was promoted Associate Professor. Between 2006 and 2009 he was founding co-ordinator of the Ludwig Boltzmann Cluster for Cardiovascular Research. He has visiting professorships in Krakow, Verona and Harvard Medical School. In 2014 he has been appointed full professor and Head of the Center for Biomedical Research at the Medical University of Vienna. In 2019 he received the honorary membership of the Hungarian Society of Cardiology. His main area of research is translational cardiovascular research.



### **DEREK J HAUSENLOY**

Professor, Duke-National University of Singapore Medical School and University College London; Senior Consultant Cardiologist, National Heart Centre, Singapore

Derek Hausenloy is Professor at Duke-National University of Singapore Medical School and University College London. He is a Senior Consultant Cardiologist at the National Heart Centre, Singapore. He conducts both basic and clinical research in the area of ischaemic heart disease, heart failure, cardioprotection and cardiac MRI. His research focus is on discovering novel therapies for protecting the heart against the detrimental effects of acute ischaemia/reperfusion injury in order to prevent the onset of heart failure. He uses a translational approach to cardioprotection such as cellular and animal models of acute IRI to proof-of-concept clinical studies in acute myocardial infarction and cardiac bypass surgery patients.



### **GEMMA VILAHUR**

Senior I3P Researcher, Translational Research Department, ICCC Catalan Institute of Cardiovascular Sciences, Hospital Santa Creu and Sant Pau, Barcelona, Spain

Dr. Gemma Vilahur coordinates the Translational Research Department at the Research Institute of the Hospital Santa Creu i Sant Pau in Barcelona since her return from USA in 2006. She is PI of multiple National and European projects, has published 125 articles (3.339 citations, H index=34) including original manuscripts, consensus/position papers, and reviews, and 31 book chapters. Her research focuses on ischemic heart disease and the discovery of new cardioprotective approaches. She is co-author of 4 patents, co-founder of 2 Spin-Off, has received many International Scientific Awards (Outstanding Achievement Award - European Society of Cardiology 2019) and has positions of trust in different International Scientific Societies.

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### **PAL PACHER**

Professor, Head of CV Physiology and Tissue Injury, National Institute on Alcohol Abuse and Alcoholism, National Institute of Health, Bethesda, USA

Dr. Pacher is the Head of the Laboratory of Cardiovascular Physiology and Tissue Injury at National Institute on Alcohol Abuse and Alcoholism at NIH, USA. He co-authored over 300 peer-reviewed publications and with H index of 103 and over 41000 citations listed among top 50-100 most highly cited researchers in the World in Pharmacology and Toxicology field since 2010. He is recipient of numerous research awards and grants, Doctor Honoris Causa from Semmelweis University, elected Fellow of the American Heart Association, American College of Cardiology, and American Physiological Society. As a recognition of his work in the field of cannabinoids he has been elected President of International Cannabinoid Research Society (ICRS) in 2018-2019.



### **FAUSTO PINTO**

Professor of Cardiology, President Elect of the World Heart Federation; Head of the Cardiology Department and of the Heart and Vascular Department, Santa Maria University Hospital, Lisbon, Portugal

Dean of the Faculty of Medicine of the University of Lisbon, and Full Professor of Cardiology, Head of the Cardiology Department and of the Heart and Vascular Department of Santa Maria University Hospital, President Elect of the World Heart Federation (WHF) (2019-2020), National Coordinator of the Medical Schools Council (2018-2020) and President of the Executive Board of the Lisbon Academic Medical Centre (CAML) (2019-2021) and Director of Lisbon Cardiovascular Institute (ICVL) since 1999. His Main areas of interest are ischemic heart disease, heart failure, anticoagulation, cardiovascular imaging, particularly on the use of ultrasound in cardiology and pioneered the use of intravascular ultrasound in the study of graft atherosclerosis.



### **SEBASTIAN DEBUS**

Secretary General of the European Society for Vascular Surgery; Professor of Surgery, Chair of the Department of Vascular Medicine, University of Hamburg-Eppendorf, Germany

Dr. Debus is Professor for Surgery and Chair of the Department of Vascular Medicine, University of Hamburg-Eppendorf, Germany. He is the current Secretary General of the European Society for Vascular Surgery. He was President of the German Vascular Society 2013/2014, chairs the Northern German Society of Surgery and the Northern German Society for Vascular Medicine. He was member of the presidium of the German Society of Surgery 2013/2014. His main research interests are vascular epidemiology and vascular care, aortic pathologies and peripheral occlusive disease. He is founder of the German vascular registry program and is engaged in various projects of the European Society for Vascular Surgery.



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### CHRISTOPHER S WILCOX

Professor of Nephrology; Director of the Hypertension Center; Walters Family Chair in Cardiovascular Research, Georgetown University, Washington, USA

Dr. Wilcox received his MD from Oxford University and PhD from London University and fellowship training in nephrology and hypertension at University College, London. He has held faculty at London and Cambridge Universities, Yale, Harvard and Florida Universities. He is currently Professor of Nephrology and Director of the Hypertension Center and is also the Walters Family Chair in Cardiovascular Research at Georgetown. He is a Fellow of the Royal College of Physicians, the Royal Society of Medicine, the American Heart Association, American Society of Nephrology and a Master of the American College of Physicians. His research interests include developing new drugs for hypertension or edema, microvascular function and the renal mechanisms of hypertension.



### JENNIFER M SASSER

Associate Professor of Pharmacology and Toxicology, University of Mississippi Medical Center, Jackson, USA

Jennifer Sasser, PhD, is an associate professor in the Department of Pharmacology and Toxicology at the University of Mississippi Medical Center in Jackson, MS. Her research focuses on hypertensive kidney disease, with emphasis on the effects of pregnancy and preeclampsia on renal function. Her laboratory uses a rodent model of preeclampsia to determine the pathogenesis of the disease during pregnancy and the effects of preeclampsia on the later development of cardio-renal disease in both the mother and the offspring. Because the production of nitric oxide (NO) is decreased in chronic kidney disease and preeclampsia, the Sasser laboratory also investigates interventions that can restore NO production as novel treatments for these diseases.

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### JOHANNES BACKS

Professor, Director of the Institute of Experimental Cardiology, University of Heidelberg, Heidelberg, Germany

Dr. Johannes Backs is Director of the Institute of Experimental Cardiology in Heidelberg. His group is interested in cardiac epigenetics and metabolism and has shown that cardiac function is controlled by protein kinases that differentially regulate histone deacetylases and thereby govern glucose and calcium handling. Recently, Johannes became the spokesperson of the German Center of Cardiovascular Research (DZHK) partner site Heidelberg/Mannheim and of the Translational Research Committee of the Heart Failure Association of the European Society of Cardiology. He serves on several boards and committees as an at-large council member of the International Society of Heart Research, and he is associate editor of the Journal of Molecular and Cellular Cardiology.



### NAZHA HAMDANI

Assistant researcher, Department of Cardiovascular Physiology, Ruhr University Bochum, Germany; VU University Medical Center Amsterdam, The Netherlands

Dr. Hamdani studied Medicine and Pharmaceutical Sciences at Free University of Brussels and Amsterdam before doing her PhD at Cardiovascular Research at VU University Medical Center. Currently, she and her research team hope to develop HFpEF therapy specifically designed for men or women based on the physiology and co-morbidities involved in their case of HFpEF. She plans to focus on working towards developing these specialised therapeutic approaches. Dr. Hamdani's research looks at the biological mechanisms and potential treatment options within heart disease, particularly focused on the connections between diastolic stiffness and heart failure with preserved ejection fraction.



### PETAR SEFEROVIC

President of the Heart Failure Association of the ESC; Professor of Cardiology, Belgrade University Medical Center, Belgrade, Serbia

Prof. Seferovic is President of the Heart Failure Association of the European Society of Cardiology. After completing his training and fellowship at Belgrade University School of Medicine and Kings College Hospital he spent two years as a Visiting Assistant Professor in Methodist Hospital and Baylor College of Medicine in the USA. Prof. Seferović has led the introduction of several methods of interventional cardiology and myocardial and pericardial disease in Serbia, including percutaneous transluminal angioplasty, endomyocardial biopsy, percutaneous pericardioscopy and pericardial biopsy. His research interests mainly include heart failure, acute and chronic, cardiomyopathies, myocarditis, pericardial disease as well as cardiovascular disease and diabetes.



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### CARLOS BUSTAMANTE

Howard Hughes Medical Institute Investigator; Professor of Molecular and Cell Biology, Physics and Chemistry, UC Berkeley, Berkeley, California

Professor Carlos Bustamante received his Bachelor's and Master's degrees in Peru and obtained his PhD in biophysics from UC Berkeley. His laboratory specializes in single molecule manipulation and detection methods like optical tweezers, magnetic tweezers and single molecule fluorescence microscopy to characterize the mechanochemical properties of molecular motors that interact with RNA, DNA and proteins. Currently, he is a professor of Molecular and Cell Biology, Physics and Chemistry at UC Berkeley and a Howard Hughes Medical Institute Investigator. He is a Fellow of the American Physical Society and member of the National Academy of Sciences and the American Academy of Arts and Sciences. He is also in the Board of Directors of the American Association for the Advancement of Science.



### JORGE ALEGRE-CEBOLLADA

Group Leader, Molecular Mechanics of the Cardiovascular System, National Center for Cardiovascular Research (CNIC), Madrid, Spain

Jorge Alegre-Cebollada obtained a PhD in Biochemistry in 2008 (Complutense University of Madrid), under the supervision of Prof. Álvaro Martínez del Pozo and Prof. Pepe Gavilanes. Jorge joined the laboratory of Prof. Julio Fernández at Columbia University (New York, US) for postdoctoral training. During his time in New York, Jorge led several research projects to understand how the elasticity of proteins can be regulated by posttranslational modifications. In 2014, Jorge joined the National Center for Cardiovascular Research (CNIC) in Madrid, Spain, to establish his independent group. His laboratory is interested in understanding how mechanical forces determine muscle function at the molecular, cellular, tissue and organismal levels.



### DILSON RASSIER

Professor, Department of Kinesiology and Physical Education; Dean of the Faculty of Education, McGill University, Montreal, Canada

Dr. Rassier is a Professor at the Department of Kinesiology and Physical Education and the Dean of the Faculty of Education at McGill University. He obtained his PhD in Muscle Physiology in 1998 in the department of Medical Sciences at the University of Calgary and underwent postdoctoral training at the University of Calgary and the University of Washington. He is a Canada Research Chair in Muscle Biophysics, the director of the Muscle Biophysics and Physiology laboratory, and an Associate Member in the Departments of Physiology and Physics. His research interests focus on cellular and molecular mechanisms of muscle contraction in health and disease. His laboratory has developed new techniques for studying muscle myofibrils, sarcomeres and myofilaments.

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### JONATHON (JOE) HOWARD

Eugene Higgins Professor of Molecular Biophysics & Biochemistry, Professor of Physics, Director of the Yale Quantitative Biology Institute, Yale University, New Haven, USA

Dr. Joe Howard is the Eugene Higgins Professor of Molecular Biophysics & Biochemistry, Professor of Physics at Yale University, and the Director of the Yale Quantitative Biology Institute. He is best known for his research on motor proteins and the cytoskeleton, and the development of techniques for observing and manipulating individual biological molecules. His research interests include the sensation of force in the ear and skin, the segregation of the chromosomes during mitosis, the motility of cilia and flagella, and the morphogenesis of neurons. He studied mathematics and neurobiology at the Australian National University, was professor of Physiology at the University of Washington and a Director of the Max Planck Institute of Molecular Cell Biology & Genetics prior to Yale.



### MYRIAM AOUADI

Group Leader, Principal Investigator, Integrated Cardio Metabolic Centre, Department of Medicine, Karolinska Institutet, Stockholm, Sweden

Dr. Aouadi received her PhD from the University of Nice Sophia-Antipolis. Her work focuses on the mechanisms involved in adipose tissue expansion in obesity. During her postdoctoral studies at the University of Massachusetts she developed a unique method to deliver siRNA and silence genes specifically in macrophages in vivo. As an assistant professor at the University of Massachusetts she used this novel technology to show that macrophages could be both detrimental and beneficial to insulin sensitivity. Her lab investigates the multiple roles and heterogeneity of liver and adipose tissue macrophages in metabolic diseases and use technologies such as single cell RNAseq, recently discovering that macrophages can directly regulate metabolism independently of inflammation.



### TONY JOURDAN

Researcher, INSERM Research Centre, Lipids Nutrition, Cancer (LMC), Dijon, France

After a Master's degree and a PhD in cellular biology and physiology obtained at the University of Burgundy in Dijon (France) under the supervision of Pr. George Kunos at NIH Dr. Tony Jourdan mostly worked on the impact of macrophages-expressed CB1R on the development of type-2 diabetes, its renal complication and the development of hepatic insulin resistance. Late 2017, I moved back to France as a "Chargé de Recherche" INSERM in Dijon, France. My goal there is to develop a new research program aiming at unraveling the molecular mechanisms underlying the immunometabolic effects of macrophages-expressed CB1R during the development of diabetic dyslipidemia.





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### YOSSI (JOSEPH) TAM

Head, Obesity and Metabolism Laboratory, Institute for Drug Research;  
Director, Multidisciplinary Center for Cannabinoid Research,  
Hebrew University of Jerusalem, Jerusalem, Israel

Dr. Yossi Tam received his B.Med.Sc., M.Sc., Ph.D. and D.M.D. from the Hebrew University of Jerusalem. He did his postdoctoral training at the NIH, and in 2014, Dr. Tam moved to the Hebrew University, where he heads the Obesity and Metabolism Laboratory at the Institute for Drug Research, and focuses on targeting the endocannabinoid system for the metabolic syndrome and its associated comorbidities. He also serves as the Director of the Hebrew University's Multidisciplinary Center for Cannabinoid Research and a Scientific Advisory Board Member of several biotech companies. He won major national and international awards and grants, and authored over 40 peer-reviewed papers in leading journals, and two book chapters.



### RESAT CINAR

Staff Scientist, Dr George Kunos' Lab, National Institutes of Health,  
Bethesda, USA

Dr. Resat Cinar is a staff scientist in Dr George Kunos' lab at the NIH in the USA. His research focuses on the role of the endocannabinoid system in metabolic regulation in complex fibroproliferative disorders. He is interested in a polypharmacology approach as a drug design strategy, aimed to develop more efficient and safer therapeutic modalities for fibrotic disorders. He is involved in the development, patenting and lead optimization of novel peripherally restricted hybrid compounds that simultaneously target peripheral cannabinoid 1 receptors (CB1R) and inducible nitric oxide synthase (iNOS) for their therapeutic potential in obesity, diabetes, fatty liver disease and fibrotic disorders such as scleroderma, liver and lung fibrosis.



### CRISTOPHER CHEN

Professor of Biomedical Engineering, Boston University; Harvard Wyss  
Institute for Biologically Inspired Engineering, Boston, USA

Christopher S. Chen, M.D., Ph.D., Professor of Biomedical Engineering at Boston University and the Harvard Wyss Institute for Biologically Inspired Engineering, has been instrumental in developing engineered cellular microenvironments to understand how cells build tissues. He serves as a fellow for the American Institute for Medical and Biological Engineering, member of the Faculty of 1000, Editorial Board for Science Translational Medicine, Annuals Reviews of Cell and Developmental Biology, and Developmental Cell. He received his Ph.D. from M.I.T., and M.D. from Harvard Medical School. He was founding director of the Penn Center for Engineering Cells and Regeneration before his current appointment.



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### ROSALINDA MADONNA

Professor and Research Scientist, Center of Aging Sciences and Translational Medicine; Institute of Cardiology, "G. d'Annunzio" University, Chieti, Italy

Dr. Madonna has worked on the use of genetic engineering techniques in combination with cell therapy in mouse models of acute myocardial infarction and limb ischemia for the treatment of cardiovascular diseases related to aging. The results of his research have contributed to the improvement of cell engraftment efficiency after transplantation into ischemic tissue by using over-expressing lentiviral vectors of the Telomerase Reverse Transcriptase (TERT) and myocardin in mesenchymal stromal cells isolated from adipose tissue.



### ANNE LEJAY

Associate Professor, Department of Vascular Surgery, Hospital University Center in Strasbourg, France

Dr. Lejay is Associate Professor in the Department of Vascular Surgery and Kidney Transplantation of the University Hospital of Strasbourg, France since 2008. She also joined the Institute of Medical Sciences of Toronto, Canada as research fellow. Besides working as a clinician, she is particularly active in the scientific field of ischemia-reperfusion. Her work focuses on oxidative stress and regenerative medicine.



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