

A R T E R Y

Association for Research into
Arterial Structure and Physiology



ARTERY 21

Final Programme & Book of Abstracts

21-23 October 2021
In person and virtual,
Hôpital Européen
Georges-Pompidou
Paris, France



JOIN ARTERY NOW

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?

ARTERY members form a vast community of researchers, benefiting from collaborative projects, student exchanges and other networking opportunities.

Benefits include:

- Reduced registration for the ARTERY Annual Conference
- Access to ARTERY Research Journal
- Opportunity to apply for awards, grants and bursaries
- Opportunity to join the Young InvestigatorNetwork

Find out more about the activities of our society on our website: www.arterysociety.org

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Contents

| | |
|--|----|
| Join us! | 2 |
| Welcome..... | 4 |
| Instructions on how to Join the Virtual Conference | 5 |
| Useful addresses for the in-person Conference | 5 |
| Hôpital Européen Georges Pompidou | 5 |
| Functions..... | 5 |
| Conference Dinner - Friday 22nd October | 5 |
| Walking Tour of Paris - Saturday 23rd October | 5 |
| Artery 21 Scientific Committee | 6 |
| Programme | 7 |
| Oral Presentations..... | 10 |
| Poster Presentations | 16 |
| Author Index | 29 |
| Artery 22 | 34 |

Welcome

Dear Colleague,

2021 has once again been an exceptional and extremely challenging year for health professionals around the world. The Artery community is no exception; our international, professionally diverse network of members are working on the front line every day; developing new approaches and techniques to treat their patients.

In this challenging environment, we are very grateful for the continued support from members and colleagues across the world. We are very pleased to welcome colleagues from sister societies in North America (North American Artery), Latin America (LATAM Artery), Asia (Pulse of Asia) and Australia as well as our European network. By working together, we can continue to shape a better future for promoting the advancement of knowledge and dissemination of information concerning all aspects of arterial structure and function through the delivery of a dynamic, interactive, and inclusive conference.

We received a large number of high-quality abstracts for this year's hybrid meeting, and we are grateful to all our presenters and invited speakers who have agreed to commit their time to provide an engaging and meaningful experience for everyone. Please take time to attend the poster sessions, read the abstracts, give constructive feedback and chat online with the presenters during the conference.

Our goal is that this year's hybrid conference will continue to provide the valuable opportunities to develop and maintain professional networks, present new science and research and develop new partnerships. You can help us to achieve this with your full participation in the conference whether virtually or in person, by joining all the sessions on Thursday afternoon, Friday, and Saturday morning. Submit your questions on-line, get involved in the discussions on social media and join us on Saturday afternoon for a guided walk around Paris if you are able to!

The presentations will be available online on the Artery website after the conference to support continued discussion, encourage research and exchange of ideas.

We are very grateful to Servier, who have continued their support of the Society and through their generosity, the Artery leadership has been able to support the cost of attendance.

We look forward to welcoming everyone to Artery 2021 whether you are joining virtually or in person – we hope that you enjoy the experience!



Professor Pierre Boutouyrie
President, Artery

Instructions on how to Join the Virtual Conference

To sign into the event on the day, please [click here](#) and enter the email address that you used to register for the Conference. Once you have done this, follow the instructions to activate your account. For further instructions on how to make the most of the system and for a short video, please [click here](#).

Useful addresses for the in-person Conference

Hôpital Européen Georges Pompidou AP-HP, 20 Rue Leblanc, 75015 Paris, France

Closest stations :

RER : Pont du Garigliano - Hôpital Européen Georges Pompidou

Metro : Lourmel

Functions

Conference Dinner - Friday 22nd October

Please speak to a member of the team on the registration desk if you would like to purchase additional dinner tickets at €70.00 per person.

DINNER VENUE:

Au Pied de Cochon, 6 Rue Coquillière, 75001 Paris, France

CLOSEST STATIONS:

RER : Les Halles

Metro : Châtelet–Les Halles

Walking Tour of Paris - Saturday 23rd October

You are invited to join us for a 2-hour walking tour of Paris on Saturday 23rd October at 14.30. The cost for joining the walking tour is €10.00 per person and places must be pre-booked. If you wish to participate, please speak to a member of the team on the registration desk.

Artery 21 Scientific Committee

ARTERY EXECUTIVE COMMITTEE

| | | | |
|---|--|-----------|---------------|
| President: | Professor Pierre Boutouyrie | Paris | France |
| Vice-President: | Professor Thomas Weber | Wells | Austria |
| Secretary: | Professor Chakravarthi Rajkumar | Brighton | UK |
| Treasurer: | Professor Alun Hughes | London | UK |
| Ordinary Members: | Professor Pedro Cunha | Guimarães | Portugal |
| | Dr Rosa Maria Bruno | Paris | France |
| | Dr Tine Willum Hansen | Gentofte | Denmark |
| | Dr Bart Spronck | New Haven | United States |
| | Dr Bernhard Hametner | Vienna | Austria |
| Chair of Young Investigator Committee: | | | |
| Chair of Council: | Dr Dimitrios Terentes-Printzios | Athens | Greece |
| Digital Editor: | Dr Chloe Park | London | UK |

ARTERY ADVISORY BOARD

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Professor Charalambos Vlachopoulos, Athens, Greece
Professor Kennedy Cruickshank, London, UK

ARTERY COUNCIL MEMBERS

The Artery members listed below join the Executive Committee members to form the full Council.

| | |
|---------------------------------|--|
| Chair of Artery Council: | Dr Dimitrios Terentes-Printzios , Greece |
| Council Members: | Professor Stéphane Laurent , France |
| | Dr Gary Mitchell , USA |
| | Dr Koen Reesink , The Netherlands |
| | Professor Patrick Segers , Belgium |
| | Professor James Sharman , Australia |
| | Professor Siegfried Wassertheurer , Austria |
| | Professor Ian Wilkinson , UK |
| | Professor Reuven Zimlichman , Israel |

SECRETARIAT

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Artery Society: www.arterysociety.org



Programme

PLEASE NOTE THAT ALL TIMES ARE CET

| Times in CET | THURSDAY 21 OCTOBER 2021 |
|--------------|--|
| 15.30-16.00 | Virtual Poster Viewing |
| 16.00 | Welcome Address Professor Pierre Boutouyrie, Artery President |
| 16.15-17.25 | Oral Session 1 Co-Chairs: Professor Alun Hughes, Dr Bart Spronck, Véronique Regnault |
| 1.1 | Central pulse pressure in adolescence is more strongly associated with future cardiovascular health than peripheral pulse pressure Dr Chloe Park , UCL |
| 1.2 | New carotid stiffness population centiles in the young and association with measures of general and abdominal obesity Mrs Julia Büschges , Robert Koch-institute |
| 1.3 | Does sex and calibration influence cardiovascular risk prediction from central systolic blood pressure? Florence Lamarche , Hôpital de Sacré-Cœur de Montréal |
| | Discussion |
| 1.4 | Ethnic variations in body composition may help to explain differences in arterial stiffness: a UK cross-sectional study in hypertension Dr Luca Faconti , King's College London |
| 1.5 | Central-to-peripheral pulse amplification and stiffness gradient determine diastolic wave: Mediation by triphasic flow fluctuation Professor Junichiro Hashimoto , Miyagi University of Education Medical Center |
| 1.6 | Differences in systolic-diastolic distensibility indicate carotid wall viscosity in healthy controls, patients with hypertension and type 2 diabetes Dr Alessandro Giudici , Maastricht University |
| 1.7 | Acute effect of heat-not-burn versus standard cigarette smoking on arterial stiffness and wave reflections in young smokers Mrs Eleni Emmanouil |
| | Discussion |
| 17.25-17.45 | Invited Lecture: <i>Genetics, molecular mechanisms of rare vascular diseases, relations to arterial function</i> Professor Xavier Jeunemaitre , Hôpital Européen Georges Pompidou, Paris Co-Chairs: Professor Pierre Boutouyrie and Professor Thomas Weber |
| 17.45 | Interactive virtual poster viewing |

| Times in CET | FRIDAY 22 OCTOBER 2021 |
|--------------|--|
| 08.30-09.00 | Virtual poster viewing |
| 09.00-09.50 | Oral Session 2 Co-Chairs : Dr Chloe Park, Dr Dimitrios Terentes-Printzios, Dr Christopher Mayer |
| 2.1 | Prediction of long-term outcomes by arterial stiffness and pressure wave reflections in patients with acute stroke: the Athens Stroke Registry Mrs Stamatia Samara , Laiko General Hospital |
| 2.2 | Respective roles of hemodynamic conditions and inflammatory status in the degradation of endothelial glycocalyx in adults. Dr Jeremy Lagrange , INSERM |
| 2.3 | Apha1A-adrenoceptor-induced increased calcium influx and prostanoids unbalance promote carotid artery dysfunction in senescence-accelerated (SAMP8) female mice Dr Tiago Costa , University of Sao Paulo |
| 2.4 | Vascular Ageing Glossary: unifying language for knowledge diffusion Dr Elisabetta Bianchini , Institute of Clinical Physiology, CNR |
| 2.5 | Acute and long-term effects of aortic banding on central hemodynamics Professor Nikolaos Stergiopoulos |

| | |
|-------------|---|
| 09.50-10.20 | Break and Interactive virtual poster viewing |
| 10.20-12.00 | Young Investigator Awards Co-Chairs: Dr Johannes Baulmann, Dr Carmel McEniery, Professor Patrick Segers |
| 3.1 | The aortic-femoral arterial stiffness gradient is blood pressure independent in older adults: an atherosclerosis risk in communities (ARIC) study Miss Jillian Poles , University of North Carolina at Chapel Hill |
| 3.2 | Arterial stiffness is associated with impaired orthostatic diastolic blood pressure reaction and increased central blood pressure: A prospective population-based study Dr Madeleine Johansson , Lund University |
| 3.3 | The effect of mRNA vaccine against COVID-19 on endothelial function and arterial stiffness Dr Dimitrios Terentes-Printzios , First Department of Cardiology, Hippokration Hospital, Athens |
| | Medical |
| | Discussion |
| 3.4 | Early vascular ageing in patients with hypoparathyroidism Dr Saverio Fabbri , University of Paris |
| 3.5 | Associations of lower limb atherosclerosis and arteriosclerosis with cardiovascular risk factors and disease in older adults: the ARIC study Mrs Patricia Pagan Lassalle , The University of North Carolina at Chapel Hill |
| 3.6 | Developing a questionnaire on the knowledge and perceptions of people working with vascular ageing Ms Stavria Artemis , Cyprus University of Technology |
| | Discussion |
| 3.7 | The VaSera heart-to-ankle pulse wave velocity is a nearly diastolic wave speed metric Mr Alessandro Giudici , Maastricht University |
| 3.8 | Antithrombotic therapy in secondary and tertiary prevention for peripheral arterial disease: a network meta-analysis. Dr Loes Willems , Radboudumc |
| 3.9 | Superior effect of community-based high-intensity interval exercise for reducing blood pressure and arterial stiffness in low-income older women Mrs Vanessa Amaral , Unesp |
| 3.10 | Evaluation of hemodynamic and vascular responses after a continuous exercise session of moderate intensity and high intensity intervals in individuals with normal and high normal blood pressure. Miss Sara Rodrigues , Incor-fm-usp |
| 12.00-12.45 | ARTERY Annual Business Meeting |
| 12.45-13.45 | Lunch and Virtual poster viewing |
| 13.45-15.15 | Symposium: COVID and arterial ageing Co-Chairs: Professor Pierre Boutouyrie, Professor Thomas Weber, Professor Alun Hughes |
| 4.1 | SARS-CoV-2, ACE2 and endothelial signalling –implications in vascular inflammation Professor Rhian Touyz , McGill University, Canada |
| 4.2 | COVID19 vaccination-induced thrombosis Professor Dr Sabine Eichinger |
| 4.3 | Endothelial dysfunction, thrombosis and vascular properties Dr Véronique Regnault , INSERM |
| 4.4 | Long-term cardiovascular consequences of COVID-19: the CARTESIAN study Dr Rosa Maria Bruno , INSERM |
| 15.15-15.45 | Break and Interactive virtual poster viewing |
| 15.45-16.45 | YI Network Session Co-Chairs: Dr Bernhard Hametner, Dr Dimitrios Terentes-Printzios and Alessandro Guidici |
| 5.1 | COST Action VascAgeNet Dr Elisabetta Bianchini , Institute of Clinical Physiology, CNR |
| 5.2 | Dr Noemi Kiss , Österreichischen Gesundheitskasse |
| 5.3 | COST Action VascAgeNet Dr Andrie Panayiotou , Cyprus University of Technology |
| 5.4 | Dr Richard Varadappa , Academy of Oral Implantology |
| 16.45-17.15 | YI Network Business meeting Chair: Dr Bernhard Hametner |
| 17.15-17.30 | Comfort Break |

| | |
|--------------------|---|
| 17.30-19.00 | Late Breaking News Co-Chairs: Professor Kennedy Cruickshank and Professor Luc van Bortel |
| 6.1 | A new individual patient-data based meta-analysis on the predictive value of cfPWV Ms Holly Pavey , Cambridge |
| 6.2 | The Value of cfPWV for patients: publication bias and guidelines Professor Ian Wilkinson , Cambridge |
| 6.3 | SPARTE Study Results Professor Stéphane Laurent |
| 6.4 | Perspective for clinical routine & upcoming guidelines Professor Thomas Kahan , Karolinska Institutet |
| 6.5 | ARTERY Society recommendations for the use of pulse wave velocity in clinical routine Professor Athanase Protogerou, Professor Charalambos Vlachopoulos, Professor Thomas Weber |
| | Discussion |
| 19.00 | Close |
| 20.00 | Conference Dinner |

| Times in CET | SATURDAY 23 OCTOBER 2021 |
|--------------------|---|
| 08.30-09.00 | Virtual Poster Viewing |
| 09.00-10.00 | Debate: Is pulsatility essential for life? CON: Dr William Cornwell , CU Anschutz PRO: Dr Barry McDonnell Moderator: Professor Christian Latrémouille , Hôpital Européen Georges-Pompidou, Paris |
| 10.00-11.00 | Oral Session 3 Co-Chairs: Professor Chakravarthi Rajkumar, Dr Tine Hansen, János Nemcsik |
| 7.1 | Pulse Wave Velocity for 24-hour Ambulatory Blood Pressure Monitoring Fabian Beutel MSc , imec |
| 7.2 | Intra-Operative Video-Based Measurement of Biaxial Strains of the Ascending Thoracic Aorta Shaiv Parikh Msc , Maastricht University |
| 7.3 | On the estimation of arterial compliance from carotid pressure waveform Ms Vasiliki Bikia , École Polytechnique Fédérale De Lausanne |
| | Discussion |
| 7.4 | Assessing radiotherapy-induced carotid vasculopathy using ultrasound after unilateral irradiation Ms Judith Pruijssen , Radboud University Medical Center |
| 7.5 | Sublingual nitroglycerine ingestion is associated with an increase rather than decrease in brachial-artery retrograde blood flow in healthy human subjects Dr Smriti Badhwar , All India Institute Of Medical Sciences, New Delhi |
| | Discussion |
| 11.00-11.30 | Break and Virtual poster viewing |
| 11.30-12.00 | McDonald Lecture Dr Carmel McEniery , Churchill College, Cambridge. Co-Chairs: Professor Pierre Boutouyrie and Professor Thomas Weber |
| 12:0-12.20 | Lifetime Achievement Award Dr Gary Mitchell , Cardiovascular Engineering, Inc. Co-Chairs: Professor Pierre Boutouyrie and Professor Thomas Weber |
| 12:20-12.40 | Young Investigator Awards, Poster Awards, Oral awards and Research Exchange Grants Professor Pierre Boutouyrie and Professor Thomas Weber Dr Alessandro Giudici and Dr Bernhard Hametner |
| 12:40-13.00 | Artery 2022 Professor Patrick Lacolley , INSERM Concluding remarks Professor Pierre Boutouyrie, Professor Thomas Weber and Patrick Lacolley |
| 13.00 | Lunch |

Oral Presentations

1.1

Central pulse pressure in adolescence is more strongly associated with future cardiovascular health than peripheral pulse pressure

Dr Chloe Park¹, Dr Siana Jones¹, Dr Hannah Taylor¹, Dr Laura Howe², Professor Abigail Fraser², Professor Nish Chaturvedi¹, Professor Alun Hughes¹

¹UCL, London, United Kingdom, ²Univeristy of Bristol, Bristol, United Kingdom

1.2

New carotid stiffness population centiles in the young and association with measures of general and abdominal obesity

Mrs. Julia Charlotte Büschges^{1,2}, Angelika Schaffrath Rosario¹, Dr. Giselle Sarganas^{1,2}, Dr. Anja Schienkiewitz¹, Dr. Karsten Königstein³, Dr. Arno Schmidt-Trucksäss³, Dr. Hannelore Neuhauser^{1,2}

¹Department of Epidemiology and Health Monitoring, Robert Koch-Institute, Germany, ²DZHK (German Centre for Cardiovascular Research), Germany, ³Department of Sport, Exercise and Health, Division Sports and Exercise Medicine, University of Basel, Basel, Siwtzerland

1.3

Does sex and calibration influence cardiovascular risk prediction from central systolic blood pressure?

Dr Florence Lamarche¹, Dr Mohsen Agharazii³, Dr Siegfried Wassertheurer⁴, Dr Bernhard Hametner⁴, Dr Annie-Claire Nadeau-Fredette², Dr François Madore¹, Dr Remi Goupil¹

¹Hopital de Sacré-coeur de Montréal, Montreal, Canada, ²Hôpital Maisonneuve-Rosemont, Montreal, Canada, ³CHU de Québec, Quebec City, Canada, ⁴Austrian Institute of Technology, Vienna, Austria

1.4

Ethnic variations in body composition may help to explain differences in arterial stiffness: a UK cross-sectional study in hypertension

Dr Luca Faconti¹, Mr Ryan McNally¹, Miss Bushra Farukh¹, Professor Phil Chowienczyk¹

¹King's College London, London, United Kingdom

1.5

Central-to-peripheral pulse amplification and stiffness gradient determine dicrotic wave: Mediation by triphasic flow fluctuation

Prof. Junichiro Hashimoto^{1,2}, Dr. Kaname Tagawa¹, Dr. Berend Westerhof³, Prof. Sadayoshi Ito^{2,4}

¹Miyagi University of Education Medical Center, Sendai, Japan, ²Tohoku University Graduate School of Medicine, Sendai, Japan,

³Vrije Universiteit Amsterdam, Amsterdam, Netherlands, ⁴Katta General Hospital, Shiroishi, Japan

Differences in systolic-diastolic distensibility indicate carotid wall viscosity in healthy controls, patients with hypertension and type 2 diabetes

Mr Alessandro Giudici¹, Professor Carlo Palombo², Mrs Michaela Kozakova³, Dr Carmela Morizzo², Professor Giuseppe Penno³, Dr Giuli Jamagidze⁴, Mr Daniele Della Latta^{4,5}, Professor Dante Chiappino⁴, Professor J. Kennedy Cruickshank⁶, Professor Ashraf W. Khir¹

¹Brunel Institute for Bioengineering, Brunel University London, Uxbridge, United Kingdom, ²Department of Surgical, Medical, Molecular Pathology and Critical Area Medicine, University of Pisa, Pisa, Italy, ³Department of Clinical and Experimental Medicine, University of Pisa, Pisa, Italy, ⁴G. Pasquini Heart Hospital, G. Monasterio Foundation, Pisa, Italy, ⁵TeraRecon, Durham, USA, ⁶School of Life-Course/Nutritional Sciences, King's College, St. Thomas' & Guy's Hospitals, London, United Kingdom

Acute effect of heat-not-burn versus standard cigarette smoking on arterial stiffness and wave reflections in young smokers

Research Associate Eleni Emmanouil¹, MD Nikolaos Ioakeimidis¹, MD Dimitrios Terentes-Printzios¹, MD Ioanna Dima¹, MD Konstantinos Aznaouridis¹, Professor Dimitris Tousoulis¹, Professor Charalambos Vlachopoulos¹

¹Hypertension and Cardiometabolic Syndrome Unit and Smoking Cessation Unit, 1st Cardiology Department, Athens Medical School, Hippokration Hospital, Athens, Greece

Prediction of long-term outcomes by arterial stiffness and pressure wave reflections in patients with acute stroke: the Athens Stroke Registry

Mrs Stamatia Samara^{1,2}, Mrs Anastasia Vemmou³, Mrs Aikaterini Kyrkou³, Mr Christos Papamichael³, Dr Eleni Korompoki³, Dr George Ntaios⁴, Dr Efstathios Manios³, Dr Kimon Stamatelopoulos³, Dr Athanasios Protogerou², Dr Konstantinos Vemmos³

¹Laiko General Hospital, Athens, Greece, ²Cardiovascular Prevention & Research Unit, Clinic & Laboratory of Pathophysiology, Department of Medicine, National and Kapodistrian University of Athens, Athens, Greece, ³Therapeutic Clinic, Department of Medicine, National and Kapodistrian University of Athens, Athens, Greece, ⁴Department of Internal Medicine, Faculty of Medicine, School of Health Sciences, University of Thessaly, Larissa, Greece, Larissa, Greece

Respective roles of hemodynamic conditions and inflammatory status in the degradation of endothelial glycocalyx in adults.

PhD Jeremy Lagrange¹, PharmD PhD Simon Toupance¹, Arthur Thomas¹, PhD Carlos Labat¹, PhD Véronique Regnault¹, MD PhD Athanase Benetos¹, MD PhD Patrick Lacolley¹

¹INSERM 1116, Vandoeuvre-lès-Nancy, France

Apha1A-adrenoceptor-induced increased calcium influx and prostanoids unbalance promote carotid artery dysfunction in senescence-accelerated (SAMP8) female mice

Dr Tiago J. Costa¹, M.S. Paula R. Barros¹, Dr Diego Ângelo Duarte¹, M.S. Júlio A. da Silva-Neto¹, Dr Renée de Nazaré Oliveira-da-Silva², Dr Rosângela A. Santos-Eichler², Dr Eliana H. Akamine², Dr Francesc Jiménez-Altayó³, Dr Ana Paula Dantas⁴, Dr Rita C. Tostes¹

¹Department of Pharmacology, Ribeirão Preto Medical School, University of Sao Paulo, Brazil, ²Department of Pharmacology, Institute of Biological Science, University of Sao Paulo, , Brazil, ³Departament de Farmacologia, de Terapèutica i de Toxicologia, Facultat de Medicina, Institut de Neurociències, Universitat Autònoma de Barcelona, Spain, ⁴Laboratory of Experimental Cardiology, August Pi i Sunyer Biomedical Research Institute (IDIBAPS), Hospital Clinic Cardiovascular Institute, Spain

Vascular Ageing Glossary: unifying language for knowledge diffusion.

Dr Peter Charlton^{1,2}, Dr Rachel Climie^{3,4,5}, Dr Christopher Clemens Mayer⁶, Dr Manasi Nandi⁷, Dr Arno Schmidt-Trucksäss⁸, Dr Patrick Segers⁹, Dr Dimitrios Terentes-Printzios¹⁰, **Dr Bianchini E. for VascAgeNet¹¹**

¹The Department of Public Health and Primary Care, University of Cambridge, Cambridge, UK, ²Research Centre for Biomedical Engineering, City, University of London, London, UK, ³Menzies Institute for Medical Research, University of Tasmania, Hobart, Australia, ⁴Baker Heart and Diabetes Institute, Melbourne, Australia, ⁵Université de Paris, INSERM, U970, Paris Cardiovascular Research Center (PARCC), Paris, France, ⁶AIT Austrian Institute of Technology, Center for Health & Bioresources, Vienna, Austria, ⁷Faculty of life sciences and medicine, King's Collège London., London, UK, ⁸MD. Division of Sports and Exercise Medicine, Department of Sport, Exercise and Health, Medical Faculty, University of Basel, Basel, Switzerland, ⁹Institute for Biomedical Engineering and Technology (IBiTech), Ghent University, Ghent, Belgium, ¹⁰First Department of Cardiology, Hippokration Hospital, Medical School, National and Kapodistrian University of Athens, Athens, Greece, ¹¹Institute of Clinical Physiology, CNR, Pisa, Italy

Acute and long-term effects of aortic banding on central hemodynamics

Nikolaos Stergiopoulos¹, Stamatia Pagoulatou¹, Dionysios Adamopoulos², Vasiliki Bikia¹, Georgios Rovas¹,

¹Laboratory of Hemodynamics and Cardiovascular Technology, Lausanne, Switzerland, ²Department of Cardiology, Geneva University Hospitals, Geneva, Switzerland – PRESENTED BY NIKOLAOS STERGIOPULOS

The aortic-femoral arterial stiffness gradient is blood pressure independent in older adults: an atherosclerosis risk in communities (ARIC) study

Miss Jillian Poles¹, Mr. Keeron Stone², Dr. Simon Fryer², Dr. James Faulkner³, Dr. Michelle Meyer⁴, Dr. Kevin Heffernan⁵, Dr. Anna Kucharska-Newton⁶, Mr. Gabriel Zieff¹, Mr. Craig Paterson², Dr. Kunihiro Matsushita⁷, Dr. Timothy Hughes⁸, Dr. Hirofumi Tanaka⁹, Dr. Lee Stoner¹

¹Department of Exercise and Sport Science, University Of North Carolina at Chapel Hill, Chapel Hill, United States, ²School of Sport and Exercise, University of Gloucestershire, Gloucester, United Kingdom, ³Department of Sport, Exercise & Health, University of Winchester, Winchester, United Kingdom, ⁴Department of Emergency Medicine, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, United States, ⁵Department of Exercise Science, Syracuse University, Syracuse, United States, ⁶Department of Epidemiology, The Gillings School of Global Public Health, University of North Carolina at Chapel Hill, Chapel Hill, United States, ⁷Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health, Baltimore, United States, ⁸Section of Gerontology and Geriatric Medicine, Department of Internal Medicine, Wake Forest School of Medicine, Winston Salem, United States, ⁹Department of Kinesiology and Health Education, The University of Texas at Austin, Austin, United States

Arterial stiffness is associated with impaired orthostatic diastolic blood pressure reaction and increased central blood pressure: A prospective population-based study

Dr. Madeleine Johansson¹, Prof. Peter M Nilsson¹, Prof. Gunnar Engström¹, Assoc Prof. Viktor Hamrefors¹

¹Lund University, Malmö, Sweden

The effect of mRNA vaccine against COVID-19 on endothelial function and arterial stiffness

Dr. Dimitrios Terentes-Printzios¹, Dr. Vasiliki Gardikioti¹, Dr. Eirini Solomou¹, Mrs Elena Emmanouil¹, Dr. Ioanna Gourgouli¹, Dr. Panagiotis Xydis¹, Mrs. Georgia Christopoulou¹, Dr. Christos Georgakopoulos¹, Dr Ioanna Dima¹, Mrs Antigoni Miliou¹, Dr. Georgios Lazaros¹, Dr. Maria Pirounaki², Prof. Konstantinos Tsioufis¹, Prof. Charalambos Vlachopoulos¹

¹First Department of Cardiology, Hippokration Hospital, Athens Medical, Athens, Greece, ²Second Department of Medicine, University of Athens, Medical School, Hippokration General Hospital, Athens, Greece, Athens, Greece

Early vascular ageing in patients with hypoparathyroidism

Mr Saverio Fabbri^{1,2}, Mr Pierre Boutouyrie¹, Mr Hakim Kettab¹, Mr Gérard Maruani¹, Mr Pascal Houillier¹, Ms Rosa Maria Bruno¹

¹University of Paris, Paris, France, ²University of Perugia, Perugia, Italy

Associations of lower limb atherosclerosis and arteriosclerosis with cardiovascular risk factors and disease in older adults: the ARIC study

Patricia Pagan Lassalle¹, Keeron Stone², Simon Fryer², James Faulkner³, Michelle Meyer¹, Kevin Heffernan⁴, Anna Kucharska-Newton^{1,5}, Gabriel Zieff¹, Craig Paterson², Kunihiro Matsushita⁶, Timothy Hughes⁷, Hirofumi Tanaka⁸, Lee Stoner¹

¹The University Of North Carolina At Chapel Hill, Chapel Hill, United States, ²University of Gloucestershire, Gloucestershire, United Kingdom, ³University of Winchester, Winchester, United Kingdom, ⁴Syracuse University, Syracuse, United States, ⁵University of Kentucky, Lexington, United States, ⁶Johns Hopkins, Baltimore, United States, ⁷Wake Forest, Winston Salem, United States, ⁸The University of Texas, Austin, United States

Developing a questionnaire on the knowledge and perceptions of people working with vascular ageing

Prof. Areti Triantafyllou¹, Ms Stavria Artemis Elia², Chloe Park³, Rachel Climie⁴, Christopher C. Mayer⁵, Andrie G. Panayiotou²

¹3rd Dep. of Internal Medicine, Aristotle University of Thessaloniki, Thessaloniki, Greece, ²Cyprus University Of Technology, Limassol, Cyprus, ³University College London, London, UK, ⁴BAKER HEART AND DIABETES INSTITUTE, Melbourne, Australia, ⁵AIT Austrian Institute of Technology GmbH, Vienna, Austria

The VaSera heart-to-ankle pulse wave velocity is a nearly diastolic wave speed metric

Mr Alessandro Giudici^{1,2}, Professor Ashraf W. Khir², Professor Koen D. Reesink¹, Professor Tammo Delhaas¹, Professor Bart Spronck^{1,3}

¹Department of Biomedical Engineering, CARIM School for Cardiovascular Diseases, Maastricht University, Maastricht, Netherlands, ²Biomedical Engineering Research Group, Brunel University London, Uxbridge, United Kingdom, ³Department of Biomedical Engineering, School of Engineering and Applied Science, Yale University, New Haven, USA

Antithrombotic therapy in secondary and tertiary prevention for peripheral arterial disease: a network meta-analysis.

Ms Loes Willems¹, Ms Dominique Maas¹, Dr Michel Reijnen², Dr Niels Riksen¹, Dr Hugo Ten Cate³, Dr Rozemarijn Van der Vijver-Coppen¹, Dr. Clark Zeebregts⁴, Dr. Gerjon Hannink¹, Dr. Michiel Warlé¹

¹Radboud University Medical Center, Nijmegen, The Netherlands, ²Rijnstate Hospital, Arnhem, The Netherlands, ³Maastricht University Medical Center, Maastricht, The Netherlands, ⁴University Medical Center Groningen, Groningen, The Netherlands

Superior effect of community-based high-intensity interval exercise for reducing blood pressure and arterial stiffness in low-income older women

Mrs. Vanessa Amaral¹, Mr Gabriel Zanini¹, Ms Isabela Roque Marçal¹, Miss Bianca Fernandes¹, Mr. Lucas Bueno Gimenez¹, Miss Fernanda Bianchi Souza¹, Mr Gabriel Locato¹, PhD Student Awassi Yuphiwa Ngomane¹, Dr. Emmanuel Gomes Ciolac¹

¹Universidade Estadual Paulista, Bauru, Brazil

Evaluation of hemodynamic and vascular responses after a continuous exercise session of moderate intensity and high intensity intervals in individuals with normal and high normal blood pressure.

Miss Sara Rodrigues¹, Miss Renata Verardino¹, Mr Marcel Costa¹, Miss Valéria Costa-Hong¹, Miss Maria Alves¹, Mr Luiz Bortolotto¹

¹InCor HC FM USP, São Paulo, Brazil

Pulse Wave Velocity for 24-hour Ambulatory Blood Pressure Monitoring

M.Sc. Fabian Beutel^{1,2}, B.Eng. Chaim Zax², B.Eng. Jesse Kling², B.Eng. Anthony van der Heijden², Ph.D. Chris Van Hoof^{1,3}, Ph.D. Evelien Hermeling²

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Intra-Operative Video-Based Measurement of Biaxial Strains of the Ascending Thoracic Aorta

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On the estimation of arterial compliance from carotid pressure waveform

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Assessing radiotherapy-induced carotid vasculopathy using ultrasound after unilateral irradiation

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Sublingual nitroglycerine ingestion is associated with an increase rather than decrease in brachial-artery retrograde blood flow in healthy human subjects

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Poster Presentations

P.1

Higher systolic blood pressure in females compared to males with similar brachial cuff systolic blood pressure: an effect mediated by height

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P.2

Agreement of non-invasive blood pressure- and standard oscillometry-derived pulse wave velocities

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P.3

Analysis of wave intensity using non-invasive pressure waveform only: application to people with type 2 diabetes

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P.4

Longitudinal changes in aPWV in Chronic Obstructive Pulmonary Disease

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P.5

Assessment of vascular markers of large artery dysfunction and circulating biomarkers of endothelial dysfunction and thromboinflammation in patients with psoriasis

Dr Panagiota Anyfanti¹, Dr Anastasia Margouta¹, Dr Antonios Lazaridis¹, Dr Eleni Gavrilaki¹, Dr Efi Yiannaki², Dr Barbara Nikolaidou¹, Dr Areti Triantafyllou¹, Dr Elizabeth Lazaridou³, Dr Stella Douma¹, Dr Aikaterini Patsatsi³, Dr Eugenia Gkaliagkousi¹

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P.6

Males with abdominal aortic aneurysm have reduced left ventricle function

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P.7

Beat-to-beat variability of pulse transit time in invasive measurements may not pass ARTERY guidelines for validation

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P.8

Carotid enlargement is associated with the presence and severity of coronary artery disease assessed by Gensini Score in patients submitted to coronary angiography

Professor Luiz Bortolotto¹, **Dra Nadja Mendes**¹, Ms Valeria Costa-Hong¹, Dr Stefano Garzon¹, Professor Pedro Lemos¹

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P.9

A novel ultrasound-based method for heart failure screening

Albert Chang¹, Dhruv Reddy¹, Shashank Adapa¹, Anenta Ratneswaren^{1,2}, Ryan Reavette², Peter Weinberg²

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P.10

A comparison of aortic haemodynamic parameters between the SphygmoCor CvMS (radial tonometry) device and the PULSE (brachial oscillometry) device

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P.11

Poor cardiovascular health is associated with high body fat and sympathetic tone in obese subjects

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P.12

Moderate to severe obstructive sleep apnea associated with early vascular aging and sympathetic hyperactivity in obese individuals

Ms Samanta Mattos¹, Ms Michelle Cunha¹, Medical Student Larissa Silva¹, MD PhD Márcia Klein¹, MD PhD Mario Neves¹

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P.13

Oxidative stress mediates the increase in carotid artery stiffness with ovarian hormone suppression of estradiol

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P.14

Loss of stearoyl-CoA desaturase 1 induces inflammation and arterial wall remodelling

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P.15

Skin autofluorescence and serum biomarkers of glucose metabolism: which parameters contribute most to aortic stiffness?

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ARTERY 21

18

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P.16

Central arterial pressure changes during and after head-down tilt bedrest.

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P.17

RADIAL-DIGITAL PULSE WAVE VELOCITY: RESPONSE OF SMALL PERIPHERAL ARTERIES TO NITROGLYCERIN

Charles-antoine Garneau¹, Catherine Fortier^{1,2}, Hasan Obeid¹, Mathilde Paré¹, Karine Duval¹, Dr. Mohsen Agharazii^{1,3}

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P.18

Are arteries designed to minimise variation in arterial pressure of the blood volume stored during the systole?

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P.19

Comparison between invasive and noninvasive methods to determine subendocardial oxygen supply and demand imbalance from aortic pressure waveform

Dr. Andrea Grillo^{1,8}, Dr. Filippo Scalise³, Dr. Lucia Salvi⁴, Dr. Isabella Tan⁵, Dr. Lorenzo De Censi⁶, Dr. Antonio Sorropago³, Dr. Giovanni Sorropago⁶, Dr. Francesco Moretti⁷, Dr. Matteo Rovina¹, Prof. Bruno Fabris⁸, Prof. Renzo Carretta⁸, Prof. Alberto Avolio⁵, Prof. Gianfranco Parati^{2,6}, Prof. Paolo Salvi²

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P.20

Healthy young men show a larger response in carotid artery dilation during a cold pressor test compared to age-matched females

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P.21

Longitudinal clinical trajectory analysis of individuals before and after diagnosis of Type 2 Diabetes Mellitus (T2DM) indicates that vascular problems start early

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Dr Adrian Heald¹, Professor Simon George Anderson, Professor Yonghong Peng, Professor Martin Gibson, Dr Helene Fachim, Professor Bill Ollier

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P.22

A longitudinal pilot study of Pulse Wave Velocity in female adolescents with severe Anorexia Nervosa

Dr Lee Hudson¹, Mr Daniel Jacobs¹, Dr Hind Al-Khairulla¹, Ms. Alicia Rapala¹, Professor Russell Viner¹, Dr Dasha Nicholls¹, Professor Alun D Hughes¹

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P.23

Dynamic time warping for measuring incremental pulse wave velocity: demonstration on a porcine model

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P.24

Changes of fingertip photoplethysmography derived parameters during acute SARS-CoV-19 infection in two patients with daily monitoring

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P.25

The relationship between intima-media thickness and global longitudinal strain value measured by 2D-strain ultrasound in obese patients

Angela Cozma^{1,2}, Andrada-Luciana Lazar^{1,3}, Benjamin Guilherme Rodrigues¹, Gaétan Masson¹, Adela Sitar^{1,2}, Olga Orasan^{1,2}, Adriana Fodor^{1,4}, Vasile Negrean^{1,2}

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P.26

Back to the future. Cuffless blood pressure estimation in the 1990's

Mr Kyrollos Louka¹, Mr James Cox¹, Dr Isabella Tan¹, Dr Alberto Avolio¹, Mr Michael O'Rourke², Dr Mark Butlin¹

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P.27

Comparison of Quantitative Reflection Indices of Forward-Backward Pulse Wave Decomposition Techniques: A Virtual Subject Study

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P.28

Evaluation of Arterial Pulse Reflection Parameters using Multi-Gaussian Decomposition Model: Association with Stiffness Markers

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P.29

Vascular function is unaltered after aerobic acute exercise in physically active young and older male adults

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P.30

Portable ultrasound-based system for the assessment of carotid characteristics: a pilot study

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P.31

Identification of vascular damage in systemic sclerosis: results from a single centre cross-sectional study

Dr. Carolina Mazedo¹, Dr. Susana Silva¹, Dr. Renata Aguiar¹, Dr. Anabela Barcelos¹, Dr. José Mesquita Bastos¹

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P.32

Correlation between arterial stiffness and nailfold capillary microscopic abnormalities in systemic sclerosis: results from a single centre cross-sectional study

Dr. Carolina Mazedo¹, Dr. Susana Silva¹, Dr. Renata Aguiar¹, Dr. Anabela Barcelos¹, Dr. José Mesquita Bastos¹

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P.33

Suitability of a representative aortic flow waveform for pressure-only wave separation in children and adolescents

A/Prof Jonathan Mynard^{1,2,3}, Hilary A Harrington¹, Dr Remi Kowalski^{1,2,4}, Jonathan Glenning^{1,2}, Avinash Kondiboyina^{1,2}, A/Prof Joseph Smolich^{1,2}, Prof Michael Cheung^{1,2,4}

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P.34

Cross-sectional comparison of office and ambulatory pulse wave velocity by two methods, and their changes after lifestyle or medical interventions in hypertension

MD, Phd János Nemcsik¹, MD Dóra Batta¹, MD Beáta Zita Kőrösi¹, Helga Gyöngyösi¹, Zsófia Nemcsik-Bencze¹, MD, PhD Andrea László², MD, PhD Orsolya Cseppekál¹, MD, PhD András Tislér¹

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P.35

Attenuation of the Carotid-Aortic Stiffness Gradient is Associated with Reduced Microvascular Perfusion in Women with a History of Preeclampsia

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P.36

NUMERICAL ASSESSMENT OF CAROTID-FEMORAL PULSE WAVE VELOCITY IN END-STAGE RENAL DISEASE SETTING

Dr Hasan OBEID^{1,2}, Mrs Vasiliki BIKIA⁴, Mrs Catherine FORTIER^{2,3}, Mrs Mathilde PARE^{1,2}, Mrs Karine DUVAL^{1,2}, Pr. Nikos STERGIOPULOS⁴, Dr. Mohsen AGHARAZI^{1,2}

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P.37

THE SYSTOLIC RISE TIME MEASURED WITH PPG TO SCREENING PERIPHERAL ARTERY DISEASE: APPLICATION TO THE pOpmètre®

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P.38

Effect of long term calorie restriction on transglutaminase-2 protein levels and microRNA expression of mice

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P.39

Carotid stiffness and cerebral pulsatility index

Ms Mathilde Paré^{1,3,4}, Mr. Marc-Antoine Roy^{3,4}, Dre Catherine Fortier^{5,6}, Ms Audrey Drapeau^{3,4}, Ms Lawrence Labrecque^{3,4}, Ms Karine Duval¹, Dr. Patrice Brassard^{3,4}, Dr. Mohsen Agharazii^{1,2}

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P.40

Smooth Muscle Cells express stronger traction forces in aortic thoracic aneurysms

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P.41

ROUGHNESS ANALYSIS OF CORONARY ARTERY STENTS AND BYPASS GRAFTS FOR DIABETES MELLITUS PATIENTS

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P.42

Effect of COVID-19 disease on vascular aging: a pilot study with before-and-after comparison in persons who have had COVID19

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P.43

Prevalence of fibromuscular dysplasia in radial arteries of cerebral aneurysms through ultra-high frequency ultrasound: a radiomic approach

Biomedical engineer Federica poli¹, Francesco Faita², Silvia Armenia⁶, Michelangelo Mancuso⁵, Paolo Perrini^{5,6}, Lorenzo Ghiadoni⁵, Mirco Cosottini⁴, Rosa Maria Bruno^{1,3}

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Validation and feasibility of an automated system for the assessment of vascular structure and mechanical properties in the digital arteries through ultra-high frequency ultrasound

Biomedical engineer Federica Poli¹, Catherine Fortier¹, Hakim Khettab³, Francesco Faita², Saverio Vitali⁴, Giacomo Aringhieri⁴, Lorenzo Ghiadoni⁵, Stefano Taddei⁵, Laurence Amar³, Aurelien Lorthioir³, Pierre Boutouyrie^{1,3}, Rosa Maria Bruno^{1,3}

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P.45

Simulating the impact of parameter changes on the reservoir model

Di Anna Pölz

P.46

The Role of Blood Pooling during Prolonged Sitting on Cerebral Arterial Stiffness

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P.47

Fabricated data, manufacturer's tricks, and more: a couple of suggestions concerning guidelines for validation of pulse wave velocity measurement devices

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P.48

Development of carotid shear wave elastography for plaque characterization in transverse imaging planes

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P.49

Comparison of artery wall motion-based vascular index with conventional carotid stiffness markers for detection of vascular ageing

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P.50

Effect of the pharmacological reduction of heart rate by Ivabradine on arterial wall viscosity in young and middle-aged healthy subjects

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P.51

Evaluation of vascular and hemodynamic responses after a continuous exercise session of moderate intensity and high intensity intervals in individuals with normal blood pressure and pre-hypertension.

Miss Sara Rodrigues¹, Miss Renata Verardino¹, Mr Marcel Costa¹, Miss Valéria Costa-Hong¹, Miss Maria Alves¹, Mr Luiz Bortolotto¹

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Comparison of hemodynamic and vascular responses between a session of continuous moderate-intensity and high-intensity interval physical exercise in normotensive subjects.

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P.53

Comparison of vascular and hemodynamic responses between a continuous exercise session of moderate intensity and high intensity interval exercise in normotensive individuals.

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P.54

The aortic-femoral arterial stiffness gradient demonstrates good between-day reliability

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P.55

Evaluation of image-free wall tracking based measurement of low flow mediated arterial constriction in comparison to B mode imaging

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P.56

Preserved muscle extraction during maximal exercise in active breast cancer survivors.

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P.57

Accuracy of cuffless blood pressure estimation using photoplethysmography and tonometry from pulse transit time alone

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P.58

Relationship between the parameters of aortic stiffness and nocturnal dipping status during antihypertensive therapy

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P.59

The effect of renin-angiotensin system inhibitors on pulse wave velocity progression in essential hypertension patients: A 3.5-year follow-up study

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P.60

Central Arterial Pressure: Validation of new cost-effective device against Sphygmocor

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P.61

Perforator Arteries Identification: Comparison of Ultrasound Doppler Technology and Infrared Thermography

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P.62

Correlation of coronary artery calcium- and different cardiovascular risk score-based methods for the estimation of vascular age

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P.63

Carotid artery reactivity to predict cardiovascular events in abdominal aortic aneurysm patients: Preliminary results

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Author Index

A

| | |
|-----------------|----------------|
| A Harrington, H | 73 |
| Abbaoui, Y | 14 |
| Abi-Nasr, I | 20 |
| Adamopoulos, D | 47 |
| Adams, N | 50 |
| Adapa, S | 72 |
| Agharazii, M | 57, 14, 15, 68 |
| AGHARAZII, M | 18 |
| Aguiar, R | 75, 74 |
| Aizawa, K | 46 |
| Akamine, E | 42 |
| AL Shezawi, O | 89 |
| Al-Khairulla, H | 85 |
| Alves, M | 63, 45, 43, 60 |

| | |
|----------------|------------|
| Amar, L | 11 |
| Amaral, V | 52 |
| Anderson, S | 80 |
| Anyfanti, P | 83 |
| Arathy, R | 41 |
| Aringhieri, G | 11 |
| Armenia, S | 13, 12 |
| Åström Malm, I | 3 |
| Avolio, A | 49, 27, 48 |
| Avolio, A | 29 |
| Avril, S | 2 |
| Ayden, A | 62 |
| Aznaouridis, K | 87 |

B

| | |
|-----------------------------|--------|
| Badhwar, S | 69 |
| Barcelos, A | 75, 74 |
| Barros, P | 42 |
| Batta, D | 5 |
| Baynard, T | 28 |
| Baullmann, J | |
| Bellien, J | 86 |
| Ben Moussa, O | 2 |
| Benbia, A | 20 |
| Benetos, A | 90 |
| Beutel, F | 54 |
| Bianchini, E | 13 |
| Bianchini E. for VascAgeNet | 33 |
| Bidar, E | 81 |
| Bikia, V | 7, 47 |
| BIKIA, V | 18 |

| | |
|---------------|--------------------|
| Blomstrand, P | 3 |
| Boban, M | 79 |
| Bortolotto, L | 77, 63, 45, 43, 60 |
| Boutouyrie, P | 61, 11 |
| Boutouyrie, P | 66 |
| Brandt, D | 64 |
| Brassard, P | 68 |
| Brum, T | 26 |
| Bruno, R | 66, 13, 11, 12, 55 |
| Bruno, R | 61 |
| Büschges, J | 17 |
| Butlin, M | 29, 27, 48 |
| Buus, N | 9 |
| Buzzelli, A | 13 |

C

| | |
|------------------|----|
| Cardoso, F | 93 |
| Carlsen, R | 9 |
| Carretta, R | 49 |
| Casal, D | 94 |
| Casanova, F | 46 |
| Chandran, D | 69 |
| Chandran, D | 23 |
| Chang, A | 72 |
| Charlton, P | 33 |
| Chaturvedi, N | 71 |
| Chemla, D | 6 |
| Cheung, M | 73 |
| Chiappino, D | 34 |
| Chowienczyk, P | 35 |
| Christensen, K | 9 |
| Christopoulou, G | 82 |

| | |
|----------------|----------------|
| Ciolac, E | 52 |
| Climie, R | 33, 92 |
| Cockcroft, J | 89 |
| Colhoun, H | 46 |
| Cosottini, M | 12 |
| Costa, M | 63, 45, 43, 60 |
| Costa, T | 42 |
| Costa-Hong, V | 77 |
| Costa-Hong, V | 63, 45, 43, 60 |
| Cox, J | 29, 27 |
| Cozma, A | 59 |
| Cruickshank, J | 34 |
| Cseprekál, O | 5 |
| Cunha, M | 26, 25 |
| Cunha, P | 93 |

D

| | |
|------------------|----|
| Dániel, K | 56 |
| Dantas, A | 42 |
| da Silva-Neto, J | 42 |
| Dbrzyn, P | 65 |

| | |
|----------------|--------|
| Della Latta, D | 34 |
| Di Franco, G | 13 |
| Dima, I | 87, 82 |
| Dinnissen, D | 24 |

| | |
|-------------|------------|
| De Basso, R | 3 |
| De Censi, L | 49 |
| Debeij, G | 81 |
| Deepak, K | 23 |
| Deepak, K | 69 |
| de Korte, C | 39, 40 |
| Delhaas, T | 21, 81, 55 |

E

| | |
|--------------|----|
| Elia, S | 92 |
| Emmanouil, E | 82 |
| Emmanouil, E | 87 |

F

| | |
|--------------|------------|
| Fabbri, S | 66 |
| Fabris, B | 49 |
| Fachim, H | 80 |
| Faconti, L | 0, 35 |
| Faita, F | 11, 12 |
| Farukh, B | 35 |
| Faulkner, J | 38, 22, 67 |
| Fayol, A | 61 |
| Fekkes, S | 39 |
| Fernandes, B | 52 |

G

| | |
|-------------------|--------|
| Gale, N | 89 |
| Ganizada, B | 81 |
| Gardikioti, V | 82 |
| Garneau, C | 57 |
| Garzon, S | 77 |
| Gates, P | 46 |
| Gavish, B | 16 |
| Gavriilaki, E | 83 |
| Gelžinský, J | 44 |
| Gemignani, V | 13 |
| Georgakopoulos, C | 82 |
| Ghiadoni, L | 11, 12 |
| Giannattasio, C | 55 |
| Gibson, M | 80 |

H

| | |
|--------------|--------|
| Hallab, M | 20 |
| Hametner, B | 15, 31 |
| Hamrefors, V | 84 |
| Hamzaoui, O | 6 |
| Hannink, G | 32 |
| Hansen, H | 39, 40 |
| Hartman, Y | 24 |
| Hashimoto, J | 76 |
| Heald, A | 80 |
| Heffernan, K | 38, 22 |
| Heffernan, K | 67 |

I

| | |
|----------------|----|
| Iacob, M | 86 |
| Ioakeimidis, N | 87 |

| | |
|------------|--------|
| Dogan, S | 62 |
| Douma, S | 83 |
| Drapeau, A | 68 |
| Duarte, D | 42 |
| DuBose, L | 58, 64 |
| Duval, K | 57, 68 |
| DUVAL, K | 18 |

| | |
|--------------|----|
| Engström, G | 84 |
| Engvall, J | 3 |
| Eveilleau, K | 20 |

| | |
|----------------|----------------|
| Fernhall, B | 19, 28 |
| Filip, A | 65 |
| Filipovský, J | 44 |
| Fodor, A | 59 |
| Fortier, C | 61, 57, 68, 11 |
| FORTIER, C | 18 |
| Francesconi, M | 13 |
| Fraser, A | 71 |
| Fryer, S | 50, 38, 22, 67 |

| | |
|-----------------|--------|
| Gimenez, L | 52 |
| Giudici, A | 34, 21 |
| Gkaliagkousi, E | 83 |
| Glenning, J | 73 |
| Gonçalves, I | 46 |
| Gooding, K | 46 |
| Goupil, R | 14, 15 |
| Gourgouli, I | 82 |
| Grigoriadis, G | 28 |
| Grillo, A | 49 |
| Guignandon, A | 2 |
| Guvenc Tuna, B | 62 |
| Gyöngyösi, H | 5 |

| | |
|--------------|--------|
| Hermeling, E | 54 |
| Hildreth, K | 58 |
| Holewijn, S | 37 |
| Houillier, P | 66 |
| Howe, L | 71 |
| Huberts, W | 81 |
| Hudson, L | 85 |
| Hughes, A | 71 |
| Hughes, A | 46, 85 |
| Hughes, T | 38, 22 |

| | |
|------------|----|
| Ito, S | 76 |
| Ivarsen, P | 9 |

J

| | | | |
|-------------------|----|--------------|--------------------|
| Jacobs, D | 85 | Joannides, R | 86 |
| Jamagidze, G | 34 | Johansson, M | 84 |
| Jaryal, A | 69 | Jones, S | 71 |
| Jerončić, A | 79 | Joseph, J | 53, 36, 41, 30, 23 |
| Jespersen, B | 9 | Jozwiak, M | 6 |
| Jiménez-Altayó, F | 42 | Junior, E | 94 |

K

| | | | |
|----------------------|--------|---------------------|--------|
| Kaanders, J | 40 | Kondiboyina, A | 73 |
| Kahn, F | 46 | Königstein, K | 17 |
| Karkhaneh Yousefi, A | 2 | Koren, P | 79 |
| Kettab, H | 66 | Korompoki, E | 10 |
| Khatir, D | 9 | Kőrösi, B | 5 |
| Khettab, H | 61, 11 | Kowalski, R | 73 |
| Khir, A | 34, 21 | Kozakova, M | 34 |
| Klein, M | 26 | Kucharska-Newton, A | 38, 22 |
| Klein, M | 25 | Kulin, S | 56 |
| Kling, J | 54 | Kyrkou, A | 10 |

L

| | | | |
|--------------|-----------|-----------------|----|
| Labat, C | 90 | Lazaridou, E | 83 |
| Labrecque, L | 68 | Lazaros, G | 82 |
| Lacolley, P | 90 | Leftheriotis, G | 20 |
| Lagrange, J | 90 | Lemos, P | 77 |
| Lamarche, F | 14, 15, 0 | Locato, G | 52 |
| Lambrick, D | 67 | Loonen, J | 40 |
| László, A | 5 | Lorthioir, A | 11 |
| Lazar, A | 59 | Louka, K | 27 |
| Lazaridis, A | 83 | | |

M

| | | | |
|---------------|--------|--------------------|--------|
| Maas, D | 32 | McDonnell, B | 89 |
| Madore, F | 14, 15 | McNally, R | 35 |
| Maessen, J | 81 | Melo, X | 19 |
| Maloberti, A | 55 | Mendes, N | 77 |
| Mancuso, M | 12 | Mesquita Bastos, J | 75, 74 |
| Manios, E | 10 | Meyer, M | 38, 22 |
| Manoj, R | 53, 36 | Meyer, M | 67 |
| Marçal, I | 52 | Meyer, M | 50 |
| Margouta, A | 83 | Michard, F | 6 |
| Marôco, J | 19 | Michel, J | 2 |
| Martina, M | 13 | Miklós, Z | 56 |
| Maruani, G | 66 | Miliou, A | 82 |
| Masson, G | 59 | Millasseau, S | 6 |
| Matsushita, K | 38, 22 | Monnet, X | 6 |
| Mattos, S | 26, 25 | Moreau, K | 58 |
| Mawson, D | 46 | Moretti, F | 49 |
| Mayer, C | 92 | Morizzo, C | 34 |
| Mayer, C | 33 | Mudnic, I | 79 |
| Mayer, O | 44 | Munnery, M | 89 |
| Mayet, J | 72 | Mynard, J | 73 |
| Mazed, C | 75, 74 | | |

N

| | | | |
|--------------------|--------------------|---------------|--------|
| Nabeel, P | 53, 36, 41, 30, 23 | Neves, M | 26, 25 |
| Nadeau-Fredette, A | 14, 15 | Ngomane, A | 52 |
| Nandi, M | 33 | Nicholls, D | 85 |
| Narang, R | 69 | Nikolaidou, B | 83 |
| Natour, E | 81 | Nilsson, J | 46 |

Negrean, V 59
 Nemcsik, J 5, 8
 Nemcsik-Bencze, Z 5
 Neuhauser, H 17

Nilsson, P 84
 Ntaios, G 10
 Nuckols, V 64

O

Obeid, H 57
 OBEID, H 20, 18
 Oliveira-da-Silva, R 42
 Ollier, B 80

Orasan, O 59
 O'Rourke, M 27
 Orter, S 31
 Oztemiz, E 62

P

Pagan Lassalle, P 38
 Pagoulatou, S 7, 47
 Palombo, C 46, 34
 Panayiotou, A 92
 Papamichael, C 10
 Parati, G 49
 PARE, M 18
 Paré, M 57, 68
 Parikh, S 81
 Park, C 92, 71
 Parker, K 46
 Patel, C 69
 Paterson, C 50, 38, 22
 Patsatsi, A 83
 Pedersen, M 9
 Peng, Y 80
 Penno, G 34

Perrini, P 12
 Peterson, C 67
 Petit, C 2
 Pierce, G 64
 Pinto, M 19
 Pirounaki, M 82
 Piskin, S 88
 Podrug, M 79
 Poles, J 50, 22
 Poli, F 11, 12
 Pölz, A 31
 Pomeroy, A 51
 Poplavska, A 94
 Posokhov, I 4
 Protogerou, A 10
 Pruijssen, J 39, 40

Q

Qasem, A 29

R

Raj, K 53
 Raj, V 30, 23
 Raj, V 36
 Raj, V 41
 Rapala, A 85
 Ratneswaren, A 72
 Reavette, R 72
 Reddy, D 72
 Reesink, K 81
 Reesink, K 21, 55
 Regnault, V 90

Reijnen, M 32
 Reijnen, M 37
 Riksen, N 32
 Roca, F 86
 Rodrigues, B 59
 Rodrigues, S 63, 45, 43, 60
 Rojas, J 67
 Rovas, G 7, 47
 Rovina, M 49
 Rowland, E 72
 Roy, M 68

S

Salvi, L 49
 Salvi, P 49
 Samara, S 10
 Santa-Clara, H 19
 Santillan, M 64
 Santos-Eichler, R 42
 Sarganas, G 17
 Scalise, F 49
 Schaffrath Rosario, A 17
 Schalkwijk, C 55
 Schienkiewitz, A 17
 Schmidt-Trucksäss, A 33, 17
 Schurgers, L 81

Silva, L 25
 Silva, S 75, 74
 Sitar, A 59
 Smolich, J 73
 Solomou, E 82
 Sorropago, A 49
 Sorropago, G 49
 Souza, F 52
 Spronck, B 21, 55
 Spronck, B 81
 Stamatelopoulos, K 10
 Stanford, K 51
 Stergiopulos, N 7, 47

| | |
|---------------|-------|
| Segers, P | 33, 7 |
| Seidlerová, J | 44 |
| Sen, S | 23 |
| Serrano, A | 93 |
| Sherman, S | 28 |
| Shirbani, F | 48 |
| Shore, A | 46 |

| | |
|-----------------|--------------------|
| STERGIOPULOS, N | 18 |
| Stone, K | 50, 38, 22, 67 |
| Stoner, L | 50, 38, 22, 51, 67 |
| Strain, W | 46 |
| Stroud, A | 64 |
| Šunjić, B | 79 |

T

| | |
|-----------------------|--------|
| Taddei, S | 11 |
| Tagawa, K | 76 |
| Tan, I | 49, 27 |
| Tan, I | 29, 48 |
| Tanaka, H | 38, 22 |
| Taylor, H | 71 |
| Tayyarah, M | 20 |
| Teboul, J | 6 |
| Ten Cate, H | 32 |
| Terentes-Printzios, D | 82 |
| Terentes-Printzios, D | 33, 87 |
| Thijssen, D | 24 |

| | |
|------------------|----|
| Thijssen, D | 37 |
| Thill, C | 86 |
| Thomas , A | 90 |
| Tislér, A | 5 |
| Tomiyama, H | 70 |
| Torunova, A | 91 |
| Tostes, R | 42 |
| Toupance , S | 90 |
| Tousoulis, D | 87 |
| Triantafyllou, A | 83 |
| Triantafyllou, A | 92 |
| Tsioufis, K | 82 |

V

| | |
|--------------------------|--------|
| van der Bruggen, M | 55 |
| van der Heijden, A | 54 |
| Van der Vijver-Coppen, R | 32 |
| Van Hoof, C | 54 |
| Vassilenko, V | 94, 93 |
| Vecsey-Nagy, M | 8 |
| Vemmos, K | 10 |

| | |
|-----------------|----------------|
| Vemmou, A | 10 |
| Verardino, R | 63, 45, 43, 60 |
| Vermeulen, J | 37 |
| Viner, R | 85 |
| Vitali, S | 11 |
| Vlachopoulos, C | 82 |
| Vlachopoulos, C | 87 |

W

| | |
|------------------|--------|
| Warlé, M | 32 |
| Wassertheurer, S | 15, 31 |
| Watkeys, L | 89 |
| Weinberg, P | 72 |

| | |
|--------------|----|
| Wenmakers, A | 40 |
| Westerhof, B | 76 |
| Wilbers, J | 40 |
| Willems, L | 32 |

X

| | |
|----------|----|
| Xydis, P | 82 |
|----------|----|

Y

| | |
|-------------|----|
| Yiannaki, E | 83 |
|-------------|----|

Z

| | |
|-----------|----|
| Zanini, G | 52 |
| Zax, C | 54 |

| | |
|--------------|----------------|
| Zeebregts, C | 32 |
| Zieff, G | 50, 38, 22, 67 |



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