

ARTERY

Association for Research into
Arterial Structure and Physiology



ARTERY 23

5 - 7 October 2023

Bundeskunsthalle Museum
Bonn, Germany

www.arterysociety.org



Programme Book

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J O I N

A R T E R Y

N O W

Join ARTERY now and help us shape a better future for promoting the advancement of knowledge and dissemination of information concerning all aspects of arterial structure and function, either basic science, clinical research or epidemiology.

■ WHY BECOME A MEMBER OF ARTERY?

By becoming a member of ARTERY, you will instantly be part of an international, professionally diverse network of members. ARTERY members form a vast community of researchers, with active collaborative research, exchanges of students etc. The ARTERY community has produced some of the most quoted publications ever in the field.

Being a member offers privileged access to the annual ARTERY Meeting, with rebate price covering the membership. The annual subscription fee includes a subscription to ARTERY RESEARCH.

Please visit www.arterysociety.org to find out more about the activities of our society and how you can join and become involved with ARTERY.

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ARTERY23 Scientific Organisers

ARTERY EXECUTIVE COMMITTEE

President:	Professor Thomas Weber	Wels	Austria
Vice President:	Dr. Carmel McEniery	Cambridge	UK
Secretary:	Professor Pedro Cunha	Guimarães	Portugal
Treasurer:	Professor Alun Hughes	London	UK
Ordinary Members:	Dr. Rosa Maria Bruno	Paris	France
	Dr. János Nemcsik	Budapest	Hungary
	Dr. Bart Spronk	Maastricht	Netherlands
	Dr. Dimitrios Terentes-Printzios	Athens	Greece
Young Investigator Chair:	Dr. Alessandro Giudici	Maastricht	Netherlands
Social Media:	Dr Chloe Park	London	UK

ARTERY ADVISORY BOARD

Professor Charalambos Vlachopoulos	Greece
Professor Kennedy Cruickshank	United Kingdom
Professor Pierre Boutouyrie	France

ARTERY COUNCIL MEMBERS

Professor Alun Hughes (Chair)	UK	Dr Koen Reesink	Netherlands
Professor James Cameron	Australia	Professor Patrick Segers	Belgium
Dr Rachel Climie	Australia	Professor James Sharman	Australia
Dr Andrea Guala	Spain	Professor Areti Triantafyllout	Greece
Professor Stephane Laurent	France	Professor Siegfried Wassertheurer	Austria
Dr Gary Mitchell	USA	Professor Ian Wilkinson	UK
Professor Peter Nilsson	Sweden	Professor Reuven Zimlichman	Israel

ARTERY23 PROGRAMME COMMITTEE

Jordi Alastruey-Arison	VascAgeNet	Christopher Mayer	VascAgeNet
Johannes Baulmann	LOC & DeGAG	Carmel McEniery	Artery EC
Elisabetta Bianchini	VascAgeNet	János Nemcsik	Artery EC
Rosa-Maria Bruno	Artery EC & VascAgeNet	Chloe Park	Artery EC & VascAgeNet
Rachel Climie	VascAgeNet	Giacomo Pucci	VascAgeNet
Pedro Cunha	Artery EC	Arno Schmidt-Trucksäss	DeGAG
Alessandro Giudici	Artery EC	Bart Spronk	Artery EC & LOC
Bernhard Hametner	VascAgeNet	Dimitrios Terentes-Printzios	Artery EC & VascAgeNet
Alun Hughes	Artery EC	Areti Triantafyllou	VascAgeNet
		Thomas Weber	Artery EC

ARTERY23 LOCAL ORGANISING COMMITTEE

Dr Johannes Baulmann	Germany	Dr Bart Spronk	Netherlands
Dr Alessandro Giudici	Netherlands		

SECRETARIAT

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ARTERY Society: www.arterysociety.org



Welcome

Dear Colleague,

It is our great pleasure to welcome you to Bonn, Germany, for ARTERY23.

ARTERY is a forum for scientific debate and critique, providing the opportunity for a broad exchange of knowledge and ideas with our international community of specialists interested in all aspects of clinical, experimental, and biomechanical research of arterial structure and function. This is where our community generously shares their experiences, ideas, and new research collaborations and this great tradition will continue this year.

ARTERY23 is supported by DeGAG, the stiffness-society of Germany, Austria and Switzerland and the VascAgeNet, a European initiative, that guarantees an excellent participation of young scientists.

Our faculty of world-leading experts will cover relevant aspects of basic and clinical science including imaging, bioengineering, haemodynamics, epidemiology, pharmacology, treatments, and preventive measures. Each year we honour a member of our community by presenting the Artery Lifetime Achievement Award, this year it is Professor Kennedy Cruickshank, King's College, London, UK. We are very pleased that the McDonald Lecture will be delivered by Professor Julio Chirinos, University of Pennsylvania, USA. The programme includes a special roundtable session with VascAgeNet. Another highlight is the discussion what "Steps have to be taken to Redefine Hypertension based on Central Blood Pressure", because the studies that address this seminal topic come from the ARTERY community - in the past and very likely in the future.. Furthermore, the Traditional Career Development, Young Investigator and Oral Lectures, the focus of our meeting, will be delivered and discussed. We also welcome our sister society speakers from Artery LATAM and North American Artery. As in previous years we strongly encourage everyone to engage in scientific debate with presenters and colleagues during the sessions.

Prizes will be awarded for the best oral presentation by a Career Development presenter, a Young Investigator and for the Best Poster - from ARTERY society and DeGAG. We encourage you to visit the poster area, meet with the presenters and participate in the facilitated poster discussion sessions throughout the conference. All awards will be presented during the Awards Dinner on Friday evening. All accepted abstracts will be available electronically at the conference and published in the official journal of the Society, ARTERY Research, later in the year.

On behalf of the Society, we extend our appreciation to all our exhibitors and encourage all delegates to join Dr Johannes Baulmann for the exhibition tour during the refreshment breaks.

Have a great Conference, catch up with old friends and make new contacts!



Thomas Webber
President of ARTERY



Johannes Baulmann
Chair, Local Organising Committee, ARTERY23
President of DeGAG

Programme Overview

THURSDAY 5 OCTOBER 2023

Time	Title	Location
12.00	Registration	Foyer
14.00	Conference Opening	Forum
14.15-14.45	Invited Lecture Prof. Yvonne Jockel-Schneider, University of Würzburg, Germany	
14.45-15.45	Oral Session 1: Population Studies	
15.45-16.45	ARTERY Young Investigators Annual Business Meeting	
15.45-16.45	Exhibition Opening with Guided Exhibitor Viewing and Refreshments	Restaurant & Marquee
16.45-17.35	Oral Session 2: Young Investigator Award: Applied Science	Forum
17.35-17.50	Poster Storm	
18.10-19.40	Moderated Poster Session I and Networking Session Kindly sponsored by 	Restaurant & Marquee
20.00-late	Young Investigator Networking Evening	John Barleycorn

FRIDAY 6 OCTOBER 2023

Time	Title	Location
07.00	Young Investigator Social Run kindly sponsored by  	Bonn Hbf, 53115 Bonn
09.00	Registration	Foyer
09.15-10.05	Oral Session 3: Pulse Wave Analysis	Forum
10.05-10.35	Joint Session with ARTERY LATAM and North American ARTERY	
10.35-11.20	Guided Exhibitor Viewing and Refreshments	Restaurant & Marquee
11.20-11.40	Invited Lecture Prof. Panicos Kyriacou, University of London, London, UK	Forum
11.40-13.00	VascAgeNet Roundtable: Translational Science in Vascular Ageing	
13.00-13.35	Lunch and Exhibition Viewing	Restaurant & Marquee
13.35-15.05	Moderated Poster Session II and Networking Session Kindly sponsored by 	Restaurant & Marquee
15.05-16.25	Career Development Lectures	Forum
16.25-16.55	Posters and Exhibitor viewing and Refreshments	Restaurant & Marquee
16.55-17.15	Invited Lecture Dr Soroush Safaei, University of Auckland, Auckland, New Zealand	Forum
17.15-18.05	Oral Session 4: Young Investigator Award: Basic Science	
18.05-19.05	ARTERY Annual Business Meeting	
19.30-late	Awards Dinner Bundeskunsthalle Museum Traditional Oktoberfest with live music, supported by 	Restaurant & Marquee

SATURDAY 7 OCTOBER 2023

Time	Title	Location
09.00	Registration	Foyer
09.15-09.35	Invited Lecture In Memory of Stanley Franklin - A Century of Pulse Wave Velocity Prof. Phil Chowienczyk, University of London, UK Chairs: Dr Carmel McEniery and Dr Koen Reesink	Forum
09.35-10.25	Oral Session 5: Basic Science and Methodology	
10.25-11.05	ARTERY Research Exchange Grant Recipient Presentations	
11.05-11.35	Posters and Exhibition Viewing and Refreshments	Restaurant & Marquee
11.35-11.50	ARTERY Lifetime Achievement Award Prof. Kennedy Cruickshank, King's College London, UK	Forum
11.50-12.50	Which steps have to be taken to redefine hypertension based on central blood pressure?	
12.50-13.20	McDonald Lecture Prof. Julio A. Chirinos, Pennsylvania, USA	
13.20-13.35	Concluding remarks and close of meeting Dr Carmel McEniery, Dr Johannes Baulmann, Prof. Barry McDonnell Prof. Arno Schmidt-Trucksäss	
14.00-14.30	DeGAG Annual Business Meeting	

A-Z General Information

ABSTRACTS

Abstracts for ARTERY23 are available to download from the ARTERY website:

<https://www.arterysociety.org/>

Accepted oral and poster abstracts will also be published in a future issue of the Society's Journal, ARTERY Research.

AWARDS AND PRIZES

The Awards Ceremony will take place during the Conference Dinner on Friday 7 October. Prizes will be awarded for Best Young Investigator Presentation, Career Development Lecture and Best Poster.

BADGES

Name badges must be worn at all times throughout the conference. For reasons of security delegates not wearing a name badge may be denied access to scientific sessions.

EXHIBITION

Please ensure you take time to visit and support the companies exhibiting at ARTERY23. There will be guided Exhibitor tours on Thursday afternoon and Friday morning, during the refreshment breaks. Exhibitors will discuss their latest developments so please come along to support these interactive discussions.

INTERNET ACCESS

Wi-Fi is provided free of charge for all participants. A password is not required.

LUNCH & REFRESHMENTS

Lunch and refreshment breaks will be served in the Exhibition area situated in the Restaurant and Marquee on the ground floor.

MOBILE/CELL PHONES & ELECTRONIC DEVICES

As a courtesy to speakers and other delegates, please ensure that mobile/cell phones, tablets, and other electronic devices are switched to silent during sessions. Filming during sessions is not permitted.

PHOTOGRAPHY

The Secretariat will be taking photographs throughout the meeting for use on the ARTERY website and in other publications. If you do not wish to be photographed, please let the Secretariat staff know by visiting the Registration Desk.

POSTERS

Posters will be displayed throughout the event in the Restaurant and Marquee and the moderated sessions are allocated on the following days:

Thursday 5 October 2023 – 18.10 – 19.40 including drinks and snacks

Moderated Poster Session I: Methodologies

Moderated Poster Session I: Vascular Ageing

Moderated Poster Session I: Hypertension and Renal Disease

Moderated Poster Session I: Vascular Biology and Pathophysiology

Moderated Poster Session I: Special Poster

Kindly supported by



Friday 6 October 2023 – 13.35 – 15.05

Moderated Poster Session II: Metabolic Disorders

Moderated Poster Session II: Other Clinical

Moderated Poster Session II: Insights from Computational Modelling

All posters will be moderated and visited by judges during the above listed times. All poster presenters are encouraged to be at their posters during the time of their moderated presentation. We regret that any presenters not at their posters during these sessions may not be eligible for an award.

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MOUNTING and REMOVAL OF POSTERS

All posters should be mounted by 15:00 on Thursday 5 October..

All posters must be removed by 13.40 on Saturday 7 October.

QUESTIONS TO SPEAKERS

During discussion periods, delegates who wish to pose a question should raise their hand clearly and wait to be acknowledged by the Chairperson. Please do not ask a question until you have been given a microphone.

REGISTRATION DESK

The conference organisers will be located at the Registration Desk (Ground Floor corridor at the entrance to the Restaurant) and will be pleased to assist you with queries throughout the conference.

The Registration Desk will be open at the following times:

Thursday 5 October: 12.00 – 19.40

Friday 6 October: 09.00 – 19.00

Saturday 12 October: 09.00 – 13.30

SPEAKER PREVIEW

All invited speakers and oral presenters should meet with the audio-visual technician in The Forum (located in The Forum, on the right-hand side of the doors as you enter), all slides should be given at the earliest opportunity, or a minimum of two sessions before the start time of your session. This is in order to hand over and check your presentations and ensure you are happy with the equipment available for your talk.

VENUE INFORMATION

Art and Exhibition Hall of the Federal Republic of Germany
Museum Mile
Helmut-Kohl-Allee 4
53113 Bonn

P +49 228 9171-200

F +49 228 234154

info@bundeskunsthalle.de

Social Programme

WELCOME NETWORKING RECEPTION (Including Exhibition & Moderated Posters)

Thursday 5 October - 18.10-19.40

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A great opportunity to catch up with colleagues and old friends and make new acquaintances. Tickets to this event are included in the registration fee.

YOUNG INVESTIGATOR NETWORKING EVENING

Thursday 5 October - 20.00-Late

John Barleycorn, Heerstraße 52, 53111 Bonn, approx. 20 minutes by public transport from the Conference venue.

A perfect opportunity for new investigators (PhD students, Post-Docs and Clinical Research Fellows) to mingle with their peers in a welcoming, relaxed environment in the centre of Bonn.

Tickets to this event are free of charge to Young Investigators under the age of 40, all are welcome but there are a limited number specifically for Young Investigators that were pre-booked at registration. Tickets will be given out at the Young Investigator Business Meeting on Thursday 5 October at 15:45 - 16.45.

ARTERY23 RUN

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Friday 6 October - 07.00-08.00

Details will be displayed at the Registration Desk.

Enjoy the sites of Bonn while stretching your legs! The total running route is approximately 5km. This run is suitable for all levels of fitness, and you are free to walk if you prefer not to run!

We invite you to take photos of the scenic route during the run and upload them to Instagram and Facebook with #artery23run

CONFERENCE DINNER

Friday 6 October - 19.30 - 23.30

The Conference Awards Dinner will be held at the meeting venue, Bundeskunsthalle Museum, in traditional Oktoberfest style with live music.

Tickets should be booked and prepaid in advance. If you wish to purchase a ticket, please speak to a member of staff at the Registration Desk who can advise about availability.

Exhibiting Companies



ALF Distribution GmbH,

Stephansstr. 19, 52064 Aachen, Germany
W: www.redwave-medical.com
T: +49 241 88693600
E: info@alf-distribution.com



Redwave Medical GmbH

Hans-Knoell-Str 6, 07745 Jena, Germany
W: www.redwave-medical.com
T: +49 3641 898920
E: service@redwave.com



CardiEx

184 Shuman Blvd, Suite 515, Naperville, IL 60563, USA
W: www.cardiex.com
T: +1 630 228 8871
E: contact@cardiex.com



VesselSens GmbH

Godesberger Allee 139, 53175 Bonn, Germany
W: www.vesselsens.com
E: info@vesselsens.com
T: + 49 228 44647711
+4922844647711



Custo med GmbH,

Maria-Merian-Str 6, 85521 Ottobrunn, Germany
W: www.customed.de
E: info@customed.de
T: +49 89 71098-00



80 Beats Medical

Kantstrasse 105, 10627 Berlin, Germany
W: www.80beatsmedical.com
E: info@80beatsmedical.com
T: +49 (0) 800 8023287



Quipu S.R.L.

Via Giuseppe Moruzzi 1, 56124 Pisa, Italy
W: www.quipu.eu
E: support@quipu.eu
T: +39 050 315 2612

ARTERY

Association for Research into
Arterial Structure and Physiology



ARTERY 24

Cardiff, Wales, UK
Confirmed as
ARTERY24 Hosts

Dates to be advised

www.arterysociety.org





Scientific Programme

THURSDAY 5 OCTOBER 2023

Time	Title	Location
12.00	Registration	Foyer
14.00	Conference Opening Prof. Thomas Weber, ARTERY President Dr Johannes Baulmann, DeGAG President, LOC Chair Dr Bart Spronck, LOC member Dr Christopher Mayer, VascAgeNet chair	Forum
14.15-14.45	Invited Lecture: Periodontitis and vascular disease: New insights in common threats Prof. Yvonne Jockel-Schneider, University of Würzburg, Germany Chairs: Dr Johannes Baulmann and Prof. Pierre Boutouyrie	
14.45-15.45	Oral Session 1: Population Studies Chairs: Professor Jens Nürnberger and Dr. Dimitrios Terentes-Printzios	
	1.01 Ethnic difference in reservoir-excess pressure parameters in a tri-ethnic population-based cohort: The SABRE Study. Kunihiko Aizawa ^{1,2} , Chloe Park ³ , Kim Parker ⁴ , Angela Shore ^{1,2} , Nish Chaturvedi ³ , Alun Hughes ³ ¹ University of Exeter Medical School, Exeter, United Kingdom, ² NIHR Exeter Clinical Research Facility, Exeter, United Kingdom, ³ MRC Unit for Lifelong Health & Ageing, Institute of Cardiovascular Science, University College London, London, United Kingdom, ⁴ Department of Bioengineering, Imperial College, London, United Kingdom	
	1.02 Lifelong heterogeneous contribution of cardiovascular risk factors to slow and fast progression of arterial stiffness Hirofumi Tomiyama ¹ , Kazuki Shiina, Hiroki Nakano, Masatsune Fujii, Takamichi Takahashi, Junya Kani, Chisa Matsumoto ¹ Tokyo Medical University, Tokyo, Japan	
	1.03 Air pollutants and arterial function in young London adults of 6 ethnic groups J. Kennedy Cruickshank ¹ , Alexis Karamanos ¹ , Yao Lu ⁶ , Ian Mudway ² , Frank Kelly ² , S.D. Beevers ² , D. Dajnak ² , Christelle Elia ¹ , Andy J. Webb ¹ , O.R. Malaodi ⁴ , Z.E. Enayat ⁵ , Maria Maynard ⁵ , Seeromanie Harding ¹ ¹ King's College, London, United Kingdom, ² Imperial College, London, United Kingdom, ³ University College, London, United Kingdom, ⁴ University of Glasgow, Glasgow, Scotland, ⁵ Leeds Beckett University, Leeds, United Kingdom, ⁶ Central South University, Changsha, China	
	1.04 Effects of weight loss on vascular function, autonomic nervous system and metabolic biomarkers in obese subjects with moderate and low cardiovascular health Michelle Cunha ¹ , Samanta Mattos ¹ , Marcia Klein ¹ , Mario Neves ¹ ¹ State University Of Rio De Janeiro, Rio De Janeiro, Brazil	
	1.05 SPARTE study: Results revisited using a preliminary Bayesian analysis approach Bart Spronck ^{1,2} , Alessandro Giudici ^{1,3} ¹ Department of Biomedical Engineering, CARIM School for Cardiovascular Diseases, Maastricht University, Maastricht, Netherlands, ² Macquarie Medical School, Faculty of Medicine, Health and Human Sciences, Macquarie University, Sydney, Australia, ³ GROW School for Oncology and Reproduction, Maastricht University, Maastricht, Netherlands	
	1.06 Critical limb ischemia, arterial stiffness and sarcopenia Joana Ferreira ^{1,2,3,4,5} , Adhemar Longatto-Filho ^{2,3,6,7} , Cristina Cunha ^{4,8,9} , Cristina Silva ^{4,8,9} , Filipa Gonçalves ^{4,8,9} , Alexandre Carneiro ¹⁰ , Isabel Vila ^{4,8,9} , Jorge Cotter ^{2,3,4,8,9} , Amílcar Mesquita ¹¹ , Margarida Correia-Neves ^{2,3} , Armando Mansilha ^{1,12,13} , Pedro Guimarães Cunha ^{2,3,4,8,9} ¹ Vascular Surgery Department - Physiology and Surgery, University Hospital Center of São João, Porto, Portugal, ² Life and Health Science Research Institute (ICVS), School of Medicine, University of Minho, Braga, Portugal, ³ ICVS/3B's—PT Government Associated Laboratory, Braga, Portugal,	

Time	Title	Location
	<p>⁴Academic Center Hospital da Senhora da Oliveira, Guimarães, Portugal, ⁵Clinical Academic Center Hospital de Trás-os-Montes e Alto Douro—Professor Doutor Nuno Grande—CACTMAD, Vila Real, Portugal, Vila Real, Portugal, ⁶Faculty of Medicine, Department of Pathology, University of São Paulo, São Paulo, Brazil, ⁷Molecular Oncology Research Center, Barretos Cancer Hospital, Barretos, São Paulo, Brazil, ⁸Medicine Department, Hospital da Senhora da Oliveira, Guimarães, Portugal, ⁹Center for the Research and Treatment of Arterial Hypertension and Cardiovascular Risk, Internal Medicine Department, Hospital da Senhora da Oliveira, Guimarães, Portugal, ¹⁰Radiology Department, Unidade Local de Saúde Alto Minho, Viana do Castelo, Portugal, ¹¹Vascular Surgery Department, Hospital da Senhora da Oliveira, Guimarães, Portugal, ¹²Faculty of Medicine, University of Porto, Porto, Portugal, ¹³Department of Angiology and Vascular Surgery, University Hospital Center of São João, Porto, Portugal</p>	Forum
15.45-16.45	ARTERY Young Investigators Annual Business Meeting	Forum
15.45-16.45	Exhibition Opening with Guided Exhibitor Viewing and Refreshments Chair: Dr Johannes Baulmann	Restaurant & Marquee
16.45-17.35	<p>Oral Session 2: Young Investigator Award: Applied Science Chairs: Professor Alberto Avolio and Professor Patrick Segers</p> <p>2.01 The aortic-femoral arterial stiffness gradient predicts incident cardiovascular disease in older adults: an atherosclerosis risk in communities (ARIC) study. Keeron Stone¹, Lee Stoner^{3,4,5}, Michelle Meyer⁶, James Faulkner⁷, Barry McDonnell^{1,2}, Chris Pugh^{1,2}, Jessica Williams^{1,2}, Craig Paterson³, Gabriel Zieff³, Alex Pomeroy³, Anna Kucharska-Newton⁸, Simon Fryer⁹ ¹Centre for Cardiovascular Health and Ageing, Cardiff Metropolitan University, Cardiff, United Kingdom, ²National Cardiovascular Research Network, Wales, ³Department of Exercise and Sport Science, University of North Carolina at Chapel Hill, Chapel Hill, USA, ⁴Department of Epidemiology, The Gillings School of Global Public Health, University of North Carolina at Chapel Hill, Chapel Hill, USA, ⁵Center for Health Promotion and Disease Prevention, University of North Carolina at Chapel Hill, Chapel Hill, USA, ⁶Department of Emergency Medicine, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, USA, ⁷Department of Sport, Exercise & Health, University of Winchester, Winchester, UK, ⁸Department of Epidemiology, College of Public Health, University of Kentucky, Lexington, USA, ⁹School of Sport and Exercise Sciences, University of Gloucestershire, Gloucester, UK</p> <p>2.02 Mechanisms limiting stroke volume reserve in Heart Failure with Preserved Ejection Fraction: is there a role for mid-late systolic afterload? Denis Wakeham¹, Matthew Howrey², Isabella Pellegrom², Joetsaroop Bagga¹, Tiffany Brazile¹, Bryce Balmain¹, Andrew Tomlinson¹, James MacNamara¹, Tony Babb¹, Benjamin Levine¹, Christopher Hearon¹, Satyam Sarma¹ ¹Institute for Exercise and Environmental Medicine, Texas Health Presbyterian Hospital Dallas and UT Southwestern Medical Center, Dallas, United States, ²Institute for Exercise and Environmental Medicine, Texas Health Presbyterian Hospital Dallas, Dallas, United States</p> <p>2.03 Estimating central arterial stiffness from photoplethysmogram using machine learning Jingyuan Hong¹, Manasi Nandi², Jordi Alastruey¹ ¹Division of Imaging Sciences and Biomedical Engineering, King's College London, London, United Kingdom, ²School of Cancer and Pharmaceutical Science, King's College London, London, United Kingdom</p> <p>2.04 Investigation and clinical based validation of real world DVP shape clusters Serena Zanelli^{1,2}, Mounim A. Yacoubi², Mehdi Ammi¹ ¹University Paris Sorbonne Nord, Villeteuse, France, ²TelecomSud Paris, Institut Polytechnique de Paris, Paris, France</p>	Forum

Time	Title	Location
	<p>2.05 Is there an antihypertensive class-specific effect on pulse wave velocity reduction? A systematic review and meta-analysis of the influence of blood pressure reduction on pulse wave velocity in hypertension</p> <p>Ryan McNally¹, Andrii Boguslavskyi², Rayka Malek³, Christopher Floyd¹, Marina Cecelja¹, Abdel Douiri³, Rosa-Maria Bruno⁴, Phil Chowienczyk¹, Luca Faconti¹</p> <p>¹Department of Vascular Risk and Surgery, King's College London, London, United Kingdom, ²Clinical Research Facilities, Guy's and St Thomas' Hospital, London, United Kingdom, ³School of Life Course and Population Sciences, King's College London, London, United Kingdom, ⁴Université Paris Cité, INSERM U970 Team 7, Paris Cardiovascular Research Centre, Paris, France</p>	Forum
17.35-17.50	<p>Poster Storm Chair: Dr Alessandro Giudici</p>	
18.10-19.40	<p>Moderated Poster Session I and Networking Session Moderated Poster Session I: Methodologies Chairs: Dr Koen Reesink and Dr Berend Westerhof</p> <p>Moderated Poster Session I: Vascular Ageing Chairs: Dr Areti Triantafyllou and Dr Athanase Protogerou</p> <p>Moderated Poster Session I: Hypertension and Renal Disease Chairs: Prof. Jens Nürnberger and Dr Karsten Königstein</p> <p>Moderated Poster Session I: Vascular Biology and Pathophysiology Chairs: Prof. Patrick Lacolley and Prof. Barry McDonnell</p> <p>Kindly sponsored by</p> 	Restaurant & Marquee
20.00-late	<p>Young Investigator Networking Evening John Barleycorn (Heerstraße 52, 53111 Bonn)</p>	John Barleycorn

Time	Title	Location
07.00	Young Investigator Social Run Sponsored by  	Bonn station Hbf, 53115
09.00	Registration	Forum
09.15-10.05	Oral Session 3: Pulse Wave Analysis Chairs: Dr Bernhard Hametner and Prof. Julio Chirinos 3.01 Invasive and estimated central blood pressure using the oscillometric algorithm Antares in patients with obesity Marcus Dörr ^{1,2} , Alexander Stäuber ³ , Cornelia Piper ⁴ , Marco Köster ⁴ , Harald Lapp ⁵ , Stefan Richter ⁶ , Marc-Alexander Ohlow ⁷ , Siegfried Eckert ⁴ , Matthias Wilhelm Hoppe ³ , Michael Thomas Coll Barroso ⁸ , Johannes Baulmann ⁹ ¹ Department of Internal Medicine B, University Medicine Greifswald, Greifswald, Germany, ² German Centre for Cardiovascular Research (DZHK), Partner Site Greifswald, Greifswald, Germany, ³ Movement and Training Science, Leipzig University, Leipzig, Germany, ⁴ Klinik für Allgemeine und Interventionelle Kardiologie/Angiologie, Universitätsklinik der Ruhr-Universität Bochum, Bochum, Germany, ⁵ Department of Cardiology, Zentralklinik Bad Berka GmbH, Bad Berka, Germany, ⁶ Department of Cardiology, SRH Klinikum Burgenlandkreis GmbH, Naumburg, Germany, ⁷ Department of Cardiology, SRH Wald-Klinikum GmbH, Gera, Germany, ⁸ Fliedner Fachhochschule gGmbH, Düsseldorf, Germany, ⁹ Praxis Dres. Gille/Baulmann, Rheinbach, Germany 3.02 The association between age and photoplethysmography pulse wave-form morphology: The first large-scale study using a commercially available wearable device Aleksi Rantanen ¹ , Heli Koskimäki ¹ , Pauli Ohukainen ¹ ¹ Oura Health, Oulu, Finland 3.03 Ultrasonic imaging of the origins of photoplethysmography waveforms in the lower wrist tissues Rytis Jurkonis ¹ , Mantas Rinkevičius ¹ , Vaidotas Marozas ¹ ¹ Biomedical Engineering Institute, Kaunas University of Technology, Kaunas, Lithuania 3.04 Unfavourable 24 hour hemodynamic changes with declining kidney function Kathrin Danninger ¹ , Thomas Weber ¹ , Sola Aoun Bahous ² , Siegfried Was-sertheurer ³ , Athanase Protogerou ⁴ , James E. Sharman ⁵ , Mohsen Agharazii ⁶ , Antonio Argyris ⁴ , Jose Ramon Banegas ⁷ , Jacques Blacher ⁸ , Cristina Giannat-tasio ⁹ , Eugenia Gkaliagkousi ¹⁰ , Chadia Haddad ² , Bernhard Hametner ³ , Piotr Jankowski ¹¹ , Kazuomi Kario ¹² , Yan Li ¹³ , Alessandro Maloberti ⁹ , Marco Antonia Mota Gomes ¹⁴ , Maria Lorenza Muiesan ¹⁵ , Janos Nemcsik ¹⁶ , Stefan Orter ³ , Jose Maria Pascual ¹⁷ , Sabine Perl ¹⁸ , Gary L. Pierce ¹⁹ , Daniel Piskorz ²⁰ , Giacomo Pucci ²¹ , Enrique Rodilla Sala ¹⁷ , Pascale Salameh ² , Alejandro de la Sierra ²² , George Ster-giou ²³ , Dimitrios Terentes-Printzios ²⁴ , Charalambos Vlachopoulos ²⁴ , Yi Zhang ²⁵ ¹ Department of Cardiology, Klinikum Wels-Grieskirchen, Linz, Austria, ² Le-banese American University School of Medicine, Beirut, Lebanon, ³ Center for Health & Bioresources, Biomedical systems, Austrian Institute of Technology, Vienna, Austria, ⁴ Cardiovascular Prevention & Research Unit, Department of Pathophysiology, Medical School, Laiko Hospital, National and Kapodistrian University of Athens, Athens, Greece, ⁵ Menzies Institute for Medical Research, College of Health and Medicine, University of Tasmania, Tasmania, Austria, ⁶ CHU de Quebec, Universite Laval, Quebec, Canada, ⁷ Universidad autonoma de Madrid, Departamento de medicina preventiva y salud publica, Ma-drid, Spain, ⁸ AP-HP Centre-Universite de Paris, Hopital Hotel-Dieu, Centre de diagnostic et de therapeutique, Paris, France, ⁹ Cardiology IV, 'A. De Gasperis' Department, ASTT Ospedale Niguarda Ca' Granda, School of Medicine and Surgery Department, Milano-Bicocca University, Milan, Italy, ¹⁰ 3rd Department of Internal Medicine, Aristotle University of Thessaloniki, Thessaloniki, Greece, ¹¹ 1st Department of Cardiology, Interventional Electrophysiology and Hyperten-sion, Jagiellonian University, Medical College, Krakow, Poland, ¹² Jichi Medical University School of Medicine, Japan, ¹³ Shanghai Institute of Hypertension, Shanghai Jiaotong University School of Medicine, Shanghai, China, ¹⁴ Centro	

Time	Title	Location
	<p>Universitario CESMAC, Alagoas, Brasil, ¹⁵Department of Clinical and Experimental Sciences, University of Brescia, Brescia, Italy, ¹⁶Semmelweis University, Department of Family Medicine, Budapest, Hungary, ¹⁷Department of Medicina Interna, Hospital de Sagunto, Universidad Cardenal Herrera-CEU, CEU Universities, Valencia, Spain, ¹⁸Cardiology Department, Medical University Graz, Graz, Austria, ¹⁹University of Iowa, Iowa, USA, ²⁰Cardiovascular Research Center, Rosario British Sanatorium, Argentina, ²¹Unit of Internal Medicine, Terni University Hospital, Department of Medicine, University of Perugia, Perugia, Italy, ²²Internal Medicine Department, Hospital Mutua Terrassa, University of Barcelona, Barcelona, Spain, ²³Hypertension Center STRIDE-7, National and Kapodistrian University of Athens, School of Medicine, Third Department of Medicine, Athens, Greece, ²⁴Hippokration Hospital, University of Athens, Athens, Greece, ²⁵Department of Cardiology, Shanghai Tenth People's Hospital, Tongji University School of Medicine, Shanghai, China</p> <p>3.05 Ultrasound-based pulse wave analysis for enhanced diagnosis of fetal growth restriction and aortic stiffness Fatma Alimahomed¹, Marietta Charakida, Mengxing Tang, Peter Charlton, Kirsten Christensen-Jeffries, Jordi Alastruey ¹King's College London, London, United Kingdom</p>	Forum
10.05-10.35	<p>Joint Session with ARTERY LATAM and North American ARTERY Chairs: Prof. Julio Chirinos and Prof. Luis María Pupi</p> <p>Ventricular vascular coupling response to maximal exercise in individuals with and without multiple sclerosis Dr Brooks Hibner, University of Illinois, USA</p> <p>A free software tool for assessing vascular mechanics in children using the oscillometric method Dr Barbara Wagmaister, Ciudad de Buenos Aires, Argentina</p>	
10.35-11.20	<p>Guided Exhibitor Viewing and Refreshments Chair: Dr Johannes Baulmann</p>	Restaurant & Marquee
11.20-11.40	<p>Invited Lecture: Morphological features in the photoplethysmogram and their relation to blood pressure Prof. Panicos Kyriacou, University of London, UK Chairs: Dr Elisabetta Bianchini and Dr Christopher Mayer</p>	Forum
11.40-13.00	<p>VascAgeNet Roundtable: Translational Science in Vascular Ageing Chairs: Dr. Elisabetta Bianchini, Dr. Christopher Mayer</p> <p>The view from basic science and research - animal models/modelling Dr Lynn Roth, University of Antwerp, Belgium</p> <p>The view on innovative (registry-based) clinical trials Prof. Pierre Boutouyrie, Inserm, France</p> <p>The view on regulation and digital tools Dr Vincenzo Gemignani, Italian National Research Council, Italy</p> <p>The view from industry Achim Schwarz, ALF Distribution GmbH, Germany</p>	
13.00-13.35	<p>Lunch and Exhibition Viewing</p>	Restaurant & Marquee
13.35-15.05	<p>Moderated Poster Session II and Networking Session Moderated Poster Session II: Metabolic Disorders Chairs: Prof. Kennedy Cruickshank and Dr Martin Bahls</p> <p>Moderated Poster Session II: Other Clinical Chairs: Prof. Christian Ott and Dr Janos Nemcsik</p> <p>Moderated Poster Session II: Insights from Computational Modelling Chairs: Prof. Patrick Segers and Dr Jordi Alastruey</p> <p>Kindly sponsored by</p> 	Forum

Time	Title	Location
15.05-16.25	<p>Career Development Lectures Chairs: Professor Pedro Cunha and Dr Bart Spronck</p> <p>The use of multi-omics in arterial research can offer valuable insights into mechanisms contributing to large-artery stiffness (LAS) and associated comorbidities. Dr Marie-Joe Dib, University of Pennsylvania, USA</p> <p>A new outlook on endothelial function - is retrograde flow the way forward? Dr Smriti Badhwar, Paris Cardiovascular Research Center, INSERM, France</p> <p>Measurement of blood pressure and stiffness of arteries by ultrasound. Dr Ana Belen Amado Rey, University of Freiburg, Germany</p> <p>Sympathetic regulation of vascular smooth help to explain the disassociation between pulse wave velocity and blood pressure. Dr Luca Faconti, King's College London, UK</p>	Forum
16.25-16.55	Posters and Exhibition viewing and Refreshments	Restaurant & Marquee
16.55-17.15	<p>Invited Lecture: Real time simulation of personalized cardiovascular models Dr Soroush Safaei, University of Auckland, Auckland, New Zealand Chairs: Dr Chloe Park and Dr Dimitrios Terentes-Printzios</p>	Forum
17.15-18.05	<p>Oral Session 4: Young Investigator Award: Basic Science Chairs: Dr Véronique Regnault and Prof. Eric Stöhr</p> <p>4.01 Mechanobiological adaptation after the Ross procedure: an ovine model Amber Hendrickx¹, Lucas Van Hoof¹, Peter Verbrugghe¹, Thibault Vervenne², Lauranne Maes², Peter-William Hellings², Nathan Dahmani¹, Mandy Grootaert³, Heleen Fehervary², Bart Meuris¹, Piet Claus⁴, Elizabeth Jones³, Nele Famaey², Filip Rega¹ ¹Department of Cardiac Surgery, KU Leuven, Leuven, Belgium, ²Biomechanics section, KU Leuven, Leuven, Belgium, ³Center of Molecular and Vascular Biology, KU Leuven, Leuven, Belgium, ⁴Cardiovascular Imaging, KU Leuven, Leuven, Belgium</p> <p>4.02 Investigating vascular ageing in C57Bl/6J mice: Impaired modulation of aortic stiffness by smooth muscle cells Koen van der Laan¹, Cedric Neutel², Margarita Pencheva^{1,3}, Callan Wesley², Dustin Kruger², Casper Schalkwijk³, Wim Martinet², Koen Reesink¹, Tammo Delhaas¹, Alessandro Giudici^{1,4}, Bart Spronck^{1,5}, Pieter-Jan Guns² ¹Department of Biomedical Engineering, CARIM School for Cardiovascular Diseases, Maastricht University, Maastricht, Netherlands, ²Laboratory of Pharmacology, University of Antwerp, Antwerp, Belgium, ³Department of Internal Medicine, CARIM School for Cardiovascular Diseases, Maastricht University, Maastricht, Netherlands, ⁴GROW School for Oncology and Reproduction, Maastricht University, Maastricht, Netherlands, ⁵Macquarie Medical School, Faculty of Medicine, Health and Human Sciences, Macquarie University, Sydney, Australia</p> <p>4.03 Angiotensin AT2 receptor stimulation modulates endothelial BMP-2 levels by the AT2R-PP2A-AMPK pathway Marta Sanz-Gómez¹, Francisco Javier Manzano-Lista¹, Silvia Roscales¹, Aurelio G Csàky¹, Elvira Bragado-García¹, María S. Fernández-Alfonso¹ ¹Instituto Pluridisciplinar, Universidad Complutense De Madrid, Madrid, Spain</p> <p>4.04 Promoting chronic kidney disease-induced vascular media calcification through intravenous iron administration Astrid Van den Branden¹, Britt Opdebeeck¹, Tom Van den Berghe¹, Anja Verhulst¹ ¹University of Antwerp - Laboratory of Pathophysiology, Wilrijk, Belgium</p> <p>4.05 How arterial stiffness and volume determine the range of pulse pressure: A physiological perspective. Rita Chamoun¹, Tammo Delhaas¹, Abraham Kroon¹, Koen Reesink¹ ¹Maastricht University Medical Center, Maastricht, The Netherlands</p>	Forum
18.05-19.05	ARTERY Annual Business Meeting	
19.30-23.30	<p>Awards Dinner Bundeskunsthalle Museum Marquee traditional Oktoberfest with live music supported by</p> 	Restaurant & Marquee

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Time	Title	Location
09.00	Registration	Foyer
09.15-09.35	Invited Lecture In Memory of Stanley Franklin: A Century of Pulse Wave Velocity Prof. Phil Chowienczyk, London, UK Chair: Dr Carmel McEniery, Cambridge University, UK	Forum
09.35-10.25	Oral Session 5: Basic Science and Methodology Chairs: Dr Carmel McEniery and Dr Koen Reesink	
	5.01 A tug-of-war between different mechanical testing techniques for arteries Alessandro Giudici ^{1,2} , Tammo Delhaas ¹ , Koen D. Reesink ¹ , Bart Spronck ^{1,3} ¹ Department of Biomedical Engineering, CARIM School for Cardiovascular Diseases, Maastricht University, Maastricht, The Netherlands, ² GROW School for Oncology and Reproduction, Maastricht University, Maastricht, The Netherlands, ³ Macquarie Medical School, Faculty of Medicine, Health and Human Sciences, Macquarie University, Sydney, Australia	
	5.02 Feasibility of laser doppler vibrometry to measure cardiac signals for heart-carotid pulse wave velocity estimation Simeon Beeckman ¹ , Smriti Badhwar ⁶ , Yanlu Li ^{3,4} , Soren Aasmul ⁵ , Rosa Maria Bruno ⁶ , Pierre Boutouyrie ⁶ , Nilesh Madhu ² , Patrick Segers ¹ ¹ Ghent University - BioMMedA / IBiTech, Ghent, Belgium, ² IDlab, Ghent University - imec, Ghent, Belgium, ³ Photonics Research Group, Ghent University-imec, Ghent, Belgium, ⁴ Center for Nano- and Biophotonics, Ghent, Belgium, ⁵ Medtronic Bakken Research Center, Maastricht, The Netherlands, ⁶ INSERM U970, Université Paris Cité, Paris, France	
	5.03 Exploring arterial health in extreme environments: Lessons from a 12-day Mars analog mission Audrey Derobertmasure ^{1,2,3} , Liamine Kafi ² , Hasan Obeid ¹ , Hoa Truong Ngoc ² , James Burk ⁴ , Aline Decadi ⁶ , Cécile Renaud ^{5,7} , Julien Villa-Massone ⁷ , Kris Davidson ⁴ , Erin Kennedy ⁷ , Rosa Maria Bruno ^{1,2,3} , Stéphanie Chhun ³ , Pierre Boutouyrie ^{1,2,3} ¹ INSERM U970 Team 7 - PARCC - Paris Cardiovascular Research Centre, Paris, France, ² Pharmacology Unit-Hôpital Européen Georges Pompidou - APHP, Paris, France, ³ Université Paris Cité, Paris, France, ⁴ Mars Society, Lakewood, USA, ⁵ UMONS - Université de Mons, Mons, Belgique, ⁶ ESA- European Space Agency, Paris, France, ⁷ ISU - International Space University, Strasbourg, France	
	5.04 Aortic pulse wave velocity, strain and distensibility by magnetic resonance imaging are linearly related to aortic wall stiffness Andrea Guala ¹ , Myriam Cilla ³ , Lydia Dux-Santoy ¹ , Miguel Martínez ³ , Aroa Ruiz-Munoz ¹ , Gisela Teixido-Tura ^{1,2} , Laura Galian-Gay ² , Juan Garrido-Oliver ¹ , Alberto Morales-Galan ¹ , Ignacio Ferreira González ^{1,2} , Estefania Peña ³ , Jose Rodriguez-Palomares ^{1,2} ¹ VHIR, Barcelona, Spain, ² Hospital Vall d'Hebron, Barcelona, Spain, ³ University of Zaragoza, Zaragoza, Spain	
	5.05 The effects of bariatric surgery on blood pressure management in type 2 diabetes: Insights from a ten-year follow up study Fahmida Mannan ¹ , Ryan Wiltshire ¹ , Parisa Ghaffari ² , Mowafak Alsbeni ² , Unaiza Waheed ² , Akheel Syed ^{2,3} , Martin Gibson ^{2,3} , Adrian Heald ^{2,3} ¹ Division of Cardiovascular Sciences, Faculty of Biology, Medicine and Health, Manchester University, Manchester, United Kingdom, ² Department of Endocrinology and Diabetes, Salford Royal Hospital, Salford, United Kingdom, ³ The School of Medicine and Manchester Academic Health Sciences Centre, Manchester University, Manchester, United Kingdom	

Time	Title	Location
10.25-11.05	ARTERY Research Exchange Grant Recipients Chairs: Dr Jordi Alastruey and Prof. Arno Schmidt-Trucksäss	Forum
	Quasistatic and dynamic biaxial testing of human arterial tissue: A transatlantic collaboration Cindy van Loo, Maastricht University, Netherlands	
	The MAASWERP study: An international, comparative case study on measuring aortic biomechanics in the murine aged aorta Cédric Neutel, University of Antwerp, Belgium	
	Artificial Intelligence for Estimating Cardiac Output from Arterial Waveforms: Chances and Challenges Dr Bernhard Hametner, Austrian Institute of Technology, Austria	
	Gaining insight into arterial growth and remodelling through mechanobiological modelling Shaiv Parikh, Maastricht University, Netherlands	
11.05-11.35	Posters and Exhibition Viewing and Refreshments	Restaurant & Marquee
11.35-11.50	ARTERY Lifetime Achievement Award Prof. J. Kennedy Cruickshank, London, UK Chair: Prof. Thomas Weber	Forum
11.50-12.50	Which steps have to be taken to redefine hypertension based on central blood pressure? Chairs: Dr Johannes Baulmann and Prof. Ian Wilkinson	
	Introduction: Hypertension should be redefined based on central blood pressure! Dr Johannes Baulmann, President DeGAG, Rheinbach, Germany	
	A 'classical hypertension specialist's' view Prof. Thomas Unger, Maastricht University, Netherlands	
	Methodological Issues Dr Siegfried Wassertheuer, Austrian Institute of Technology, Austria	
	Which studies should be performed? Prof. Athanase Protogerou, University of Athens, Greece	
12.50-13.20	McDonald Lecture Prof. Julio A. Chirinos, University of Pennsylvania, USA Chair: Prof. Thomas Weber	
13.20-13.35	Concluding remarks and close of meeting Dr Carmel McEniery, Dr Johannes Baulmann, Prof. Barry McDonnell, and Prof. Arno Schmidt-Trucksäss	
14.00-14.30	DeGAG Annual Business Meeting	

Posters

* All posters will be moderated

MODERATED POSTER SESSION I - METHODOLOGIES

P01 Exploring arterial microstructure across species using advanced image processing and analysis of contrast-enhanced microCT data

Maïté Pétré^{1,2,3}, Isabelle Gennart¹, Lisa Leyssens^{1,2}, Grzegorz Pyka¹, Heleen Fehervary^{3,6}, Nele Famaey^{3,6}, Greet Kerckhofs^{1,2,4,5}

¹Institute of Mechanics, Materials and Civil Engineering (iMMC), Louvain-la-neuve, Belgium, ²Institut de recherche expérimentale et clinique (IREC), Louvain-la-neuve, Belgium, ³Dpt. Mechanical Engineering, Leuven, Belgium, ⁴Dpt. Materials Engineering, Leuven, Belgium, ⁵Prometheus, Division of Skeletal Tissue Engineering, Leuven, Belgium, ⁶FIBEr, Leuven, Belgium

P02 A proof-of-concept of an imageless ultrasound system to assess arterial diameter and wall thickness.

Ana Belen Amado Rey^{1,2}, David Budde^{1,2}, Ana Carolina Gonçalves Seabra^{1,2,3}, Vitoria Castro⁴, Thomas Stieglitz^{1,2,3,5}

¹Laboratory for Biomedical Microtechnology. Department of Microsystems Engineering (IMTEK), University of Freiburg, Freiburg, Germany, ²IMBIT//NeuroProbes, University of Freiburg, Freiburg, Germany, ³BrainLinks-BrainTools Center, University of Freiburg, Freiburg, Germany, ⁴Universidade Federal de Viçosa (UFV), Viçosa, Brazil, ⁵Bernstein Center Freiburg, University of Freiburg, Freiburg im Breisgau, Germany

P03 Developing a novel method for measuring 'heart-to-carotid' pulse wave velocity

Smriti Badhwar¹, Simeon Beekman³, Umit Gencer^{1,2}, Hakim Khettab², Hoa Ngoc Truong², Gilles Soulat^{1,2}, Pierre Boutouyrie^{1,2}, Ellie Mousseaux^{1,2}, Patrick Segers³, Rosa Maria Bruno^{1,2}

¹Université de Paris, PARCC, INSERM, Paris, France, ²Assistance Publique Hôpitaux de Paris, Hôpital Européen Georges Pompidou, Paris, France, ³Ghent University - BioMMedA / IBiTech, Ghent Oost-vlaanderen, Ghent, Belgium

P04 Triboelectric nanogenerator force sensor development for pulse wave analysis

Ran Yan¹, Anirudh Pradyumn Srinivasan¹, Rachel Clough¹, Gerald Carr-White¹, Kawal Rhode¹, Jordi Alastruey¹

¹King's College London, London, United Kingdom

P05 A free software tool for assessing vascular mechanics in children using the oscillometric method

Claudio MOROS¹, Luis María Pupi², **Bárbara Wagmaister**¹, Daniela Pastaro¹, Ángela Sardella¹

¹Gutierrez Children's Hospital, Ciudad de Buenos Aires, Argentina, ²Artery LATAM, Buenos Aires, Argentina

P06 Measuring Carotid-Femoral Pulse-Wave Velocity with Real-Time Laser-Doppler Vibrometry

Simeon Beeckman¹, Smriti Badhwar⁶, Rosa Maria Bruno⁶, Yanlu Li^{3,4}, Soren Aasmul⁵, Nilesh Madhu², Patrick Segers¹

¹Ghent University - BioMMedA / IBiTech, Ghent, Belgium, ²IDlab, Ghent University - imec, Ghent, Belgium, ³Photonics Research Group, Ghent University-imec, Ghent, Belgium, ⁴Center for Nano- and Biophotonics, Ghent, Belgium, ⁵Medtronic Bakken Research Center, Maastricht, The Netherlands, ⁶INSERM U970, Université Paris Cité, Paris, France

P07 Two-photon microscopy for imaging of RBCs aging and antiaging compound testing

Gohar Tsakanova¹, Violetta Ayvazyan, Stepan Tatikyan, Arsham Yeremyan, Emmi Avagyan, Kristine Harutyunyan, Lianna Mnatsakanyan, Maksim Sargsyan, Maria Ghazaryan, Mikayel Karapetyan, Ani Hovakimyan, Elina Arakelova

¹ Institute of Molecular Biology NAS RA; ² CANDLE Synchrotron Research Institute, Yerevan, Armenia

MODERATED POSTER SESSION I - VASCULAR AGING

P10 Preliminary results of a VascAgeNet survey: knowledge and perceptions of the regulatory framework applied to medical devices for vascular ageing evaluation

Maria Raffaella Martina¹, Chloe Park², Rosa Maria Bruno³, Rachel Climie⁴, Soner Dogan⁵, Bilge Guvenc Tuna⁶, Marjan Manouchehri⁷, Andrie G. Panayiotou⁸, Dimitrios Terentes-Printzios⁹, Marisa Testa¹⁰, Areti Triantafyllou¹¹, Christopher C. Mayer¹², Elisabetta Bianchini¹

¹Institute Of Clinical Physiology - Italian National Research Council (cnr-ifc), Pisa, Italy, ²University College London (UCL), London, United Kingdom, ³Université Paris Cité, Inserm, PARCC, F-75015, Paris, France, ⁴Menzies Institute for Medical Research, University of Tasmania, Hobart, Australia, ⁵Yeditepe University, School of Medicine, Department of Medical Biology, , Turkiye, ⁶Yeditepe University, School of Medicine, Department of Biophysics, , Turkiye, ⁷University of Complutense; School of Pharmacy; Department of Pharmacology, Pharmacognosy and Botany, Madrid, Spain, ⁸School of Health Sciences, Cyprus University of Technology, Limassol, Cyprus, ⁹First Department of Cardiology, National and Kapodistrian University of Athens, Medical School, Hippokration Hospital, Athens, Greece, ¹⁰Thema srl, Imola, Italy, ¹¹Aristotle University of Thessaloniki, Thessaloniki, Greece, ¹²AIT Austrian Institute of Technology GmbH, Center for Health & Bioresources, Medical Signal Analysis, Vienna, Austria

P11 Shorter sleep duration is associated with increased aortic stiffness in older women and younger men from the general population

Madeleine Johansson¹, Peter Nilsson¹

¹Lund University, Malmo, Sweden

P12 Decoding the effect of social gradient and area indicators on arterial health: Preliminary data from the DEpICT Study

Galatia Photiou¹, Nicos Middleton², Demosthenis B. Panagiotakos³, Andrie G. Panayiotou¹

¹Cyprus International Institute for Environmental and Public Health, School of Health Sciences, Cyprus University of Technology, Limassol, Cyprus, Paphos, Cyprus, ²Department of Nursing, Cyprus University of Technology, Limassol, Cyprus, Limassol, Cyprus, ³Department of Nutrition and Dietetics, Harokopio University, Athens, Greece, Athens, Greece

P13 Supervised home-based high intensity interval training on an all-extremity non-weight-bearing ergometer improves wave reflection in healthy older adults

Demetra Christou¹, Stephanie Lapiere-Nguyen¹, Jin-Su Kim¹, Chatchamarn Soonhuae¹, Eléonor Riesco², Yasemin Sakarya¹, Eileen Handberg¹, Dana Leach¹, Wilmer Nichols¹

¹University of Florida, Gainesville, United States, ²University of Sherbrooke, Sherbrooke, Canada

P14 Acute Effects of Exercise Modes on Arterial Stiffness and Cardiac Autonomic Function in Healthy Young and Middle-Aged Adults

Adma Lopes^{1,2}, Raquel Coelho^{1,2}, Bruno Simão^{1,2}, Isabel Oliveira^{1,3}, João Marôco⁴, Sérgio Laranjo^{5,6}, Helena Santa-Clara^{1,2}, Xavier Melo⁷

¹.Ginásio Clube Português, Research & Development Department, GCP Lab, Lisboa, Portugal, ².Centro Interdisciplinar de Estudo da Performance Humana, Faculdade de Motricidade Humana - Universidade de Lisboa, Oeiras, Portugal, Lisbon, Oeiras, Portugal, ².Ginásio Clube Português, Research & Development Department, GCP Lab, Lisboa, Portugal ².Centro Interdisciplinar de Estudo da Performance Humana, Faculdade de Motricidade Humana - Universidade de Lisboa, Oeiras, Portugal, Lisbon, Oeiras, Portugal, ³.Ginásio Clube Português, Research & Development Department, GCP Lab, Lisboa, Portugal ².Centro Interdisciplinar de Estudo da Performance Humana, Faculdade de Motricidade Humana - Universidade de Lisboa, Oeiras, Portugal, Lisbon, Oeiras, Portugal, ⁴.Ginásio Clube Português, Research & Development Department, GCP Lab, Lisboa, Portugal, ³.Faculdade de Ciências da Saúde e do Desporto, Universidade Europeia, Lisboa, Portugal, Lisbon, Portugal, ⁵.4.Exercise and Health Sciences Department, University of Massachusetts Boston, Boston, Massachusetts, United States, Boston, Massachusetts, United States, ⁶.5.Department of Physiology, NOVA Medical School|Faculdade de Ciências Médicas da Universidade Nova de Lisboa, Lisboa, Portugal, ².Comprehensive Health Research Center, Universidade NOVA de Lisboa, Lisboa, Portugal, Lisbon, Portugal, ⁷.Ginásio Clube Português, Research & Development Department, GCP Lab, Lisboa, Portugal ².Centro Interdisciplinar de Estudo da Performance Humana, Faculdade de Motricidade Humana - Universidade de Lisboa,

Oeiras, Portugal, Lisbon, Oeiras, Portugal, ⁸⁷Centro de Investigação Interdisciplinar Egas Moniz (CiiEM), Egas Moniz School of Health and Science, Caparica, 2829-511 Almada, Portugal., Almada, Portugal

P15 Evaluation of the Age-Dependence of Conventional and Novel Photoplethysmography Parameters for the Identification of New Cardiovascular Aging Indicators

Flóra Antali¹, Dániel Kulin¹, Sándor Kulin², Zsuzsanna Miklós³

¹Semmelweis University, Institute Of Translational Medicine, Budapest, Hungary, ²E-Med4All Europe Ltd., Budapest, Hungary, ³National Korányi Institute for Pulmonology, Budapest, Hungary

P16 Differences between SCORE and Framingham Risk Score-based vascular age calculation methods based on data from the Three Generations Health Program in Hungary

János Nemcsik¹, Helga Gyöngyösi¹, Gergő József Szöllősi^{2,3}, Orsolya Csenteri², Zoltán Jancsó², Csaba Móczár¹, Péter Torzsa¹, Péter Andréka², Péter Vajér²

¹Semmelweis University, Department Of Family Medicine, Budapest, Hungary, ²Gottsegen National Cardiovascular Center, Budapest, Hungary, ³Department of Health Informatics, Faculty of Health Sciences, University of Debrecen, Debrecen, Hungary

MODERATED POSTER SESSION I - HYPERTENSION AND RENAL DISEASE

P19 Maximal exercise testing unmasks exaggerated systolic blood pressure response independent from reduced fibrinolytic response in black but not white postmenopausal females

João Marôco¹, Linda Szymanski², Tracy Baynard¹, Bo Fernhall¹

¹Integrative Human Physiology Laboratory, Manning College of Nursing & Health Sciences, University of Massachusetts Boston, Boston, MA, USA, Boston, United States, ²Division of Maternal Fetal Medicine, Department of Obstetrics and Gynecology, Mayo Clinic College of Medicine, Rochester, Minnesota, USA, Rochester, United States

P20 Association between affective temperaments and short-term blood pressure variability

Helga Gyöngyösi¹, Beáta Kőrösi¹, Dóra Batta¹, Xénia Gonda², Zoltán Rihmer², Zsófia Nemcsik-Bencze³, Andrea László⁴, János Nemcsik¹

¹Semmelweis University, Department of Family Medicine, Budapest, Hungary, ²Semmelweis University, Department of Psychiatry and Psychotherapy, Budapest, Hungary, ³Semmelweis University, Department of Neuroradiology, Medical Imaging Centre, Budapest, Hungary, ⁴GP practice Jula/Schindler, Nuremberg, Germany

P21 Causal associations between pulse pressure and target organ damage: a Mendelian randomization study

Marie-joe Dib¹, Loukas Zagkos², Devendra Meena², Joe David Azzo¹, Oday Salman¹, Sushrima Gan¹, Seavmeiyin Kun¹, Bianca Pourmussa¹, Ioanna Tzoulaki², Dipender Gill², Stephen Burgess^{3,4}, Julio Chirinos¹

¹University of Pennsylvania Perelman School of Medicine, Philadelphia, United States, ²Department of Epidemiology and Biostatistics, School of Public Health, Imperial College London, London, United Kingdom, ³MRC Integrative Epidemiology Unit, University of Bristol, Bristol, United Kingdom, ⁴Department of Public Health and Primary Care, University of Cambridge, Cambridge, United Kingdom

P22 Kidney function in subclinical atherosclerosis: the Malmö Diet Cancer study.

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P23 Microvascular endothelial function is not associated with albuminuria in metabolic syndrome

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P24 Impact of postural change on arterial stiffness measurements in hemodialysis patients and its potential as a vascular stress test

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P25 Characterization of Hypercoagulability in Pulmonary Hypertensive Patients

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MODERATED POSTER SESSION I – VASCULAR BIOLOGY AND PATHOPHYSIOLOGY

P26 Association between Intima-Media Thickness (IMT) measured by echotracking with cholesterol in naïve hypertensive patients

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P27 Vascular smooth muscle cells undergo a phagocytic phenotype upon platelet engulfment

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P28 Integrin α v contributes to the regulation of vascular smooth muscle cell stiffness

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P29 Vascular damage in early chronic kidney disease is not related to periaortic adipose tissue dysfunction

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P30 Inter-individual variability in carotid artery intima-media thickness with short-term Western-diet consumption in healthy adults: relation to intestinal enzymes and the gut microbiome

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P31 Substrate stiffness reduces expression and activation of endothelial nitric oxide synthase (eNOS) and related eNOS signalling molecules in human endothelial cells

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MODERATED POSTER SESSION I – SPECIAL INTEREST

P32 100 years since the Nobel Prize award to AV Hill (if not Bramwell) and Otto Meyerhof

J Baulmann, **J. Kennedy Cruickshank**

MODERATED POSTER SESSION 2 – METABOLIC DISORDERS

P35 Causal associations between aortic arterial stiffness, aortic size, and type 2 diabetes: a Mendelian randomization study

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P36 Correlation between Metabolic-Associated Fatty Liver Disease and cardiovascular pathology: Insights from arterial stiffness, cardiac dysfunction and atherosclerosis

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P37 Cardio-ankle vascular index impact for predicting cardiovascular deaths among metabolic syndrome subjects

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P38 Pulse wave velocity and electrolyte levels of diabetic patients: correlation study

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P39 Correlation between arterial stiffness and creatinine clearance: study among patients with diabetes mellitus

Mariana Mendes¹ Lucélia C. Magalhães, Amália I. C. Santana, Mariana Mendes, Daniele Brustolim, Monique Cerqueira, Magno Mercês, Rodrigo Lima, Rita Alves, Cecília Araújo, Salvador, Brazil

P40 Correlation of serum and urinary electrolyte levels of diabetic patients

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P41 The effect of endurance exercise on arterial blood pressure in trained type 1 diabetic patients compared to healthy controls

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P42 A novel marine oil from zooplankton *Calanus finmarchicus* improves diastolic haemodynamics in obese pre-diabetic women

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P43 A longitudinal clinical trajectory analysis examining the accumulation of co-morbidity in people with type 2 diabetes (T2D) compared with non-T2D individuals

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MODERATED POSTER SESSION II - OTHER CLINICAL

P46 Investigating macrovascular wall thickness of the forearm in systemic sclerosis

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P47 Blood pressure abnormalities in otherwise healthy patients receiving stiff endographs after blunt traumatic aortic rupture

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P48 Arterial pulse waves and the impact of aortic valve stenosis: a database and assessment of haemodynamics and pulse waves for the monitoring and quantification of the disease.

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P49 Both the mechanical and the neural components of baroreflex sensitivity are decreased in patients with early stage of schizophrenia

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P50 The impact of SARS-CoV-2 on heart rate variability and baroreflex sensitivity

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P51 Long-term Effect of Mild COVID-19 Infection on Arterial Stiffness and Augmentation Index

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P52 Impaired arterial vasoconstriction during experimental sympathetic activation in men with abdominal aortic aneurysm

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P53 Characterising the endothelial response post Transient Ischaemic Attack (TIA). An observational sub study of PREDICT-EV.

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P54 Peripheral blood pressure, pulse wave velocity and cognition – a longitudinal study (CEREBRO Project)

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MODERATED POSTER SESSION II - INSIGHTS FROM COMPUTATIONAL MODELLING

P57 Influence of dynamic axial stretching on the biomechanical characteristics of the ascending aorta

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P58 Blood pressure estimation through pulse waves: an in silico study on age groups

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P59 Bayesian inversion of a one-dimensional vascular model reveals heterogeneous cardiovascular changes in sepsis

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P60 Haemodynamic effects of endovascular repair of abdominal aortic aneurysms: an in vitro study.

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P61 Comparison of automated peripheral photoplethysmographic and echocardiographic measurements to assess the usability of pulse wave analysis in the evaluation of central hemodynamics

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P62 Investigating the Impact of Aortic Valve Stenosis on Pulse Wave Morphology Using Simulated Waveforms

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P63 Assessment of arteries stiffness, hemodynamics, and wave reflection in upper and lower limbs amputees: an in-silico study

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P64 Optimization of the Fit Parameters for the Constitutive Model of Remodeling Arteries of Mice from Older to Elder

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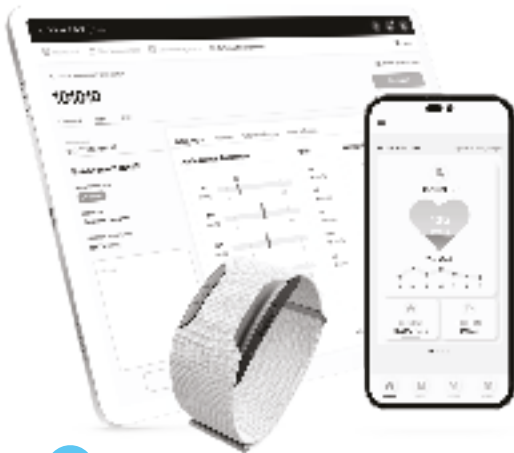
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