Europhysiology 2018

14-16 September 2018
The QEII Centre, London, UK
As Presidents of the four host societies, it is our pleasure to welcome you to this inaugural Europhysiology meeting. Europhysiology was initiated to increase networking and collaboration. To achieve this, the participating societies have combined their annual meetings. We are delighted that this format has proved successful and has also attracted participants from other continents.

We would like to thank all those who have worked so hard to ensure the success of the meeting. The Organizing Committee was faced with the task of blending the individual traditions of four societies. The Programme Committee had the very difficult task of deciding between the enormous number of submitted symposia. Many colleagues helped with the selection of abstracts for oral presentation. Last, but most certainly not least, the organization would not have been possible without the tireless efforts and professional skills of the staff of The Physiological Society.

We believe that all attendees will find much to excite and interest them in the programme, from the plenary and keynote lectures by leaders in their field, through a collection of topical symposia and both poster and oral abstracts. We hope, however, that you will find at least a few minutes to appreciate the tourist attractions of Westminster and beyond.

Please enjoy Europhysiology 2018 and we look forward to seeing you all at the next meeting in this series in Berlin, 2020.

With best wishes

David Eisner
The Physiological Society

Rolf-Detlef Treede
Deutsche Physiologische Gesellschaft

Tomi Taira
Scandinavian Physiological Society

Markus Hecker
Federation of European Physiological Societies
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Organising Committee

- Peter Bie  
  University of Southern Denmark, Denmark

- Bryndis Birnir  
  Uppsala University, Sweden

- Ralf Brandes  
  University of Frankfurt, Germany

- Susan Deuchars  
  University of Leeds, UK

- David Eisner (CHAIR)  
  University of Manchester, UK

- Joachim Fandrey  
  Universität Duisburg-Essen, Germany

- Markus Hecker  
  University of Heidelberg, Germany

- Angelika Lampert  
  University of Aachen, Germany

- William Louch  
  Oslo University Hospital, Norway

- Bridget Lumb  
  University of Bristol, UK

- Nicole Schmitt  
  University of Copenhagen, Denmark

- Tomi Taira  
  University of Helsinki, Finland

- Bayram Yilmaz  
  Yeditepe University, Turkey
Scientific Programme Committee

• Neoma Tove Boardman
  University of Tromsø, Norway

• Susan Deuchars (CHAIR)
  University of Leeds, UK

• Fredrik Elinder
  Linköping University, Sweden

• Joachim Fandrey
  University of Duisburg-Essen, Germany

• Carolyn Greig
  University of Birmingham, UK

• Andy James
  University of Bristol, UK

• Dörthe Katschinski
  University of Göttingen, Germany

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  University of Nice, France

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  University Roma Tre, Italy

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  University of Copenhagen, Denmark

• Luc Penicaud
  Université Toulouse III Paul-Sabatier, France

• Ole Petersen
  Cardiff University, UK

• Tarja Stenberg
  University of Helsinki, Finland

• Robert Zorec
  University of Ljubljana, Slovenia
Someone from the Europhysiology 2018 conference team can always be found at the registration desk. We will be happy to help with any queries you may have but you might be able to find an answer to your question on these pages.

**Registration**
This will be open on the ground floor at the following times:

- Friday, 14 September 7.00 – 18.30
- Saturday, 15 September 7.00 – 18.30
- Sunday, 16 September 8.00 – 17.00

**Luggage storage and cloakroom**
There is a cloakroom on the ground floor:

- Friday, 14 September 7.00 – 20.00
- Saturday, 15 September 7.00 – 19.00
- Sunday, 16 September 8.00 – 17.00

**Abstracts**
Speaker, oral and poster abstracts are available either online via the event website, or the itinerary planner, or mobile app linked from the website, www.europhysiology2018.org

**Poster Sessions**
All posters will be displayed in the third or fifth floor of the QEII Centre for the entire day they are scheduled.

Posters may be affixed from 7.00 onwards.

The formal presentation times (when posters must be accompanied by the presenting author) are detailed below, however, the earlier they are affixed to the boards; the more time people will have to view them.
All posters must be removed at the end of the day and taken with you. Posters left after 19.00 will be removed and the organisers take no responsibility for any subsequent damage or loss of property left behind.

There are TWO dedicated poster sessions scheduled as follows:

**POSTER SESSION A**  
Friday, 14 September 16.45 – 18.15

**POSTER SESSION B**  
Saturday, 15 September 16.45 – 18.15

The corresponding letter of your session will NOT appear on the poster board numbers, so all boards will be numbered PC001, PC002, PC003.

Your poster number was sent in an email together with your final ID number. Should you need any clarification, please consult the itinerary planner, or mobile app on the website, or visit the registration desk. It is the presenting author’s responsibility to be aware of their scheduled poster session. We are unable to accommodate posters not presented at your scheduled time at any other time.

Please note that abstracts NOT presented in person will not form part of the final online published proceedings

**Late breaking abstracts**  
All late breaking abstracts are scheduled for presentation from 12.45 – 14.30 on Sunday, 16 September. This is not a dedicated poster session.

Late breaking abstracts are accepted as title only and are listed as part of a programme addendum and will NOT form part of the final online published proceedings.

**Poster help desk**  
Velcro will be available on all boards, and if you need more, please visit the registration desk. No other fixings may be used.
Internet access
There is free Wi-Fi available, and is an open network named ‘QEIIGuest’.

Prayer room
Please ask at the registration desk and they can direct you to the appropriate room.

Quiet space
Conferences and networking can be intense, if you need a quiet space to take some time out and gather your thoughts, please ask the registration desk.

In case of emergency
Someone from the Europhysiology 2018 team (registration area) will be your first point of contact in any emergency. They will help you or find the person who can.

Mobile phones
Don’t forget to turn your mobile or cell to silent during all sessions of Europhysiology 2018.

Video or audio recording of presentations
Attendees are reminded that the video and audio recording of ANY session or presentation using mobile devices or any such recording equipment is strictly prohibited.

Arriving late to sessions
We know it is not always possible to get to sessions on time but we do ask that if you are running late, to take your seat quietly.

Smoking
You can’t smoke inside. If you wish to smoke then you need to go outside.
General Information

Food and drink
Tea and coffee during scheduled breaks, lunch, and all refreshments during the poster sessions are included in your registration. There are a number of water coolers situated on the third and fifth floors.

Certificate of attendance
After Europhysiology 2018, we will send you a link to request an electronic certificate.

Changes to abstracts
We cannot make changes to abstracts.

Twitter
The official Twitter hashtag is #europhys2018

Feedback
We want you to enjoy this meeting but are always happy to hear how we can improve. You can speak to a member of the team, or fill in your comments anonymously in a feedback questionnaire that will be emailed to you after the meeting.

Photographer
Photographs are being taken at this event. They may be published on our website and social media channels to promote The Society. Please see our Fair Processing Notice for further details at www.physoc.org/privacy

If you do not wish to be included in any of these photographs, please let the staff at the registration desk know.
Welcome to the Annual Meeting of the Scandinavian Physiological Society in Reykjavik, August 9-11 2019!

We will discuss a variety of physiological topics in plenary lectures, invited symposia, free paper sessions and posters. Satellite meetings of special interest groups are planned on August 8th, the day before the main meeting.

We will meet by the seaside in Harpa Conference Centre, downtown Reykjavik. Most congress hotels as well as shops and restaurants are within walking distance. Excursions to explore Icelandic nature can easily be arranged.

Mark SPS 2019 on your calendar for August 2019!

We look forward to seeing you!

www.sps2019.is
Friday, 14 September

Day schedule

9.00  **Keynote Lectures**

*Otto Hutter Teaching Prize*
Louise Robson, University of Sheffield, UK
Harnessing digital technologies to enhance student learning
Churchill, Ground Floor

*$100,000 Acta Physiologica Award Lecture*
Hayo Castrop, University of Regensburg, Germany
Clnk2-deficient mice: A model of Bartter’s Syndrome type 3
Mountbatten, Sixth Floor

10.00  **Symposia**

The axon initial segment  Churchill, Ground Floor
Estrogen, exercise and vascular function  Mountbatten, Sixth Floor
Fructose in physiology: Friend or foe?  St James, Fourth Floor

10.00  **Oral Communications**

Cardiac & Respiratory Physiology  Westminster, Fourth Floor
Epithelia & Membrane Transport  Moore, Fourth Floor
Human & Exercise Physiology  Abbey, Fourth Floor
Education & Teaching  Rutherford, Fourth Floor

11.30  **Refreshment Break**  Third & Fifth Floor

11.45  **Plenary Lecture**
Frances Ashcroft, University of Oxford, UK
Sweetness and Light:
Impaired regulation of insulin secretion in diabetes
Churchill, Ground Floor

12.45  **Lunch, Posters & Networking**  Third & Fifth Floor

13.00  **Lunchtime Sessions**
Enhancing the sensitivity of detecting cardiovascular changes:
Churchill, Ground Floor
Live CrossTalk debate with L. Felipe Barros and Lasse K. Bak
St James, Fourth Floor
Talking animals: public engagement and animal research
Mountbatten, Sixth Floor
Friday, 14 September
Day schedule

14.15 Symposia
Innovations in physiology education
Nanodomain signaling in cardiac myocytes
Sex matters – beyond the obvious
Churchill, Ground Floor
Mountbatten, Sixth Floor
St James, Fourth Floor

14.15 Oral Communications
Metabolism & Endocrinology
Neuroscience
Vascular & Smooth Muscle Physiology
Westminster, Fourth Floor
Moore, Fourth Floor
Abbey, Fourth Floor

16.00 Keynote Lectures
Mike Ludwig, University of Edinburgh, UK
Diversity of peptide signalling in the brain: of whispered secrets and public announcements
Mountbatten, Sixth Floor
Robert Fenton, Aarhus University, Denmark
The ins and outs of protein trafficking - a "complex" story?
Churchill, Ground Floor

16.45 Poster Communication Session A
Cardiac & Respiratory Physiology, Epithelia & Membrane Transport, and Education & Teaching
Human & Exercise Physiology, Metabolism & Endocrinology, Neuroscience, and Vascular & Smooth Muscle Physiology

18.30 Plenary Lecture
The Physiological Society Annual Public Lecture
Daniel Martin, University College London, UK
From mountains to the bedside: Lessons learnt from Everest
Churchill, Ground Floor

19.30 Welcome Reception
Third & Fifth Floor

20.30 End of day one
Otto Hutter Teaching Prize
Louise Robson, University of Sheffield, UK
PL001 Harnessing digital technologies to enhance student learning

9.00 – 9.45, Friday, 14 September
Churchill, Ground Floor

Based at the University of Sheffield, UK, Louise is an award winning senior lecturer, with over twenty years’ experience in learning and teaching in Physiology. She is particularly interested in the disease cystic fibrosis, and utilises her research to enhance the data handling and interpretation skills of all the students she teaches. A strong advocate of the use of digital technologies to support and enhance student learning, she also ensures she shares this good practice and influences others. One example of this is her role as the academic lead in the implementation of lecture capture across all departments at the University of Sheffield.

$100,000 Acta Physiologica Award Lecture
Hayo Castrop, University of Regensburg, Germany
Clcnk2-deficient mice: A model of Bartter’s Syndrome type 3

9.00 – 9.45, Friday, 14 September
Mountbatten, Sixth Floor
The axon initial segment: a hub for neuronal activity, plasticity and disease

Friday, 14 September 10.00 - 11.30
Churchill, Ground Floor

Organisers: Winnie Wefelmeyer, King’s College London, UK and Maren Engelhardt, Heidelberg University, Germany

10.00  Juan Burrone, King’s College London, UK
SA001 A developmental switch in the activity-dependent plasticity of axo-axonic synapses along the axon initial segment

10.30  Maren Engelhardt, Heidelberg University, Germany
SA002 A role for the axon initial segment in rapid modulation of neuronal input-output parameters in mouse barrel cortex

10.45  Christophe Leterrier, Aix Marseille University, France
SA003 The axonal cytoskeleton at the nanoscale

11.00  Maarten Kole, Utrecht University, The Netherlands
SA004 Submillisecond rapid Ca$^{2+}$ signalling via Ca$^{2+}$ permeable axonal voltage-gated Na$^{+}$ channels
Estrogen, exercise and vascular function

10.00 - 11.30, Friday, 14 September
Mountbatten, Sixth Floor

Organiser: Ylva Hellsten, University of Copenhagen, Denmark

10.00  Susana Novella, University of Valencia, Spain
   SA005  Mechanisms underlying the influence of estrogen on cardiovascular health in women

10.30  Abimbola Aiku, University of Birmingham, UK
   C128  Contribution of cyclooxygenase (COX) products to exercise hyperaemia in young Black Africans (BAs) and White Europeans (WEs): are there gender differences?

10.45  Lasse Gliemann, University of Copenhagen, Denmark
   SA006  Is the estrogen-related receptor responsible for cardiovascular adaptations to exercise in postmenopausal women?

11.00  Douglas Seals, University of Colorado Boulder, USA
   SA007  Role of estrogen in exercise training-induced improvements in vascular function

For publication in The Journal of Physiology
Fructose in physiology: friend or foe?

10.00 - 11.30, Friday, 14 September
St James, Fourth Floor

Organisers: Javier Gonzalez, University of Bath, UK and Robin Rosset, University of Lausanne, Switzerland

10.00  Leanne Hodson, University of Oxford, UK
SA008 Challenging metabolic tissues with fructose: Tissue-specific and sex-specific responses

10.30  Cas Fuchs, Maastricht University, Netherlands
SA009 Fructose for endurance exercise performance and recovery

10.45  Stephanie Ø von Holstein Rathlou, University of Copenhagen, Denmark
SA010 Fibroblast growth factor 21 (FGF21) decreases consumption of sugar and sweet-tasting compounds in mice

11.00  Luc Tappy, University of Lausanne, Switzerland
SA011 Metabolic effects of high fructose intake in humans

For publication in The Journal of Physiology
Oral Communications
Friday, 14 September 10.00 - 11.30

Cardiac & Respiratory Physiology
Oral Communications A

10.00 - 11.30, Friday, 14 September
Westminster, Fourth Floor

10.00  Disheet Shah, BioMediTech, University of Tampere, Finland
**C001** Asymptomatic and symptomatic long QT 2 syndrome disease model using iPSC-CM from patients with L552S mutation

10.15  Charlotte Smith, University of Manchester, UK
**C002** Postnatal development of t-tubules and alterations in triggered calcium release in the sheep atria

10.30  Kalai Mangai Muthukumarasamy, University of Copenhagen, Denmark
**C003** Small conductance calcium-activated potassium (SK) channel regulation by protein kinase A (PKA) in atrial fibrillation

10.45  Jannis Meents, Uniklinik RWTH Aachen, Germany
**C004** The opioid oxycodone use-dependently inhibits the cardiac sodium channel Nav1.5

11.00  Johanna Salomon, University of Heidelberg; Translational Lung Research Centre Heidelberg (TLRC), Member of the German Center for Lung Research (DZL), Germany
**C005** Impaired Ca\(^{2+}\)-mediated Cl- secretion in vitro is confirmed by nasal potential difference (NPD) measurements in patients with chronic rhinosinusitis (CRS)

11.15  David Burns, University College Cork, Ireland
**C006** Breathing with neuromuscular disease: insights from pre-clinical studies
Epithelia & Membrane Transport
Oral Communications A

10.00 - 11.30, Friday, 14 September
Moore, Fourth Floor

10.00  Lukas Wichmann, Justus-Liebig-University Giessen, Germany & Newcastle University, UK
**C019** Epithelial sodium channels (ENaC) containing the δ-subunit are highly sensitive to extracellular acidification in Xenopus laevis

10.15  Morag Mansley, The University of Edinburgh, UK
**C020** Complicated receptors in the collecting duct: regulation of ENaC-mediated Na⁺ transport by corticosteroids.

10.30  Gitte Hinrichs, University of Southern Denmark, Denmark
**C021** Induced nephrotic range glomerular proteinuria in mice is associated with amiloride-sensitive urinary plasmin formation and sodium retention

10.45  Zoltan Pethö, University of Münster, Germany
**C022** pH-dependent regulation of pancreatic stellate cell activation and proliferation

11.00  Karolina Najder, University of Münster, Germany
**C023** Role of Transient Receptor Potential Melastatin 2 channel in neutrophil function

11.15  Lalita Oparija, University of Zurich, Switzerland
**C024** Phosphorylation regulates LAT4 function in response to anticipated food intake and dietary protein content
Human & Exercise Physiology
Oral Communications A

10.00 - 11.30, Friday, 14 September
Abbey, Fourth Floor

10.00  Alfredo Lopez-Davila, Hannover Medical School, Germany
**C037** The strong binding states of the myosin head contribute to the activation of the thin filament in human soleus slow-twitch muscle fibers

10.15  Brendan Gabriel, Karolinska Institutet, Sweden
**C038** Afternoon exercise is more efficacious than morning exercise at improving blood glucose levels in men with type 2 diabetes

10.30  David Scully, Hull York Medical School, UK
**C039** Skeletal myogenesis can be driven by key growth factors contained in human platelets

10.45  Lydia Simpson, Bangor University, UK
**C040** The influence of high altitude exposure on sympathetic baroreflex function in humans: a comparison of lowlanders and Nepalese Sherpa

11.00  Polly Aylwin, University of Westminster, UK
**C041** The influence of myostatin on sexual dimorphism of human skeletal muscle

11.15  Einar Eftestøl, University of Oslo, Norway & Hosei University, Japan
**C042** Muscle memory with a rat climbing model
Education & Teaching
Oral Communications A

10.00 - 11.30, Friday, 14 September
Rutherford, Fourth Floor

10.00  Avijit Datta, York Teaching Hospital, UK
C109 Patterns of medical school e-learning: Effects of social media and introduction of a Smartphone mobile platform on learning

10.15  Charlotte Haigh, University of Leeds, UK
C110 Developing an undergraduate course to address the skills gap in the communication of research to a diverse audience beyond academia

10.30  Peace Mabeta, University of Pretoria, South Africa
C111 Designing authentic assessment strategies to evaluate multiple domains of competency in physiology

10.45  Jose Vega, Novant Health, Forsyth Medical Center, USA & TeleNeurologia SAS, Columbia
C112 Drowning and asphyxia in the time of Edmund Goodwyn

11.00  Rudolf Schubert, Medical Faculty Mannheim, University Heidelberg
C113 Explorative vs classical practical course – how to inspire scientific thinking in medical students

11.15  Mark Rae, University College Cork, Ireland
C114 How much do pre-clinical medical students utilise the internet to study physiology?
Frances Ashcroft, University of Oxford, UK

Sweetness and Light:
Impaired regulation of insulin secretion in diabetes

11.45 – 12.45, Friday, 14 September
Churchill, Ground Floor

Professor Dame Frances Ashcroft is Professor of Physiology at the University of Oxford, a Fellow of Trinity College Oxford, and a Fellow of the Royal Society of London.

Her research centres on how changes in blood glucose levels regulate insulin secretion from the pancreatic beta-cell and how this process is impaired in diabetes.

She discovered that the ATP-sensitive potassium (KATP) channel serves as the molecular link between glucose elevation and insulin secretion.

Mutations in KATP channel genes cause a rare inherited form of diabetes (neonatal diabetes), and her work with Professor Hattersley has enabled patients with this disorder to switch from insulin injections to drug therapy.

Her current focus is on beta-cell metabolism and the metabolic regulation of beta-cell ion channels.

She has written two popular science books: Life at the Extremes - the science of survival (HarperCollins, 2000) and The Spark of Life - electricity in the human body, (Penguin 2012).

Supported by the Journal of General Physiology

Selected by The Scandinavian Physiological Society
Lunch and lunchtime sessions
Friday, 14 September 12.45 - 14.15

Lunch is available on the third floor, and fifth floor

Enhancing the sensitivity of detecting cardiovascular changes:
A maths in medicine case study
13.00 - 14.00, Friday, 14 September
Churchill, Ground Floor

Manasi Nandi is a Senior Lecturer in Pharmacology at King’s College London, UK.

Manasi will be giving a talk on the cardiovascular dysregulation that occurs in septic shock and the application of a novel non-linear mathematical model to extract more information from cardiovascular waveforms, which may help detect sepsis earlier than traditional measures.

In association with ADInstruments
Early Career Researcher kick-starter competition

Friday, 14 September
Wiley Networking Lounge, Third Floor

We look forward to welcoming you the Wiley networking lounge at Europhysiology 2018, in London.

We’ll be showcasing some of our leading physiology titles and you’ll also be able to find out more about how Wiley Author Services can support you throughout the publishing journey. All are welcome so please drop by with friends and colleagues and make sure you have some fun in our photo booth while you’re there!

Enter our Early Career Researcher kick-starter competition for a chance to win £1000 of funding for your next research project!

On Friday, 14 September, we are running a competition for Early Career Researchers in the Wiley networking lounge, offering entrants the chance to win a £1000 kick-starter to help fund a new research project. We welcome researchers to enter by visiting our photo booth and filming a 20-second elevator pitch for their proposed project.

What is an elevator pitch?
Imagine you’re in a lift with the funder for research at your faculty. You have their undivided attention for 20 seconds – pitch your research idea for funding within that time, to see if you can convince them to help you kickstart your project.

Terms and conditions apply, please see the Wiley staff on the day.
Lunch and lunchtime sessions
Friday, 14 September 12.45 - 14.15

Lunch is available on the third floor, and fifth floor

Live CrossTalk debate with L. Felipe Barros and Lasse K. Bak
13.00 - 14.00, Friday, 14 September
St James, Fourth Floor

Is there an important astrocyte-to-neuron lactate shuttle that couples neuronal activity to glucose utilisation in the brain?

Join the authors of *The Journal of Physiology*’s recent CrossTalk debate to hear both side of this current controversy and form your own opinion!

**The Journal of Physiology**

Talking animals: public engagement and animal research
13.00 - 14.00, Friday, 14 September
Mountbatten, Sixth Floor

Understanding Animal Research - a not-for profit organisation dedicated to maintaining a supportive operating environment for biomedical research in the UK - will share their experience of what works when it comes to discussing animal research with the general public, how to feel safe and confident, and what you can do to prepare for awkward challenges and questions.
Innovations in physiology education

14.15 - 15.45, Friday, 14 September
Churchill, Ground Floor

Organisers: Sarah Hall, Cardiff University, UK, Nick Freestone, Kingston University, UK, Derek Scott, University of Aberdeen, UK, Sheila Amici-Dargan, Cardiff University, UK

14.15  Sarah Hall, Cardiff University, UK
SA012  Physiology online: Expanding knowledge and uptake of physiology through a Massive Open Online Course (MOOC)

14.35  Ian Turner, University of Derby, UK
SA013  Enhancing education through gamification

15.00  Ashild Odden Miland, The Arctic University of Norway, Norway
Team-based learning in basic physiology

15.15  Steve Elmer, Michigan Technological University, USA
Active learning of physiology using current events, historical lessons, and reverse engineering

Supported by ADInstruments
Nanodomain signaling in cardiac myocytes

14.15 - 15.45, Friday, 14 September
Mountbatten, Sixth Floor

Organiser: William Louch, University of Oslo, Norway

14.15  Manuela Zaccolo, University of Oxford, UK
SA014  cAMP nano-domains enable precise tuning of cardiac contractility

14.45  Karin Hammer, University Hospital Regensburg, Germany
SA015  Intercalated disc proteins modulate cardiac excitation-contraction coupling: Impaired ec-coupling and ion channel function in induced pluripotent stem cell derived cardiac myocytes from arrhythmogenic right ventricular cardiomyopathy patients

15.00  Xin Shen, University of Oslo, Norway
SA016  Revealing realistic ryanodine receptor organization in cardiac myocytes using 3D dSTORM imaging

15.15  Christian Soeller, University of Exeter, UK
SA017  Ryanodine receptor clusters in cardiac ventricular myocytes as prototypical calcium signaling nanodomains
Sex matters – beyond the obvious

14.15 - 15.45, Friday, 14 September
St James, Fourth Floor

Organisers: Susan Wray, University of Liverpool, UK and Gabriele Pfitzer, University of Cologne, Germany

14.15 Jane Reckelhoff, University of Mississippi, USA
SA018 Differential roles of androgens in acute kidney injury in male and female rats: Implications for humans

14.45 Emma Hart, University of Bristol, UK

15.00 Brian Harvey, Royal College of Surgeons in Ireland, Ireland
SA019 Sexual dimorphism of KCNQ1:KCNE3 channels affecting colon cancer proliferation and patient survival

15.15 Vera Regitz-Zagrosek, Berlin Institute of Gender in Medicine, Germany
Metabolism & Endocrinology Oral Communications A

14.15 - 15.45, Friday, 14 September
Westminster, Fourth Floor

14.15  Sandrine Verpoorten, Hull York Medical School, UK
C055 Diet-induced obesity impairs muscle stem cell recruitment patterns and induces oxidative stress in skeletal muscle which are mitigated by CD36 deletion

14.30  Ghulam Raza, Shere University of Oulu, Finland
C056 Effect of time-restricted feeding and exercise on metabolic diseases in mice

14.45  Kumral Özdemir, Zarife Marmara University, Turkey
C057 High fat diet abolishes the inhibitory effect of centrally administered nesfatin-1 on gastric emptying rate: role of GLP-1 and CCK receptors

15.00  Daniel Brierley, University College London, UK
C058 Potentiation of satiety by activation of glucagon-like peptide-1 producing preproglucagon neurons

15.15  Pagona Sfyri, Hull York Medical School, UK
C059 The obesity-independent impact of hyperlipidaemia and atherosclerosis on skeletal muscle metabolism and redox biology

15.30  Justine Fischoeder, Institute for Biology II, RWTH Aachen University, Germany
C060 The calcium signaling network in murine testis
14.15  Robyn Holden, University of Kent and University of Greenwich, UK
C073 Expression of TASK3_G236R channels, associated with KCNK9 Imprinting Syndrome, is reduced at the plasma membrane but this does not account for all of the functional consequences of this mutation

14.30  Michael Hadler, Charité Universitätsmedizin Berlin, Germany
C074 Group I metabotropic glutamate receptors mediate γ-potentiation in mouse hippocampal CA3 region

14.45  Javier Jimenez-Martin, University of Otago, New Zealand
C075 Analysis of motor learning in head fixed mice during voltage imaging

15.00  Alexander Haworth, University of York, UK
C076 Regulation of voltage-gated sodium channel β1 subunit function by secretase cleavage

15.15  Sertaç Üstün, Ankara University, Faculty of Medicine, Turkey
C077 Neural mechanisms of numerical processing in typically developing children and children with dyscalculia

15.30  Maddalena Comini, Forschungszentrum Juelich, Germany
C078 Functional role of chloride/proton exchangers ClC-3 and ClC-5 in exocytosis of large dense core vesicles in chromaffin cells
Vascular & Smooth Muscle Physiology
Oral Communications A

14.15 - 15.45, Friday, 14 September
Abbey, Fourth Floor

14.15  Harry Pritchard, University of Manchester, UK
C091  Junctophilin-2 Supports Functional Coupling Between Type 2 Ryanodine Receptors and BK Channels in Vascular Smooth Muscle Cells

14.30  Teresa Tropea, University of Manchester, UK
C092  Nitrate-independent components of beetroot juice reduce blood pressure and improve vascular function in pregnant eNOS−/− mice

14.45  Vishakha Tyagi, Dundalk Institute of Technology, Ireland
C093  Mutations of the pore and calcium-binding regions of TMEM16A differentially affect the blocking actions of CaCCinh-A01 and niflumic acid

15.00  Tony Parker, University of Liverpool, UK
C094  Soluble adenylyl cyclase links store-operated Ca²⁺ entry (SOCE) to Ca²⁺/cyclic AMP-response element binding protein (CREB) activation in human coronary artery smooth muscle cells

15.15  Lucia Alonso, University of Valladolid; IBGM & KU Leuven, Spain
C095  Role of TRPA1 and TRPM8 channels in intrinsic vascular responses to cold

15.30  Emil Nasyrov, Heidelberg University, Germany
C096  Deficiency of prolyl-4-hydroxylase domain 2 (PHD2) in neurons enhances microvessel formation in the postnatal mouse brain through HIF-dependent and -independent mechanisms
Mike Ludwig, University of Edinburgh, UK
PL003 Diversity of peptide signalling in the brain: of whispered secrets and public announcements

16.00 - 16.45, Friday, 14 September
Mountbatten, Sixth Floor

Professor Mike Ludwig is a basic scientist interested in mechanisms and behavioural consequences of neuropeptide release from nerve cells. He graduated in Biology and then received a PhD in Neuroscience at the University of Leipzig, Germany. After two years postdoctoral research as a NIH/Fogarty International Fellow in the US he came to Edinburgh. Professor Ludwig continued his research under a German Career Development Fellowship and a Wellcome Trust Grant before joining the staff of the University of Edinburgh as Lecturer in 2001.

Robert Fenton, Aarhus University, Denmark
PL004 The ins and outs of protein trafficking – a “complex” story?

16.00 - 16.45, Friday, 14 September
Churchill, Ground Floor

Robert A. Fenton received his PhD in Physiology from the University of Manchester, UK and undertook the majority of his postdoctoral training at the Laboratory of Kidney and Electrolyte Metabolism, National Institutes of Health, Bethesda, USA. For the last 13 years he has conducted research at Aarhus University, Denmark, where he is currently Professor of Molecular Cell Biology and leader of a membrane protein research group and research center. He is recognized internationally as a major contributor to the core knowledge base of renal epithelial cell physiology and nephrology and has made landmark achievements in the field of urea transporters, aquaporin water channels and various renal cotransporters.
PCA001
Sodium nitroprusside dilates cerebral vessels in young men
**Niels D. Olesen**1, 2, Mads Fischer1, 3, Niels H. Secher1
1Department of Anaesthesia, Rigshospitalet, Copenhagen Ø, Denmark,
2Department of Biomedical Sciences, University of Copenhagen,
Copenhagen, Denmark, 3Department of Nutrition, Exercise and Sports,
University of Copenhagen, Copenhagen, Denmark

PCA002
Effect of Valsalva Maneuver on Ventricular Repolarization
**Om Lata Bhagat**1, Anish Singhal1, Surender Deora2
1Physiology, All India Institute of Medical Sciences, Jodhpur, India, Jodhpur,
Rajasthan, India, 2Cardiology, All India Insitute of Medical Sciences, Jodhpur,
India, Jodhpur, India

PCA003
C-Reactive Protein is Related to Left Ventricular Mass Independent of Co-
Morbidities in a Community Sample with a High Prevalence of Risk-Related
CRP.
**FABIAN MAUNGANIDZE**1, 2
1PHYSIOLOGY, MIDLANDS STATE UNIVERSITY, Gweru, Zimbabwe,
2Physiology, University of the Witwatersrand, Johannesburg, Gauteng,
South Africa

PCA004
In situ evaluation of tonic and reflex cardiorespiratory changes induced by
chlorpyrifos-oxon in rats.
Claudia J. Muller1, Igor S. Felippe1, 2, Ana P. Abdala3, Luciana M.
Passamani1, Julian F. Paton3, 2, **Karla N. Sampaio**1
1Pharmaceutical Sciences, Federal University of Espírito Santo, Vitória,
Espírito Santo, Brazil, 2Physiology, University of Auckland, Auckland, New
Zealand, 3Physiology, University of Bristol, Bristol, United Kingdom
PCA005
Effects of levosimendan in rats with lipopolysaccharide-induced disseminated intravascular coagulation
Hsin-Jung Tsai3, Shiu-Jen Chen2, Chao-Chun Wang1, Cheng-Ming Tsao4, Wen-Jinn Liaw5, Chin-Chen Wu1
1Pharmacology, National Defense Medical Center, Taipei, Taiwan, 2Department of Long-Term Care, College of Nursing and Health, Kang-Ning University, Taipei, Taiwan, 3Department of Anesthesiology, Mackay Memorial Hospital, Taipei, Taiwan, 4Department of Anesthesiology, Veterans General Hospital, Taipei, Taiwan, 5Department of Anesthesiology, Tungs’ Taichung MetroHarbor Hospital, Taipei, Taiwan

PCA006
Investigation of the osmopressor response in young healthy adults
Mark Carew
Pharmacy, Kingston University, Woking, Surrey, United Kingdom

PCA007
Do fasting healthy subjects show alterations in heart rate variability?
Mirza M. Subhan, Kashif D. Ali, Faouzi Benterkia
School of Biomedical Sciences, University of Plymouth, Plymouth, United Kingdom

PCA008
Actions of aqueous extract of roots of Carissa edulis (Natal Plum) on cardiac properties of isolated rabbit’s heart.
MUHAMMED SURAJ YUSUF1, Muhammad A. Mabrouk2, KABIR A. MUHAMMED1
1Human Physiology, Kaduna State University., Kaduna, Kaduna, Nigeria, 2Human Physiology, Bayero University, Kano, Kano, Nigeria
PCA009
The physiological effects of Nasal High Flow: a Theoretical Study
**Alona Ben-Tal**1, James Revie2, Stanislav Tatkov2
1Institute of Natural and Mathematical Sciences, Massey University, Auckland, New Zealand, 2Fisher & Paykel Healthcare Limited, Auckland, New Zealand

PCA010
Can atropine and pralidoxime restore neuroreflex cardiorespiratory function after acute exposure to chlorpyrifos in rats?
**Igor S. Felippe**2, 1, Claudia J. Muller2, Alciene A. Siqueira2, Leonardo dos Santos3, Vanessa Beijamini2, Julian F. Paton1, 4, Karla N. Sampaio2
1Physiology, The University of Auckland, Auckland, New Zealand, 2Pharmaceutical Sciences, Federal University of Espirito Santo, Vitoria, Espirito Santo, Brazil, 3Physiological Science, Federal University of Espirito Santo, Vitoria, Espirito Santo, Brazil, 4Physiology, Pharmacology & Neuroscience, Biomedical Sciences, University of Bristol, Bristol, United Kingdom

PCA011
INFLUENCE OF CHANGING GRAVITY AND EXERTED EXHALATION - LINKAGE BETWEEN OXYGEN UPTAKE AND CARDIAC OUTPUT
**Andreas Werner**1, 2, Jessica Koschate3, Uwe Drescher4, Uwe Hoffmann3
1Diagnostic and Research, German Air Force – Centre of Aerospace Medicine, Königsbrück, Germany, 2Institute of Physiology – Center for Space Medicine and extreme environments, University Medicine Charité Berlin, Berlin, Berlin, Germany, 3Institute of Physiology and Anatomy, German Sport University Cologne, Cologne, North Rhine-Westphalia, Germany, 4Institute for Preventive Medicine – German Armed Forces, Koblenz, Germany

Cardiac & Respiratory Physiology
PCA012
Acute cardiovascular responses to device-guided slow breathing in healthy human beings
**Alison K. McConnell**1, Pedro M. Fernandes Vargas1, 2, Jodi Spurgeon1
1Human Sciences & Public Health, Bournemouth University, Bournemouth, Dorset, United Kingdom, 2CIDEF, Instituto Manuel Teixeira Gomes, Portimão, Portugal

PCA013
High-fat diet causes arrhythmogenic remodelling of the atria and sinus node
**Kirsty Webb**, Sunil Logantha, Mais Absi, Elizabeth J. Cartwright, Henggui Zhang, Oliver Monfredi, Mark R. Boyett
Cardiovascular, University of Manchester, Merseyside, United Kingdom

PCA014
Discrepant findings to angiotensin II-induced hypertension in Rag-1 knockout mice cannot be explained by dose effects and salt intake alone
**Anika Seniuk**1, Andra Stubbe1, Jonas Leonhard Thiele1, Philipp Oser1, Alva Rosendahl2, Ulrich Wenzel2, Heimo Ehmke1
1Department of Cellular and Integrative Physiology, University Medical Center Hamburg-Eppendorf (UKE), Hamburg, Germany, 2Department of Nephrology, University Medical Center Hamburg, Hamburg, Germany

PCA015
Loss of cross-talk between atrial A1 and A2A Adenosine receptors upon continuous atrial pacing and autonomic stimulation
**Mafalda Carvalho**1, Sérgio Laranjo1, 2, Mário M. Oliveria2, Isabel Rocha1, 2
1Cardiovascular Center of University of Lisbon, Lisboa, Portugal, 2Physiology Institute, Faculty of Medicine of University of Lisbon, Lisbon, Portugal
PCA016
Potassium intake reduces the elevated blood pressure response to oral salt loading as well as to voluntary hand grip in normotensive adult Nigerians. Ibironke Awodele1, **Olusoga Sofola**2
1Physiology, Babcock University, Ilishan, Nigeria, 2Physiology, College of Medicine, University of Lagos, Lagos, Nigeria

PCA017
Gender differences in the systolic blood pressure in young healthy adults **Manisha Bade**1, CG Saha2
1Physiology, Kathmandu University School of Medical Sciences, Banepa, Kavrepalanchok, Nepal, 2Physiology, Manipal College of Medical Sciences, Pokhara, Nepal

PCA018
Arousal from hibernation: patterns of heart rate variability in golden hamsters. **Oleksandr V. Shylo**, Victoria V. Lomako, Georgiy O. Babijchuk
Cryophysiology, Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkiv, Ukraine

PCA019
The in vitro effect of polyvinylpyrrolidone and citrate coated silver nanoparticles on erythrocytic oxidative damage and eryptosis
Zannatul Ferdous1, Sumaya Beegam1, Saeed Tariq2, Badreldin H. Ali3, **Abderrahim Nemmar**1
1Physiology, United Arab Emirates University, College of Medicine and Health Sciences, Al-Ain, Abu Dhabi, United Arab Emirates, 2Anatomy, United Arab Emirates University, College of Medicine and Health Sciences, Al-Ain, Abu Dhabi, United Arab Emirates, 3Pharmacology and Clinical Pharmacy, Sultan Qaboos University, College of Medicine and Health Sciences, Al-Khod, Muscat, United Kingdom
PCA020
ATP release from cardiomyocytes involves cystic fibrosis transmembrane conductance regulator (CFTR), pannexin1 (Panx1), Ca signaling and mitochondria

**Heather J. Ballard, Shawn Y. Wang**
School of Biomedical Sciences, The University of Hong Kong, Pokfulam, Hong Kong

PCA021
HIF2a mediates hypoxia-induced expression of the Wilms tumor protein WT1 in Kelly neuroblastoma cells

**Lorenzo Catanese1, Lina K. Sciesielski2, Karin M. Kirschner1, Holger Scholz1, Katharina Krueger1**
1Inst. of Vegetative Physiology, Charité – Universitätsmedizin Berlin, Berlin, Germany, 2Department of Neonatology, Charité – Universitätsmedizin Berlin, Berlin, Germany

PCA022
The evolution and function of atrial smooth muscle in turtles

**William Joyce1, Bjarke Jensen2, Michael Axelsson3, Tobias Wang1**
1Bioscience, Aarhus University, Aarhus, Denmark, 2Medical Biology, Academic Medical Center, Amsterdam, Netherlands, 3Department of Biological and Environmental Sciences, University of Gothenburg, Gothenburg, Sweden

PCA023
Autonomic regulation of the pulmonary vasculature in freshwater turtle

**Tobias Wang1, 2, Astrid Wheler1, Renato Filogonio1, Ulf Simonsen3**
1Zoophysiology, Aarhus University, Aarhus C, Denmark, 2Aarhus Institute of Advanced Sciences, Aarhus, Denmark, 3Biomedicine, Aarhus University, Aarhus, Denmark

**Cardiac & Respiratory Physiology**
PCA024
The NADPH Oxidase Nox4 controls polarization of macrophages in a NFKB-dependent manner
**Valeska Helfinger**1, Katalin Palfi1, Andreas Weigert2, Katrin Schröder1
1Institute for Cardiovascular Physiology, Goethe University Frankfurt, Frankfurt am Main, Germany, 2Institute for Biochemistry I, Frankfurt am Main, Germany

PCA025
The effects of tumour necrosis factor-alpha and interleukin-1-beta on cardiac intracellular calcium handling
**Natasha E. Hadgraft**, David J. Greensmith
Biomedical Research Centre, University of Salford, Salford, Greater Manchester, United Kingdom

PCA026
Sevoflurane increases plasma levels and angiogenic properties of human endothelial progenitor cells
**Adelina Vlad**2, 1, Loredan Niculescu3, Camelia Stancu3, Mihaela Popescu2, 1, Ionut Stanca1, Dan Corneci2, 1, Laura Ceafalan2, Marilena Gilca2, Andreea Catarina Popescu2, 1, Doina Dimulescu2, 1
1Elias University Emergency Hospital, Bucharest, Romania, 2Carol Davila University of Medicine and Pharmacy, Bucharest, Romania, 3Nicolae Simionescu Institute of Cellular Biology and Pathology, Bucharest, Romania

PCA027
Calcium signaling in epicardial and endocardial ventricular myocytes from streptozotocin-induced diabetic rat
**Frank C. Howarth**1, Lina Al Kury3, Vadym Sydorenko2, Manal Smail1, Anwar Qureshi1, Anatoliy Shmygol1, Jai Singh4
1Physiology, UAE University, Al ain, United Arab Emirates, 2Bogomoletz Institute of Physiology, Kiev, Ukraine, 3Zayed University, Abu Dhabi, United Arab Emirates, 4University of Central Lancashire, Preston, United Kingdom
PCA028
Amphiphysin II (Bin 1) driven transverse tubule formation in cardiac muscle. Jessica Caldwell, Rebecca Taylor, David Eisner, Katharine Dibb, Andrew Trafford
Cardiac Physiology, University of Manchester, Manchester, United Kingdom

PCA029
Matrix metalloproteinase 2 acts as repressor hypertrophic growth in ventricular cardiomyocytes of rat Gerhild Euler1, Fabian Locquet1, Joanna Kociszewska1, Jacqueline Heger1, Péter Bencsik2, 3, Peter Ferdinandy2, 3, Rainer Schulz1
1Institute of Physiology, Justus Liebig University, Giessen, Deutschland, Germany, 2Department of Biochemistry, University of Szeged, Szeged, Hungary, 3Pharmahungary Group, Szeged, Hungary

PCA030
Hydrogen sulfide regulates mitochondrial Ca2+ accumulation and mitochondrial function in adult and old rat hearts Alina Luchkova, Natalia Strutynska, Vadym Sagach
Blood Circulation, Bogomoletz Institute of Physiology, Kyiv, Ukraine

PCA031
Subcellular organization of ryanodine receptors and Ca2+ channels modulates the propensity of spontaneous Ca2+ waves and cardiac arrhythmias Henry Sutanto1, Bart v. Sloun1, Patrick Schönleitner2, Marc v. Zanvoort3, Gudrun Antoons2, Jordi Heijman1
1Department of Cardiology, Maastricht University, Maastricht, Limburg, Netherlands, 2Department of Physiology, Maastricht University, Maastricht, Limburg, Netherlands, 3Department of Genetics & Cell Biology, Maastricht University, Maastricht, Limburg, Netherlands

Cardiac & Respiratory Physiology
PCA032
A phospholipase A2 homologue increases the intracellular calcium concentration and induces spontaneous intracellular calcium transients and cell collapse in adult rat cardiomyocytes
**Alfredo J. Lopez-Davila**1, Natalie Weber1, Theresia Kraft1, Mariela Arias-Hidalgo2, 3, Julián Fernández4, José María Gutiérrez4, Bruno Lomonte4
1Institute for Molecular and Cell Physiology, Hannover Medical School, Hannover, Germany, 2Institute for Molecular and Cell Physiology, AG Vegetative Physiologie, Hannover Medical School, Hannover, Germany, 3Departamento de Fisiología, Universidad de Costa Rica, San José, Costa Rica, 4Instituto Clodomiro Picado, Facultad de Microbiología, Universidad de Costa Rica, San José, Costa Rica

PCA033
The Impact of Intentional Distortion of Image Quality on Left Ventricular Deformation Indices by Three-dimensional Speckle-Tracking Echocardiography
**Lamia K. Al Saikhan**1, 2, Chloe Park1, Alun Hughes1
1Institute of Cardiovascular Science, School of Life and Medical Sciences, University College London, London, United Kingdom, 2Department of Cardiac Technology, College of Applied Medial Sciences, Imam Abdulrahman Bin Faisal University, Dammam, Saudi Arabia

PCA034
Role of Nitric Oxide on Cardiac Regeneration through Fibrotic Elimination in Zebrafish (Danio Rerio) Model of Myocardial Infarction
**Muhammed Ibrahim Sekar**, Suruthi Sankar
Department of Anatomy, Dr. ALM PG IBMS, University of Madras, Taramani campus, Chennai, Tamil Nadu, India

Cardiac & Respiratory Physiology
PCA035
Hearts subjected to ischemia-reperfusion benefit from adenine nucleotide translocase 1 overexpression

**Jacqueline Heger**1, Oleg Lynetskiy1, Gerhild Euler1, Ulf Landmesser2, 3, Klaus-Dieter Schlüter1, Rainer Schulz1, Andrea Doener2, 3
1Institute of Physiology, Justus Liebig University, Giessen, Germany, 2Medizinische Klinik für Kardiologie, Charité, Universitätsmedizin Berlin, Campus Benjamin Franklin, Berlin, Germany, 3German Centre for Cardiovascular Research, Berlin, Germany

PCA036
Calcium/calmodulin-dependent protein kinase II is partly responsible for beta-adrenergic stimulation of slow delayed and inward rectifier potassium currents

**Norbert Szentandrassy**2, 1, Balazs Horvath1, 4, Roland Veress1, Dóra Baranyai1, Bettina Kurtán1, Dénes Kiss1, Csaba Dienes1, János Magyar1, 3, Péter Nánási2, 1, Tamás Bányász1
1Department of Physiology, University of Debrecen, Debrecen, Hungary, 2Department of Dental Physiology and Pharmacology, University of Debrecen, Debrecen, Hungary, 3Division of Sport Physiology, Department of Physiology, University of Debrecen, Debrecen, Hungary, 4Faculty of Pharmacy, University of Debrecen, Debrecen, Hungary

PCA037
Chronic oxidative stress-mediated remodeling of cardiac gap junctions in an in vitro model for arrhythmogenic cardiomyopathies

**Carl-Mattheis Wahl**, Markus Hecker, Nina D. Ullrich
Institute of Physiology and Pathophysiology, Division of Cardiovascular Physiology, Heidelberg University, Heidelberg, Germany

PCA038
Imaging of human neutrophil granulocytes by active targeting of perfluorocarbon-nanoemulsion and non-invasive 19F MRI

**Pascal Bouvain**, Vera Flocke, Bodo Steckel, Sebastian Temme, Ulrich Flögel molecular cardiology, Heinrich-Heine Universität Düsseldorf, Düsseldorf, Germany

**Cardiac & Respiratory Physiology**
PCA039
Cardiosphere-derived cells as a Model System for Myocardial Infarction
Luca Salhöfer, Joachim Fandrey, Timm Schreiber
Institute of Physiology, University of Duisburg-Essen, Essen, Germany

PCA040
Sixteen loci identified for T-wave morphology changes in response to exercise and recovery from UK Biobank implicate genes governing ventricular repolarization
Julia Ramírez1, 2, Stefan van Duijvenboden2, 1, Michele Orini3, 4, Andrew Tinker1, 5, Pier D. Lambiase2, 3, Patricia B. Munroe1, 5
1William Harvey Research Institute, Queen Mary University London, London, London, United Kingdom, 2Institute of Cardiovascular Science, University College London, London, London, United Kingdom, 3Barts Heart Centre, St Bartholomews Hospital, London, London, United Kingdom, 4Mechanical Engineering Department, University College London, London, London, United Kingdom, 5NIHR Barts Cardiovascular Biomedical Research Centre, Barts and The London School of Medicine and Dentistry, Queen Mary University London, London, London, United Kingdom

PCA041
Molecular basis of arrhythmic substrate in ageing, Pgc-1β-deficient murine hearts modelling mitochondrial dysfunction
Ibrahim T. Fazmin1, 2, Charlotte E. Edling2, Karan R. Chadda1, 2, Shiraz Ahmad1, Haseeb Valli1, Christopher L. Huang1, 3, Kamalan Jeevaratnam1, 2
1Physiological Laboratory, University of Cambridge, Cambridge, United Kingdom, 2Faculty of Health and Medical Sciences, University of Surrey, Guildford, United Kingdom, 3Division of Cardiovascular Biology, Department of Biochemistry, University of Cambridge, Cambridge, United Kingdom

Cardiac & Respiratory Physiology
PCA042
Ultrastructure and ion channel expression of the Purkinje-ventricular junction in rabbit heart

1Internal Medicine, Seoul National University Bundang Hospital, Seongnam, Gyeonggi-do, Korea (the Republic of), 2Ritsumeikan University, Shiga, Japan, 3University of Manchester, Manchester, United Kingdom

PCA043
Diabetes mellitus is associated with increased ghrelin level in the rat heart

Ernest A. Adeghate1, Mohamed Lotfy3, Crystal D'Souza1, Saeed Tariq1, Frank C. Howarth4, **Jai Singh**2
1Department of Anatomy, United Arab Emirates University, Al Ain, United Arab Emirates, 2School of Forensic Sciences, University of Central Lancashire, Preston, United Kingdom, 3Department of Biology, United Arab Emirates University, Al Ain, Abu Dhabi, United Arab Emirates, 4Department of Physiology, United Arab Emirates University, Al Ain, Abu Dhabi, United Arab Emirates

PCA044
Iron deficiency reduces cardiac contraction by downregulating RyR2 channels and suppressing SERCA pump activity

**Yu Jin Chung**, Antao Luo, Aminah Loonat, samira Lakhal-Littleton, Peter A. Robbins, Pawel Swietach
Department of Physiology, Anatomy & Genetics, University of Oxford, Oxford, United Kingdom

Cardiac & Respiratory Physiology
PCA045
The cardiovascular role of proprotein convertase subtilisin/kexin 9 (PCSK9)
Annemarie Wolf1, Rolf Schreckenberg1, Martin Weber1, Rainer Schulz1,
Susanne Rohrbach1, Li Ling1, Guenter Lochnit2, Klaus-Dieter Schlueuter1
1Dept. of Physiology, Justus-Liebig-University, Giessen, Germany,
2Department of Biochemistry, Justus-Liebig-University, Giessen, Germany

PCA046
Cardiac specific overexpression of PGC-1α isoform 4 in mice causes distinct
changes in postnatal cardiomyocyte Na+/K+ ATPase function and leads to
early death by dilating heart failure
Tomi Tuomainen1, Nikolay Naumenko1, Maija Mutikainen1, Anastasia
Shakirzyanova1, Jorge Ruas2, Pasi Tavi1, 2
1A.I. Virtanen Institute for Molecular Sciences, University of Eastern Finland,
Kuopio, Finland, 2Department of Physiology and Pharmacology, Karolinska
Institutet, Stockholm, Sweden

PCA047
The cardiovascular role of uncoupling protein 2 (Ucp2): Is it cardiac-specific
and an uncoupling protein?
Hanna Kutsche, Christine Hirschhäuser, Rolf Schreckenberg, Martin Weber,
Rainer Schulz, Klaus-Dieter Schlueuter
Dept. of Physiology, Justus-Liebig-University, Giessen, Germany

PCA049
HIF-1α controls the expression of Na/K-ATPase in hypoxic cardiomyocytes
Emel Baloglu1, Ismail Hakki Ulus1, Heimo Mairbäurl2, 3
1Department of Pharmacology, School of Medicine, Acibadem Mehmet Ali
Aydinlar University, Istanbul, Turkey, 2Medical Clinic VII, Sports Medicine,
University of Heidelberg, Heidelberg, Germany, 3Translational Lung Research
Center (TLRC), part of the German Center of Lung Research (DZL),
Heidelberg, Germany

Cardiac & Respiratory Physiology
PCA050
The Impact of Palmitoylation on Na⁺–Ca²⁺ Exchanger (NCX) Function
Caglar Gok, William Fuller
Institute of Cardiovascular and Medical Sciences, University of Glasgow, Glasgow, United Kingdom

PCA051
Tetrahydrobiopterin (BH4) supplementation prevents the cardiorenal effects of diabetes in mice
Karen Soto, Ulises Novoa, Daniel R. Gonzalez
Ciencias Básicas Biomedicas, Universidad de Talca, Talca, Chile

PCA052
miR-221/222 in cardiac electrical and structural remodeling
Maria Knymrim, Stephanie Binas, Mirja Hünerberg, Udo Klöckner, Sindy Rabe, Sigrid Mildenberger, Michael Gekle, Claudia Grossmann, Barbara Schreier
Julius Bernstein Institute of Physiology, Martin Luther University Halle-Wittenberg, Halle (Saale), Germany

PCA053
Electrical remodelling of the atrioventricular node causes heart block in athletes
Alicia D'Souza1, Shu Nakao2, Pietro Mesirca3, Tariq Trussell1, Min Zi1, Sunil Logantha1, Jue Li1, Yanwen Wang1, Thomas Jespersen4, Rikke Buhl4, Elizabeth J. Cartwright1, Matteo Mangoni3, Mark R. Boyett1, Halina Dobrzynski1
1University of Manchester, Manchester, United Kingdom, 2Ritsumeikan University, Kyoto, Japan, 3CNRS Institut de Génomique Fonctionnelle, Montpellier, France, 4University of Copenhagen, Copenhagen, Denmark

PCA054
Novel technique for the simultaneous isolation of purified cardiac fibroblasts and epicardial cells from the infarcted murine heart
Christoph Owenier, Julia Hesse, Christina Alter, Juergen Schrader
Molecular Cardiology, Uniklinikum Düsseldorf, Duesseldorf, Germany

Cardiac & Respiratory Physiology
PCA055
Mitochondrial DAMPs in ex vivo ischemia-reperfusion injury in mouse hearts
May-Kristin Torp1, Trine Ranheim2, Torun Flatebø1, Christina Heiestad1,
Arne Yndestad2, Kåre-Olav Stensløkken1
1University of Oslo, Oslo, Norway, 2Oslo University Hospital, Oslo, Norway

PCA056
Quantitative mass spectrometry-based proteomics determines the
uniqueness of the sinus node
Mark R. Boyett1, Nora Linscheid2, Sunil Logantha1, Pi C. Poulsen2,
Shanzhou Zhang1, Gina Galli1, Martin Humphries1, Henggui Zhang1, Jesper
V. Olsen2, Alicia Lundby2
1University of Manchester, Manchester, Lancashire, United Kingdom,
2University of Copenhagen, Copenhagen, Denmark

PCA057
Hypoxia regulates purine metabolism and adenosine-A2BR signalling of
epicardium-derived cells formed after myocardial infarction
Julia Hesse, Wiebke Groterath, Zhaoping Ding, Aseel Marzoq, Juergen
Schrader
Department of Molecular Cardiology, Heinrich Heine University Duesseldorf,
Duesseldorf, Germany

PCA058
A shift in the atrial expression of voltage-gated sodium channels is seen in
old age with Nav1.5 declining and Nav1.8 increasing – a prelude to atrial
fibrillation.
Stephanie Cooper1, Matthew K. Lancaster2, Sandra A. Jones1
1University of Hull, Hull, United Kingdom, 2University of Leeds, Leeds,
United Kingdom

Cardiac & Respiratory Physiology
PCA059
A free-fluid transport pathway of fibrous connective tissues connecting the extremity end with the heart surfaces in a human gross anatomic study
Hongyi Lee2, Chongqing Yang5, Fang Wang1, Min Chen5, Fusui Ji1, Liang Xu5, Naili Wang3, Wentao Liu4, Di Zhang3, Zhuo Ao4, Luru Dai4, Si Su3, Chao Ma3, Dong Han4, Hua Li6
1Cardiology department, Beijing Hospital, Beijing, China, 2Cardiology Department, Beijing Hospital, Beijing, China, 3Department of Human Anatomy, Histology and Embryology, Institute of Basic Medical Sciences, Neuroscience Center, Chinese Academy of Medical Sciences, Peking Union Medical College, Beijing, China, 4National Center for Nanoscience and Technology, Beijing, China, 5Beijing Hospital, Beijing, China, 6Institute of Computing Technology, Chinese Academy of Sciences, Beijing, China

PCA060
Cardiac autonomic modulation in adults with and without small abdominal aortic aneurysm
Tom Bailey1, 2, Maria Perissiou2, Mark Windsor2, Michael Nam3, Kim Greaves3, 2, Jonathan Golledge4, 5, Anthony Leicht6, Christopher Askew2
1School of Human Movement and Nutrition Science, The University of Queensland, Brisbane, Queensland, Australia, 2VasoActive Research Group, University of the Sunshine Coast, Sippy Downs, Queensland, Australia, 3Sunshine Coast Hospital and Health Service, Sunshine Coast University Hospital, Birtinya, Queensland, Australia, 4Department of Vascular and Endovascular Surgery, The Townsville Hospital, Townsville, Queensland, Australia, 5Queensland Centre for Peripheral Vascular Disease, James Cook University, Townsville, Queensland, Australia, 6Sport and Exercise Science, James Cook University, Townsville, Queensland, Australia

PCA061
Gasotransmitters modulation of the voltage-gated K+ channel Kv1.5.
Moza Al Owais1, Nishani T. Hettiarachi2, Jonathan D. Lippiat1, Jason L. Scragg2, Derek S. Steele1, Chris Peers2
1School of Biomedical Sciences, University of Leeds, Leeds, England, United Kingdom, 2School of Medicine, University of Leeds, Leeds, United Kingdom
PCA062
Impact of novel calmodulin mutations on SK3 channels
**Arnela Saljic**1, Kalai Mangai Muthukumarasamy1, Jonas Marstrand la Cour2, Kim Boddum1, Martin Berchtold2, Morten Grunnet3, Thomas Jespersen1
1Department of Biomedical Sciences, University of Copenhagen, Copenhagen NW, Denmark, 2Department of Biology, Copenhagen Biocenter, Copenhagen, Denmark, 3Lundbeck, Copenhagen, Denmark

PCA063
TRPM4 knockdown modulates the sodium current in mouse cardiac myocytes.
**LIJO CHERIAN OZHATHIL**, Jean-Sébastien Rougier, Essers Maria, Hugues Abriel
INSTITUTE OF BIOCHEMISTRY AND MOLECULAR MEDICINE, UNIVERSITY OF BERN, Bern, Bern Canton, Switzerland

PCA064
Coronary microvascular perfusion in rheumatoid arthritis: the role of subtypes of obesity
**Aamer Sandoo**1, 2, Antonis Stavropolous-Kalinoglou3, Jacqueline P. Smith2, George Kitas2
1School of Sport, Health and Exercise Sciences, Bangor University, Bangor, United Kingdom, 2Clinical Research Unit, Dudley Group NHS Foundation Trust, Dudley, United Kingdom, 3Carnegie School of Sports, Leeds Beckett University, Leeds, United Kingdom

PCA065
Investigation role of Urotensin II on electrical activity of ventricular myocytes
**Hadeel S. Al Ali**1, Glenn Rodrigo1, David Lambert2
1Cardiovascular Sciences, University of Leicester, Leicester, United Kingdom, 2Cardiovascular Sciences, University of Leicester, Leicester, United Kingdom

Cardiac & Respiratory Physiology
PCA066
The effect of chronic inflammation on circadian rhythms in the preterm fetal sheep
Victoria King1, Simerdeep Dhillon1, Robert Galinsky2, 1, Chris Lear1, Alistair J. Gunn1, Laura Bennet1
1Physiology, The University of Auckland, Auckland, New Zealand, 2Ritchie Centre, Hudson Research Institute, Melbourne, Victoria, Australia

PCA067
Intrauterine growth restriction as a consequence of increased maternal salt intake in mice
Isabel Wageringel, Anika Seniuk, Heimo Ehmke
Department of Cellular and Integrative Physiology, University Medical Center Hamburg–Eppendorf (UKE), Hamburg, Germany

PCA068
Functional adaptation of the preterm lamb diaphragm in the first week of life is not influenced by in utero lipopolysaccharide exposure
Gavin Pinniger1, Chrissie J. Astell1, Tanzila Mahzabin1, Jenny Lam1, Robert B. White1, Anthony J. Bakker1, Siavash Ahmadi-Noorbakhsh1, Peter B. Noble1, 2, Jane J. Pillow1, 2
1School of Human Sciences, The University of Western Australia, Perth, Western Australia, Australia, 2Centre for Neonatal Research and Education, The University of Western Australia, Perth, Western Australia, Australia

PCA069
Novel Epo regulating transcription factors
Darko Maric1, 6, Maarten Chantillon2, Laura Yerly3, Betty Gardie4, Holger Cario5, David Hoogewijs1, 6
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Cardiac & Respiratory Physiology
PCA070
Unbiased assessment of input function for positron emission tomography molecular imaging
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PCA071
Role of renal afferent nerves in injury and inflammation of the kidney
Ella Murphy, Lauren Mulcahy, Mohammed Abdulla
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PCA072
Screening asymptomatic school children for early asthma by determining mild airway narrowing through PEFR measurement
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PCA073
Oral anethole improves respiratory function in an ovalbumin-induced asthma model
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PCA074
Genetic ablation of the newly identified androglobin leads to primary ciliary dyskinesia
Anna Keppner\textsuperscript{1}, Sara Santambrogio\textsuperscript{2}, Patrick Engeler\textsuperscript{1}, David Hoogewijs\textsuperscript{1}
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PCA075
Time-dependent acute lung and spermatic toxicity of exposure to C60 fullerene in mice
Felipe G. Pinheiro\textsuperscript{2, 1}, Maria D. Moreira-Gomes\textsuperscript{2, 1}, Mariana N. Machado\textsuperscript{1}, Tailane S. Almeida\textsuperscript{1}, Priscila A. Barboza\textsuperscript{1}, Luis F. Oliveira\textsuperscript{3}, Francisco S. Cavalcante\textsuperscript{4}, José H. Leal–Cardoso\textsuperscript{2}, Walter A. Zin\textsuperscript{1}
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PCA076
Effects of olprinone on airway reactivity and inflammation in ovalbumin-sensitized guinea pigs
Juraj Mokrý\textsuperscript{1, 2}, Martin Kertys\textsuperscript{1}, Anna Urbanova\textsuperscript{2, 1}, Petra Kosutova\textsuperscript{2, 3}, Daniela Mokra\textsuperscript{3, 2}
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PCA077
Effect of hypoxia on adiponectin pathway in murine and cellular models: which involvement in COPD-associated cardiovascular risk?
Mélany Pierard1, Alexandra Tassin1, Stéphanie Conotte1, Karim Zouaoui Boudjeltia2, Alexandre Legrand1
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PCA078
Knockout of caveolin-1 delays calcium signalling in human alveolar type I epithelial cells
Kathrin A. Diem, Giorgio Fois, Paul Dietl, Manfred Frick
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PCA079
Effects of high-frequency oscillatory ventilation vs conventional mechanical ventilation on lung function, inflammation and apoptosis in meconium-induced acute lung injury
Daniela Mokra1, 2, Pavol Mikolka2, 1, Petra Kosutova2, 1, Sona Balentova3, Maros Kolomaznik2, 1, Marian Adamkov3, Andrea Calkovska1
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PCA080
NADPH oxidase 2 is necessary for chronic intermittent hypoxia-induced respiratory muscle weakness in adult male mice
Sarah E. Drummond, David P. Burns, Vincent Healy, Ken D. O'Halloran
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Cardiac & Respiratory Physiology
PCA081
Effects of pharmacological Gq protein inhibition on airway remodeling in chronic asthma
Jennifer M. Dietrich1, Annika Simon1, Michaela Matthey1, Gabriele König2, Bernd K. Fleischmann1, Daniela Wenzel1
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PCA082
The muscarinic receptor modulator gallamine induces proliferation of airway smooth muscle cells.
RODOPI STAMATIOU, Efrosini Paraskeva, Anna Vasilaki, Apostolia Hatziefthimiou
MEDICAL, UNIVERSITY OF THESSALY, Larissa, Greece
PCA083
Innovative Aspects of Scientific and Pedagogical Activity of I.P. Pavlov (according to “Pavlov’s Wednesdays’’)

Lena Chugunow
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PCA084
Designing "ion channel in health and disease" teaching in "Biology of Disease" module according to students’ ability

Lijun Shang
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PCA085
Assessing the value and impact of physiology in an integrated curriculum

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PCA086

David Ogden, and Plymouth Microelectrode Workshop 2018 attendees
Marine Biological Association, Plymouth, United Kingdom

PCA087
Expression levels of some microRNAs in Prostate cancer cell Lines using Qiagen miScript real time PCR system

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Education & Teaching
PCA088
The E3 ligase C-CBL inhibits cancer cell migration by neddylyating the proto-oncogene c-Src.

**Gun-Woo Lee**, Jun Bum Park
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PCA089
Regulation of Gap Junction Coupling in Large Intestine Epithelial Cells by Adenosine Signalling

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PCA090
Is Notch –4 Associated with VEGF-A and IL-6 in the CRC Tumorigenesis?
nilufer erkasap1, **RUMEYSA ÖZYURT**1, METE OZKURT1, SERDAR ERKASAP2, NECDET FATIH YASAR2, ENVER IHTIYAR2, FUNDA CANAZ3, EVRIM YILMAZ3, ERTUĞRUL ÇOLAK4
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PCA091
Targeting Inhibition of Ceramidase Induces Apoptosis in Hepatocellular Carcinoma in vitro

**Nilufer Erkasap**, RUMEYSA ÖZYURT, METE OZKURT, ABDULLAH KARADAĞ, Cemile Ceren MERAL EVIS
PCA092
P2X4 re-sensitisation depends on recycling via acidic organelles

**Giorgio Fois**1, Karl J. Föhr2, Carolin Kling1, Michael Fauler1, Oliver H. Wittekind1, Paul Dietl1, Manfred Frick1
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PCA093
The Effect of Beta Adrenergic Agonist and Antagonists on Caspase 3, Caspase 8 and Caspase 9 Expression on K562 Chronic Myeloid Leukemia Cells.

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PCA094
P-Coumaric Acid Ameliorates Renal Ischemia-Reperfusion-Induced Acute Lung Injury By Reducing Oxidative Stress

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PCA095
Ca$^{2+}$ tunneling as a selective intracellular signaling pathway.

**Raphael Courjaret**, Maya Dib, Khaled Machaca
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PCA096
Antioxidative Effects Of Chlorogenic Acid on Lung Injury Induced Renal Ischemia-Reperfusion

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**Epithelia & Membrane Transport**
PCA097
Expression of aquaglyceroporins in the bovine gastrointestinal tract
Chongliang Zhong, Gavin Stewart
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PCA098
A proton antenna in carbonic anhydrase II supports lactate transport in cancer cells
Sina I. Noor1, Somayeh Jamali1, Samantha Ames1, Joachim W. Deitmer1, Holger M. Becker1, 2
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PCA099
Novel roles for the TRPM5 ion channel in regulating airway mucociliary clearance
Monika I. Hollenhorst1, Martin Empting2, Hassan Kanj1, Praveen Kumar1, Vladimir Chubanov3, Silke Appenzeller4, Emmanuel Saliba5, Anna Hirsch2, Gabriela Krasteva-Christ1
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PCA100
Decorin modulates melanoma cell migration: Diverse effects caused by differential glycanation of the protein core
Christian Stock1, Rick T. Owens2, Frank Echtermeyer4, Renato V. Iozzo3, Daniela G. Seidler1
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PCA101
Modifying pentamidine blood–brain barrier transport through Ion-pair formation
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PCA102
Lubiprostone activates CFTR in human bronchial epithelial cells via an EPAC dependent process
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PCA103
Screening colorectal cancer cell lines for connexin-dependent intercellular diffusive coupling
**Stefania Monterisi**1, 2, Johanna Michl1, 2, Walter F. Bodmer2, Pawel Swietach1
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PCA104
Enhanced Ca2+ signalling and over-expression of STIM1 are characteristic of human eccrine sweat gland secretory coil cells isolated from hyperhidrotic individuals
**Richard L. Evans**1, Scott R. Johnstone2, Martina Elias2, Jennifer Roberston2, Douglas L. Bovell3, Patricia E. Martin2
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PCA105
Metal oxide nanoparticles: size role in membrane interactions
**Daniele Zanella**3, Elena Bossi3, 1, Rosalba Gornati3, 1, Nuno Faria2, Jonathan Powell2, Giovanni Bernardini3, 1
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PCA106
The jejunum epithelium adapts quickly to hypoxic insults by modifying transepithelial glucose transport
**Franziska Dengler**, Reiko Rackwitz, Helga Pfannkuche, Gotthold Gäbel Institute of Veterinary Physiology, Leipzig University, Leipzig, Germany
PCA107
A new mode of binding between Calmodulin and the human Na+/H+ exchanger SLC9A1 with implications for the SLC9A1 function

Lise M. Sjøgaard, Andreas Prestel, Elena Pedraz-Cuesta, Johan G. Olsen, Emilie S. Pedersen, Birthe B. Kragelund, Stine F. Pedersen
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PCA108
Hypoxic inhibition of alveolar epithelial Na-transport is aggravated by hypocapnia

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PCA109
Localization of the Plasma Membrane Ca2+ ATPase 1 (PMCA1) to Renal and Intestinal Epithelia

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PCA110
Role of neutral amino acid transporter LAT4 in mouse epithelia

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Epithelia & Membrane Transport
PCA111
Relative contribution of inhibition of sodium-hydrogen exchanger 3 (NHE3)-mediated fluid absorption and cystic fibrosis transmembrane conductance regulator (CFTR)-mediated fluid secretion to the increase in intraluminal alkalinity and fluidity induced by the heat-stable Escherichia coli enterotoxin (STa) analogue linaclotide

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PCA112
Genetic deletion of the Slc26a9 anion transporter results in reduced pancreatic fluid secretion and impaired glucose tolerance in young female mice

Taolang Li1, 2, Gabriella di Stefano1, Brigitte Riederer1, Ghulam Raza3, Dorothee Römermann1, Petra Pallagi4, Mannocher Soleimani5, Karl-Heinz Herzig3, Ursula E. Seidler1
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PCA113
Salmo salar oligopeptide transporters PepT1a and PepT1b: a comparative electrophysiological characterization of partial and complete transport cycle
Francesca Vacca1, Ana Silva Gomes2, Raffaella Cinquetti1, Koji Murashita2, 5, Francesca Guia Imperiali1, Amilcare Barca3, Tiziano Verri3, Ivar Rønnestad2, Elena Bossi1, 4
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PCA114
Effects of knockout versus pharmacological inhibition of Na+/H+exchanger NHE1 on growth and chemosensitivity of cancer cell spheroids
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PCA115
Sodium-induced conformational changes in a glutamate transporter homologue
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Epithelia & Membrane Transport
PCA116
The Na+/HCO₃⁻ cotransporter NBCn1 in cell cycle regulation – possible role for an unexpected localization?
**Marc Severin**, Dan Ploug Christensen, Jens Vogensen, Mette Flinck, Signe Kramer, Ester Ellegaard Sørensen, Julie Schnipper, Ida Axholm, Stine F. Pedersen
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PCA117
Anti-apoptotic actions of lithocholic acid on colonic epithelial cells: implications for treatment of inflammatory bowel disease
**Natalia K. Lajczak-McGinley**, Aoife O'Dwyer, Stephen J. Keely
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PCA118
ATP-induced constitutive mucus secretion requires TMEM16A for mucus secretion in large intestine
**Inês Cabrita**, Roberta Benedetto, Rainer Schreiber, Karl Kunzelmann
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PCA119
Inhibiting enteroendocrine T1R2/R3 glucose receptors reduces blood glucose and serum insulin responses
**Goran hellekant**, Madeline Bauer, Eric Kaplan, Teresa Rose-Hellekant
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PCA120
NoxO1 Controls Proliferation of Colon Epithelial Cells
**Franziska Moll**1, Maria Walter1, Valeska Helfinger1, Flávia Rezende1, Estefania Vasconez1, Tiago De Oliveira2, Florian R. Greten2, Catherine Olesch3, Andreas Weigert3, Heinfried H. Radeke4, Katrin Schröder1
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PCA121
Importance of hypoxia-inducible factors (HIF-1 and HIF-2) for the pathophysiology of inflammatory bowel disease
**Evelyn Hammel**, Joachim Fandrey, Sandra Winning
Institute of Physiology, University of Duisburg-Essen, Essen, Germany

PCA122
The amino acid transporter Lat1 (SLC7A5) resides in intestinal crypts and affects villus development
**Nadège Poncet**1, Julia Jando1, Christian Feuerstacke1, Peter M. Taylor2, François Verrey1
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PCA123
Tuft cell hyperplasia in diarrhoea-predominant Irritable Bowel Syndrome colonic biopsies.
Maeve Connolly1, Jessica Aigbologa2, Rebecca O'Brien1, Maria Buckley2, Juliette Buckley3, **Dervla O'Malley**1, 2
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**Epithelia & Membrane Transport**
PCA124
Melatonin in combination with antibiotherapy alleviates gastric oxidative injury in rats: role of microbiota
Alper Yildirim1, Sevil Arabaci Tamer1, Ekin Kuntsal Dertisz2, Ozge Cevik3, Meral Yüksel4, Serap SIRVANC12, Berrak Yegen1
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PCA125
The analysis of sensitivity of Na–Pi cotransporter activity to phosphoinositides
Natsuki Mizutani, Yoshifumi Okochi, Yasushi Okamura
Integrative Physiol, Grad Sch Med, Osaka Univ, Suita, Japan

PC126
Wnt peptides control mammalian cell membrane potential
Jonathan F. Ashmore1, Naja Sorensen2, Hervor L. Olsen2, Christopher Thrasivoulou3, Aamir Ahmed4
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PCA127
The role of TMEM16A/ANO1 Ca2+-activated chloride channel in pancreatic cancer
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PCA128
Mechano-signaling in tumor-associated pancreatic stellate cells
Benedikt Fels, Anna Kuntze, Albrecht Schwab
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PCA129
Gold nanoparticle-mediated laser perforation (GNOME LP)/dye transfer: a convenient method to analyse connexin channels in tissue-engineered cell culture systems
Almke Bader1, Anne Klett1, Patrick Lüdeke1, Alexander Heisterkamp2, 3, Anaclet Ngezahayo1, 4
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PCA130
Delivery of epithelial sodium channel antisense oligonucleotides to primary human airway epithelial cells via chitosan as a non-toxic transfection reagent
Anna K. Kolonko1, Nadine Bangel-Ruland1, Francisco M. Goycoolea2, Wolf-Michael Weber1
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PCA131
A comparative study of the NH4+ conductance of human and bovine TRPV3 channels as expressed in Xenopus Oocytes
Hendrik Liebe, Franziska Liebe, Constanze Vitzthum, Gerhard Sponder, Friederike Stumpff
Department of Veterinary Medicine, Institute of Veterinary Physiology, Berlin, Germany

Epithelia & Membrane Transport
PCA132
Temperature-dependent regulation of ANO6 chloride channel variants
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PCA134
Antiapoptotic and Anti-Inflammatory Effects of Urapidil Against Ovarian Tissue Damage In Experimental Ischemia-Reperfusion Model In Rats
Ayhan Tanyeli3, Derya Guzel1, **Songul Doganay**1, Selim Comakli4, Elif Polat2
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PCA135
Cation selectivity of the thick ascending limb depends on voltage, Ca2+ and ionic strength
**Cosima Merkel**1, Nina Himmerkus1, Jianghui Hou2, Markus Bleich1
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PCA136
Intact and Furin-cleaved Epithelial Sodium Channel (ENaC) γ- and α-subunit is detected in Human Kidney and Urinary Exosomes
**Rikke Z. Langkilde**1, Majken K. Mikkelsen1, Karsten Skjødt2, Niels Marcussen3, Reza Zamani4, Boye L. Jensen1, Per Svenningsen1
1 Department of Cardiovascular and Renal Research, University of Southern Denmark, Odense C, Denmark, 2 Department of Cancer and Inflammation, University of Southern Denmark, Odense, Denmark, 3 Departments of Clinical Pathology, Odense University Hospital, Odense, Denmark, 4 Department of Urology, Odense University Hospital, Odense, Denmark

Epithelia & Membrane Transport
PCA137
Endocytosis of NKCC2 is impaired in renal tubule in moesin knockout mice
Kotoku Kawaguchi, Shinji Asano
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PCA138
TMEM16A activation by lipid peroxidation drives renal cyst growth
Rainer Schreiber1, Björn Buchholz2, Jiraporn Ousingsawat1, Julia Scholz2, Karl Kunzelmann1
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PCA139
Effects of tyrosine kinase inhibitor treatment on the renal transcriptome
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PCA140
Acute renal tubular lesions compromise the function of the glomerular filtration barrier: a multiphoton microscopy study
Carla Gerhard, Katharina Fremter, Anna-Lena Forst, Maj-Kristina Hellmuth, Hayo Castrop
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PCA141
Altered expression of the renal prostaglandin E2 signaling system in kidney tissue from patients suffering from hydronephrosis and renal fibrosis
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Epithelia & Membrane Transport
PCA142
The pressure natriuresis response is not affected by SGLT2 inhibition in rats with Type 1 diabetes mellitus
Hannah M. Costello, Geoffrey Culshaw, Kevin Stewart, David J. Webb, Matthew A. Bailey
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PCA143
Na+ and volume balance is maintained in AE4 (Slc4a9) knockout mice during Na+ depletion
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PCA144
Impairment of pressure natriuresis in a mouse model of ACTH-dependent Cushing Syndrome
Hannah M. Costello, Kevin Stewart, Natalie K. Jones, Dawn Livingstone, Neeraj Dhaun, Matthew A. Bailey
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PCA145
A single gastric K+ load induces acute diuresis in mice
Simon Kornvig, Samuel L. Svendsen, Casper Larsen, Iben S. Jensen, Jens Leipziger, Mads V. Sørensen
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Epithelia & Membrane Transport
PCA146
Mitochondrial aggregates of mutated glycine amidinotransferase (GATM) cause renal Fanconi syndrome and kidney failure.

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PCA147
Calcium-dependent contraction of renal tubules

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PCA148
Lifelong endurance training modifies sympathetic baroreflex control of neural vasoconstrictor tone at rest

Denis J. Wakeham1, 2, Rachel N. Lord1, Jack S. Tablot1, Bryony Curry1, Tony Dawkins1, Lydia L. Simpson3, 4, Rob Shave5, Jonathan Moore3, Christopher J. Pugh1
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PCA149
Acute effect of isometric handgrip exercise on arterial stiffness in older adults

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PCA150
High-intensity resistance exercise with low repetitions maintains endothelial function

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Human & Exercise Physiology
PCA151
Novel redox-targets of NADPH oxidase 4 identified by the BIAM switch assay

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PCA152
Sphingolipid Signals Regulate Hypoxia-Inducible Factors in Macrophages and Fibroblasts

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PCA153
Reactive oxygen species mediate endoplasmic reticulum stress-induced mitochondrial dysfunction in human skeletal muscle cells

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PCA154
13C methacetin breath test for assessment of liver function: validation of a shortened collection time in healthy adults

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PCA155
Low amplitude pressures in high resolution manometry
Lilia Zouiten1, 2, Asma Laabidi1, Meriem Serghini1, Jalel Boubaker1
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PCA156
Sphincters resting pressures in high resolution manometry
Lilia Zouiten1, 2, Asma Laabidi1, Meriem Serghini1, Jalel Boubaker1
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PCA157
Esophageal abnormalities in patients with gastro-esophageal reflux disease on high resolution manometry as defined by Chicago classification
Asma Laabidi1, Lilia Zouiten1, 2, Meriem Serghini1, Jalel Boubaker1
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PCA158
Rice bran protein hydrolysates exhibit antioxidant and modulatory effects on lymphocyte activation and proliferation
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PCA159
Four-weeks equipment-free high-intensity interval training does not improve the cardiorespiratory fitness of young healthy adults, but does elicit gains in muscle mass
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PCA160
Believe It or Not: Yoga and Yoga-Based Interventions
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PCA161
Time course adaptations in cardiorespiratory fitness and fractional oxygen extraction with low-volume high-intensity interval training and moderate-intensity continuous training in people with type 2 diabetes
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PCA162
The effect of high intensity interval training (HIIT) without dietary intervention on glucose regulation in sedentary aging men and masters athletes.
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Human & Exercise Physiology
PCA163
Cardiovascular effects of capsaicin application on human skin at rest in temperate and warm conditions
Petros G. Botonis\textsuperscript{1}, Panagiotis G. Miliotis\textsuperscript{1}, Stylianos N. Kounalakis\textsuperscript{2}, Maria Koskolou\textsuperscript{1}, Nickos D. Geladas\textsuperscript{1}
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PCA164
Hypoxia compounds exercise–induced free radical formation in humans; partitioning contributions from the cerebral and femoral circulation
Damian M. Bailey\textsuperscript{1}, Peter Rasmussen\textsuperscript{2}, Kevin Evans\textsuperscript{1}, Aske Bohm\textsuperscript{2}, Moretn Zaar\textsuperscript{2}, Henning Nielsen\textsuperscript{2}, Patrice Brassard\textsuperscript{3}, Nikolai Nordsborg\textsuperscript{2}, Pernille Homann\textsuperscript{4}, Peter Raven\textsuperscript{5}, Jane McEneny\textsuperscript{6}, Ian Young\textsuperscript{6}, Joe McCord\textsuperscript{7}, Niels H. Secher\textsuperscript{2}
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PCA165
Hyperoxia increases critical power but does not speed pulmonary oxygen uptake kinetics during upright cycling
Richie P. Goulding, Simon Marwood, Denise Roche
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PCA166
Urinary orosomucoid (alpha-1 acid glycoprotein) latex immunoassay is effective for the detection of increased proteinuria associated with altitude and sea-level exercise.

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PCA167
Exercise proteinuria at altitude is reduced by acetazolamide.

Kelsey Joyce1, Susie Bradwell2, John Delamere3, Samuel J. Lucas1, Stephen Myers4, Owen Thomas5, Amy Fountain6, Birmingham Medical Research Expeditionary Society BMRES3, Arthur Bradwell3

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PCA168
Effect of period during sinusoidal leg cycling exercise on the blood flow dynamics of the brachial artery in humans

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PCA169
Effects of long-term dark chocolate intake on cognitive function in healthy young subjects

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PCA170
Cytoplasmic diffusivities of CO2 gas and H+ ions are reduced in diseases of human red cells that raise haemoglobin concentration

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PCA171
Effects of temperature on repeated local skin heating induced desensitization in humans
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PCA172
Mechanism of the Hypotensive Effect of Hibiscus sabdariffa Tea: A Double-Blind Study
**Frank B. Mojiminiyi**1, Oluwatosin I. Oyeniran2, Ibrahim A. Abubakar3, Godwin O. Igbokwe4, Esther E. Igbokwe1, Yinka J. Oyeniyi5, Simeon A. Isezuo6
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PCA173
Mobile Physiologic Laboratory (mobPhysioLabTM) Infield Monitoring of Humans Maintaining Employability, Human Performance, and Welfare
**Andreas Werner**1, Tanja Drews1, Raman Tandon2, Claus Wittmann3, Frank Fischer4, Andreas Röpert5, Constantin Scheuermann6, Karola Hagner7
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PCA174
Endothelial function in healthy postmenopausal women: effects of chronic and acute exercise

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PCA175
Modulation of Oxygen Sensing in Breast Cancer Cells by Myoglobin

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PCA176
The influence of matched increases in cerebral artery shear stress induced via hypercapnia and exercise on neurovascular coupling

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PCA177
Hypoxia related pathways in the pathomechanism of bladder cancer

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Human & Exercise Physiology
PCA178
Characterizations of human pancreatic tumor cell lines under normoxic and hypoxic conditions
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PCA179
Important role of the erythrocyte as a regulator of neurovascular coupling in humans
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PCA180
Elevated systemic oxidative-nitrosative stress and cerebrovascular function in professional rugby union players: the link to impaired cognition
Thomas S. Owens2, Thomas A. Calverley1, Benjamin S. Stacey2, Christopher J. Marley2, George Rose2, Lewis Fall2, Gareth L. Jones2, Priscilla Williams1, Martin J. Steggall2, Damian M. Bailey2
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PCA181
Hemoconcentration reduces cerebral blood flow during acclimatization to high-altitude in humans

Connor A. Howe1, Ryan L. Hoiland1, David Macleod2, Joshua C. Tremblay3, Howard H. Carter4, Alexander Patrician1, Eric Delorme1, Mathew G. Rieger1, Michael Tymko1, Mike Stembridge5, Chris Gasho6, Alexandra Williams7, Antoinette Santoro2, Daniel Green8, Philip Ainslie1
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PCA182
The promotion of erythrocyte deformability after dark chocolate ingestion in healthy humans.

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Human & Exercise Physiology
PCA183
The effect of kinesiology tape on pain and muscle contraction in healthy participants.

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PCA184
The effect of omega-3 supplementation on exercise-induced muscle damage

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PCA185
Effect of Post-Prandial Hyperlipidaemia on Cerebrovascular Function: Gender Difference?

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PCA186
Heat shock response and apoptosis signaling following a single bout of high intensity intermittent exercise in physically active and inactive men

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PCA187
Roles of C-terminal amino acids in the PI(4,5)P2-dependent regulation of TWIK-related two-pore domain K+ channel
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PCA188
Role of Xin (Xirp1) in microdamage and repair after moderate eccentric exercise in human m. vastus lateralis
Rudolf Billeter, Lucy Deller, Jonathan Odogwu, Katherine Owen, Biraj Parmar, Joanne Mallinson, Tariq Taylor, Kostas Tsintzas
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PCA189
Systemic molecular adaptations to intermittent hypoxia: impact on microvascular oxygenation and hypoxic exercise performance.
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PCA190
Mechanosensitive mechanisms responsible for the exercise-induced increased autoregulatory range of coronary arterioles.
Akos Koller, 1, 2, 3, György Nadasz, 5, Ferenc Ihász, Gabriella Dornyei, Maria Szekeres
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Human & Exercise Physiology
PCA191
Low temperature affects the morphology and impairs glutamine-induced hypertrophic response in human primary myotubes
Robert Rantala, Fawzi Kadi, Thomas Chaillou
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PCA192
Preferential skeletal muscle myosin loss is prevented by neuromuscular electrical stimulation in steroid-denervation rats
Takashi Yamada1, Koichi Himori1, Daisuke Tatebayashi1, Ryotaro Yamada1, Yuki Ashida1, Tomihiro Imai1, Yoshiki Masuda1, Keita Kanzaki3, Daiki Watanabe4, Masanobu Wada5, Håkan Westerblad2, Lanner T. Johanna2
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PCA193
Current insights in the use of platelets as biomaterials in regenerative medicine of skeletal muscle: assimilating the molecular physiology
Antonios Matsakas, David Scully
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PCA194
L-arginine ingestion inhibits eccentric contraction-induced proteolysis and force deficit via S-nitrosylation of calpain
Keita Kanzaki1, Daiki Watanabe2, Chihiro Aibara3, Yuki Kawakami4, Takashi Yamada5, Yoshitaka Takahashi4, Masanobu Wada3
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PCA195
The magnitude of compression-induced hyperaemia is affected by the driving pressure, more than by the muscle pump.

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PCA196
Effects of eccentric exercise on myofibrillar function and amount of αB-crystallin binding to myofibrils in skeletal muscle from adjuvant-induced arthritis rats

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PCA197
The muscle relaxant methocarbamol blocks the muscular voltage-gated Na+ channel Nav1.4 and affects force characteristics of isolated mouse soleus muscles

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PCA198
Standardized scores show similar gender differences in jumping ability and inspiratory strength in healthy elderly

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Human & Exercise Physiology
PCA199
Evidence from a mouse model that high levels of circulating dihydrotestosterone (DHT) improves power and speed but reduces endurance in isolated fast- and slow-twitch muscles in males and females
Stewart I. Head1, Leonit Kiriaev1, John Morley1, Kirsty Walters2, David Handelsman3
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PCA200
MuRF1 and MuRF2 independently act to mediate muscle wasting in mice with cardiac cachexia
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PCA201
Myopenia in Obstructive Pulmonary Disease: an indicator of poor prognosis
KHADIJA AYED, SYRINE RIAHI, SALMA MOKADDEM, ASMA CHAKER, KHOULOUD KCHAOU, SALOUA JAMELEDDINE
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PCLB014
The effect of exercise intensity on ketone body oxidation
David J Dearlove, Olivia K Faull, Leanne Hodson, Catriona Charlton, Kieran Clarke, Pete J Cox
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PCA202
Carotid body chemosensitivity correlates with insulinemia and insulin resistance but not with blood pressure in metabolic syndrome patients

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PCA203
Upregulation of the anti-apoptotic protein, humanin (HN), is present in multiple human cancer cell lines and tumor tissues.

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PCA204
Effect of bitter melon extract, kuguacin-J and cisplatin on MCF-10A, MCF-7 and MDAMB-231 breast cancer cell lines in vitro

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PCA205
Stimulus induced elevations in lactate in mouse optic nerve are fuelled by glucose, not glycogen
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PCA206
Differential regulation of mRNA expression by the transcription factors WT1 and GATA4 during murine gonad development
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PCA207
Role of JmjC Histone Demethylase in the Development of Non-Alcoholic Fatty Liver Disease
**DO-WON JEONG**
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PCA208
Development of a human fungiform taste bud cell line: characterization and cell physiological studies
Aziz Hichami1, BABAR MURTAZA1, Amira Sayed Khan1, Narcisse Zwetyenga2, **Naim Akhtar Khan**1
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Poster Communications Session A  
Friday, 14 September 16.45 – 18.15 • Third Floor

PCA209  
Immortalization of mouse fungiform and circumvallate taste bud cell lines: physiological characterization  
**A. Hichmai**, Adelie Dumont2, Mickael Rialland2, julia Leemput1, Naim Akhtar Khan1  
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PCA210  
Purinergic Signaling in Testicular Peritubular Cells  
**Lina Kenzler**, Felicitas Brüntgens, Jennifer Spehr, David Fleck, Marc Spehr  
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PCA211  
Characterization of the membrane progesterone receptor betta (mPRβ) using the Xenopus laevis oocyte model  
**Nancy Nader**, Maya Dib, Rawad Hodeify, Khaled Machaca  
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PCA212  
Opioid-mediated Sertoli cells apoptosis is involved in testicular homeostasis and/or reproductive dysfunction  
**SHIVA ROSHAN-MILANI**, Morteza Motazakker3, Maryam Soltanineghada1, Ehsan Saboory2, Bagher Pourheydar2, Fatemeh Kheradmand3, Maryam Pourheydar3  
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Metabolism & Endocrinology
PCA213
Acidic extracellular pH increases cholesterol ester, sphingomyelin and hexosylceramide levels in metastatic breast cancer cells
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PCA214
Gold and silver nanoparticles affect endocrine regulation of reproductive system in male rats
Vitalii Kalynovskyi1, Andrej Pustovalov1, Galyna Grodzyuk2, Nataliia Andrushina2, Mykola Dzerzhynsky1
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PCA215
The effects of polyphenols supplementation in feed on redox balance parameters in testes of male rats exposed to diesel exhaust

Michał Oczkowski1, Jacek Wilczak2, Katarzyna Dziendzikowska1, Małgorzata Gajewska2, Tomasz Królikowski1, Joanna Gromadzka-Ostrowska1, Remigiusz Mruk3, Johan Øvrevik4, Oddvar Myhre5, Pål Magnusson4, Aneta Wegierek-Ciuk6, Halina Lisowska6, Marcin Kruszewski7, 8, 9, Anna Lankoff7, 6

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PCA216
Chronic Mild Cold Exposure Promotes Weight Gain and Deposition of Subcutaneous Adipose Tissue in Animals Raised at Thermoneutrality

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Metabolism & Endocrinology
PCA217
The selective mineralcorticoid receptor (MR) antagonist eplerenon prevents decompensation of liver cirrhosis.

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PCA218
Intestinal modulate of glucose homeostasis in mongrel dogs

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PCA219
Factor-inhibiting HIF (FIH) knockout enables an anti-inflammatory effect of HIFs in a mouse model of colitis-induced colon cancer

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PCA220
Matrix effects on the intestinal concentration of maslinic acid and its effects on colonic preneoplastic lesions induced by 1,2-dimethylhydrazine in rats

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PCA221
Is progesterone antagonism responsible for the abortifacient effect of Alligator pepper (Zingiberaceae Aframomum Melegueta) in pregnant Sprague Dawley rats?

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Metabolism & Endocrinology
PCA222
Gum Arabic supplementation decreased inflammatory markers levels and Disease Activity Score among Rheumatoid arthritis patients
Amal M. Saeed1, Ebtihal Kamal1, Lamis Kaddam2, Maha Dahawi Abdelrazig1, Elnour Elagib3
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PCA223
Neonatal administration of curcumin protects against high fructose diet-induced non-alcoholic steatohepatitis in male adolescent Sprague Dawley rats
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PCA224
Variations in plasma electrolytes and thirst perception during the menstrual cycle
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PCA225
Protective Effects of Calcitriol against Fructose-induced Hyperglycaemia and Dyslipidaemia in male Albino Wistar rats
**Yakubu Sadau**
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PCA226
Impact of Green Tea and Exercise on Hyperthyroidism-Induced Haemostatic Alterations in Rats
**Mona A. Ahmed**, Bataa M. El-Kafoury, Rania S. El-Sayed, Nagy A. Abou Querin
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PCA227
Adipokines and Resveratrol Interactions in Cholesterol Diet Fed Rabbits
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Metabolism & Endocrinology
PCA228
Increased water intake reduces copeptin and fasting plasma glucose in high copeptin healthy adults – the hydration to optimize metabolism (H2O Metabolism) pilot study
**Sofia Enhörning**1, 2, Louise Brunswik1, Irina Tasevska1, Ulrika Ericson1, Margaretha Perssson1, Guillaume Lemetais4, Tiphaine Vanhaecke4, Alberto Dolci4, Erica T. Perrier4, Olle Melander Melander1, 3
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PCA229
Modulatory Role Of Clove And Fermented Ginger Supplements On Oxidative Stress And Lipid Peroxidation Biomakers In High Fat Diet Induced Type 2 Diabetes In Rabbits
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PCA230
GABA differentially modulates cytokine secretion and proliferation of peripheral blood mononuclear cells and CD4+ T cells from nondiabetic individuals and type 1 diabetic patients
Amol Bhandage1, Zhe Jin1, Sergiy V. Korol1, Qiu Jin2, Yu Pei3, Qiaolin Deng3, Daniel Espes4, 5, Per-Ola Carlsson4, 5, Masood Kamali-Moghaddam2, Bryndis Birnir1
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PCA231
Functional characterisation of GABAA receptors in human pancreatic β cells from nondiabetic and type 2 diabetic donors
Sergiy V. Korol1, Zhe Jin1, Yang Jin1, Amol Bhandage1, Anders Tengholm2, Nikhil R. Gandasi2, 1, Sebastian Barg2, Daniel Espes2, Per-Ola Carlsson2, Derek Laver3, Bryndis Birnir1
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PCA232
TRPC3 channels are indispensable for oro-sensory perception of dietary lipids, and involved in obesity in mice and human
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Metabolism & Endocrinology
PCA233
Does glucose-dependent cross-linking influence in vivo toxicity and compatibility of albumin-derived perfluorocarbon-based artificial oxygen carriers?
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PCA234
“Alloxan”, a drug of technique.
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PCA235
Protective Effects of Magnesium Chloride on Liver Enzymes and Oxidative Stress Biomarkers in Cholesterol diet fed Rats
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PCA236
Effects of opioid (tramadol) treatment on testicular functions in adult male rats: The role of nitric oxide and oxidative stress
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Metabolism & Endocrinology
PCA237
Does Irisin Affect the Hypothalamic Regulation of Feeding Behavior in High-Fat-Diet-Induced Obese Rats

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PCA238
Carotid sinus nerve resection reduces weight gain and improves metabolic function in high-fat animals via an increase in brown adipose tissue function and decrease in its inflammation

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PCA239
Beneficial effects of carotid sinus nerve resection on white adipose tissue metabolism

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PCA240
Acute vs chronic administration of leptin in obese rats: effects on blood pressure, sympathetic activity and glucose homeostasis

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PCA241
Agomelatine prevents streptozotocin-induced diabetes and ameliorates diabetic encephalopathy in mice
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PCA242
Effect of Mesenchymal Stem Cells vs. Nigella Sativa Oil on Streptozotocin Induced Type 1 Diabetes in Rats
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PCA243
Effect of L-Arginine and D-ribose L-cysteine supplementation on stress hormones in 4-vinylcyclohexene diepoxide perimenopausal female rats following acute restraint stress
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PCA244
PROTECTIVE ROLE OF Allium cepa Linn JUICE ON MATERNAL DEXAMTHASONE INDUCED ALTERATIONS IN REPRODUCTIVE FUNCTION DURING LACTATION IN MALE OFFSPRING OF WISTAR RATS

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PCA245
High-Dose Perinatal Folic-Acid Supplementation Alters Insulin Sensitivity in Sprague-Dawley Rats and Decreases Adiponectin Expression

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PCA246
AT1 receptors in renal FoxD1+ stromal cells are not essential for normal kidney development

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PCA247
Renal inflammatory response and function in iron overloaded male Wistar rats

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PCA248
Time-Dependent Effects of High Salt Diet on Renal Functions in adult Female Wistar Rats
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PCA249
Mice with reduced intrarenal angiotensin I-converting enzyme are protected against experimentally induced chronic kidney damage
**Annett Juretzko**1, Antje Steinbach1, Uwe Lendeckel2, Bärbel Miehe3, Sylvia Stracke4, Rainer Rettig1
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PCA250
Different subsets of renal interstitial PDGFR-β+ cells are able to produce Erythropoietin (EPO)
**Katharina Gerl**, Charlotte Wagner, Birgül Kurt, Armin Kurtz
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PCA251
The importance of Cox-2 in interstitial cells of the renal medulla for kidney function and salt handling
**Michaela Fuchs**, Katharina Gerl, Julia Schrankl, Armin Kurtz
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PCA252
The effect of prenatal dexamethasone exposure on renal expression of glucose transporters in rat fetuses and offspring
**Slava A. Malatiali**, Mariam Al-Awadi, Maie Al-Bader
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**Metabolism & Endocrinology**
PCA253
The effects of acacia senegal (gum arabic) supplementation on inflammatory marker, renal and hematological profile in hemodialysis patients
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PCA254
The nephropathic mycotoxin Ochratoxin A leads to cell cycle arrest in human kidney cell lines
Virginie Dubourg, Michael Kopf, Gerald Schwerdt, Michael Gekle
Martin-Luther-University Halle-Wittenberg, Julius-Bernstein-Institute for Physiology, Halle (Saale), Germany

PCA255
The ETAR and ETBR in the adult murine kidney as potential factors to regulate synthesis and secretion of renin in vivo
Thomas H. Neder, Armin Kurtz, Charlotte Wagner
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PCA256
Gene transfer of glyoxalase-1 into the paraventricular nucleus attenuates sympathetic activation and blunt renal dysfunction in diabetic rats
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Metabolism & Endocrinology
PCA257
TRPV4 is expressed in vasopressinergic neurons of the magnocellular region of the rat paraventricular nucleus of the hypothalamus.
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PCA258
Effects of Vitamin B12 and Ketorolac on pain in Long Evans rats
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PCA259
Excitatory and inhibitory neurotransmission is imbalanced in an animal disease model of episodic ataxia type 6
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PCA260
SIRT2 inhibition suppresses the oxidative stress and apoptotic activity, and increases autophagy of cerebral cortex in the aging process.
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PCA261
Age-related changes in the oxidative stress, apoptosis, sirtuin 2 and FoxO3a expression in the hippocampus: protective effects of melatonin
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PCA262
Differences in drug response and spontaneous activity of M4 muscarinic receptor knockout mice during day and night time
Paulina Valuskova, Vladimir Farar, Jaromir Myslivecek
Institute of Physiology, Charles University, 1st Faculty of Medicine, Prague, Czechia

PCA263
Effect of therapeutic concentration of lithium on live HEK293 cells results in increase of Na+/K+-ATPase, change of protein composition and induction of oxidative stress.
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PCA264
Differential regulation of renin transcript levels by glucose depletion, anoxia, proliferation and differentiation in PC12 cells
Annika Fischer, Heike Wanka, Philipp Lutze, Jörg Peters, Bianka Grunow
Institute for Physiology, Karlsburg, Mecklenburg-Vorpommern, Germany
PCA265
Differential effects of insulin along the hippocampal dorsoventral axis on GABAAR-activated currents in mouse dentate gyrus granule cells and CA3 pyramidal neurons.

Hayma Hammoud, Olga Netsyk, Atieh Tafreshiha, Sergiy V. Korol, Zhe Jin, Bryndis Birnir
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PCA266
Segmentation and quantitative determination of cellular-, neurite- and plasma membrane-motility speed.

Andreas W. Henkel, Zoran Redzic
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PCA267
The effect of rhein on protein expression and differentiation of SH-SY5Y neuroblastoma cells

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PCA268
Sciatic nerve C fibres utilise fructose directly to support conduction whereas A fibre conduction is maintained by Schwann cell fructose-derived lactate

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PCA269
Visualization of morphological changes of PSD95 substructures in the living mouse brain by STED microscopy
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PCA270
Chronic Methamphetamine Alters Neural Oscillations and Synaptic Plasticity in the Hippocampus in Guinea Pigs, in vivo
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PCA271
Comparison between the Functional Restorative Capacity of Adipose Tissue and Bone Marrow Derived Mesenchymal Stem Cells in Cerebellar Ataxic Rat Model
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Neuroscience
PCA272
Store-operated calcium entry is profoundly impaired in a mouse model of Alzheimer’s disease.
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PCA273
Dimerization of sodium channel subtype Nav1.7
Annika Rühlmann1, Corinna Rösseler1, Alec Foerster1, Kim LE CANN1, Günther Schmalzing2, Angelika Lampert1
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PCA274
The paralogs of the calcium-dependent activator protein for secretion differentially regulate synaptic transmission and peptide secretion in murine dorsal root ganglion neurons
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PCA275
Calcineurin and Reelin Gene Promoter Region DNA Methylation Changes in the Amygdala of Young and Aged Rats
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PCA276
Autonomic function test in obese among mid-western population of Nepal
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PCA277
Characterization of an animal model of Lipopolysaccharide-induced Inflammation on cardiovascular and central nervous systems
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PCA278
Role of brain dopamine, histamine and opioid receptors underlying divergent behavioural phenotypes in zebrafish
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PCA279
The role of solute carrier transporters in the translocation of the antipsychotic amisulpride at the blood-brain barrier in Alzheimer’s disease and in normal ageing
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Neuroscience
PCA280
Insulin-like growth factor 1, Sirtuin 1, Sirtuin 3 and brain injury in mice chronic cerebral hypoperfusion
Olha Harmatina1, Tetiana Lapikova-Bryhinska1, Tetiana Voznesenskaya1, Nataliya Grushka1, Olena Kondratska1, Ruslan Krasilnikov2, Alla Portnychenko1
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PCA281
Reduced peripheral brain-derived neurotrophic factor in stroke survivors with cognitive impairment
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PCA282
Can Dementia be prevented by mixing Curcumin in Diacetyl containing products?
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PCA283
Erythrocyte deformability in Slovak children with autism spectrum disorder: correlations with clinical features.
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Neuroscience
PCA284
RPRFamide interacts with the nonproton ligand sensing domain and slows desensitization by stabilizing the open conformation of Acid-Sensing Ion Channel 3
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PCA285
Modulation of K+ channel N-type inactivation by hydrogen sulfide and polysulfides
Kefan Yang1, Ina Coburger1, Johanna M. Langner1, Toshinori Hoshi2, Roland Schönherr1, Stefan H. Heinemann1
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PCA286
Voltage-gated sodium channel activity in Huntington's Disease
Kim LE CANN, Alec Foerster, Corinna Rösseler, Petra Hautvast, Jannis E. Meents, Angelika Lampert
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PCA287
Characterization of P2X4- and P2X7-receptors in microglia
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PCA288
β1 subunit stabilizes sodium channel Nav1.7 against mechanical stress
**Jannis Körner**, 1, 2, **Jannis E. Meents**1, **Jan-Philipp Machtens**2, **Angelika Lampert**1
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PCA289
Pituitary adenylate cyclase-activating polypeptide activates Na+-permeable cation channels in mouse and guinea-pig adrenal medullary cells
**Masumi Inoue**, Hidetada Matsuoka, Keita Harada
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PCA290
Sphingosine-1-phosphate-induced ATP secretion in microglia is mediated by LRRC8 proteins of volume-regulated anion channels
**Philipp Burow**, Fritz Markwardt, **Manuela Klapperstück**
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PCA291
The roles of TRPV1, TRPA1 and TRPM8 channels in chemical and thermal sensitivity of the mouse oral mucosa
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PCA292
Neuropathic pain associated with sodium channel Nav1.7 variant R1150W
Corinna Rösseler1, Stephanie Sontag2, 3, 6, Petra Hautvast1, Roman Goetzke4, Wolfgang Wagner4, Nurcan Üçeyler5, Martin Zenke2, 3, Angelika Lampert1
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PCA293
rArc - Ratiometric genetically-encoded voltage indicators
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PCA294
Implications of maternal obesity on offspring orexigenic neurons development
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PCA295
Common denominators of Hypoxia-inducible Factor activation in brain to regenerate from ischemia/reperfusion

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PCA296
Kainate receptors and neuronal network synchrony in hippocampus

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PCA297
Quantification of information transfer via gonadotropin-releasing hormone receptors (GnRHR) reveals a marked loss of information through signalling

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PCA298
Selection of effective reference genes for expression studies: RFRP-3 and GPR147 signaling in rat hippocampus
Selim Kutlu1, 2, Ercan Kurar1, 3, Canan Eroglu1, 3, Adem Aydin1, 4, Hasan H. Kozak1, 5, Zafer Sahin6
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PCA299
Inhibition of mitochondrial fission in the Dorsal Vagal Complex of the Brain prevents Hyperphagia in High Fat Diet Fed Rats
Bianca Patel, Lauryn New, Beatrice Maria Filippi
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PCA300
The effect of muscle-specificity and muscle length on the modulation of corticospinal excitability during passive ankle movement in humans
Jakob Škarabot, Paul Ansdell, Callum Brownstein, Glyn Howatson, Stuart Goodall, Rade Durbaba
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PCA301
Exploring the validity of lumbar stimulation for the assessment of lower limb motoneuron excitability in humans
Paul Ansdell, Jakob Škarabot, Callum Brownstein, Kevin Thomas, Glyn Howatson, Stuart Goodall, Rade Durbaba
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PCA302
Effect of cigarette smoking on the nerve conduction study among young adults
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PCA303
Study of the effects of the intracerebroventricular and the intrathecal administration of kaempferol and GABAA antagonists on pain in male rats
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PCA304
Does Colour alter performance on Letter Cancellation tasks?
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Neuroscience
PCA305
Electrophysiology of mammalian cochlear hair cells in aging mice.
Jing-Yi Jeng, Walter Marcotti
The University of Sheffield, Sheffield, South Yorkshire, United Kingdom

PCA306
CD36 polymorphism (rs1761667) and PROP taster status affect the bioelectrical response to oleic acid by electrophysiological recording from the human tongue.
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PCA307
Assessment of pain perception and biomarkers in osteoarthritis patients in South-west, Nigeria
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PCA308
Lysophosphatidic acid activates peripheral glial cells
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Neuroscience
PCB250
Investigating the role of the apelinergic system in the central control of blood pressure
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PCA309
Impaired myogenic tone of skeletal artery feeding atrophic hindlimb and its recovery by exercise training: associated changes in the ion channel currents of the arterial myocytes
MINGZHE YIN, JOOHAN WOO, SUNGJOON KIM
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PCA310
Epoxyeicosatrienoic acid pathway contributes to sustained hypoxic pulmonary vasoconstriction in mouse intrapulmonary arteries
Ievgen Strielkov, Nicole C. Krause, Fenja Knoepp, Ralph T. Schermuly, Hossein A. Ghofrani, Norbert Weissmann
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PCA311
Ferulic acid alleviates haemodynamic alterations and aortic stiffness in rats fed a high-carbohydrate, high-fat diet
Upa Kukongviriyapan1, 2, Ketmanee Senaphan3, 2, Weerapon Sangartit1, 2, Poungrat Pakdeechote1, 2, Veerapol Kukongviriyapan4, Stephen E. Greenwald5
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PCA312
Antihypertensive and antioxidative effects of whole grain essential oil in nitric oxide deficient hypertensive rats
**Gulladawan Jan-on**1, 2, Ketmanee Senaphan3, 2, Weerapon Sangartit1, 2, Poungrat Pakdeechote1, 2, Veerapol Kukongviriyapan4, Upa Kukongviriyapan1, 2
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PCA313
Rice bran hydrolysates lower blood pressure and improve vascular function in L-NAME-induced hypertensive rats
**Ketmanee Senaphan**1, 2, Somphot Chumjit3, 2, Weerapon Sangartit3, 2, Veerapol Kukongviriyapan4, Supawan Thawornchinsombut5, 2, Upa Kukongviriyapan3, 2, Tunvaraporn ProongKhong6, Ronnachai Changsri6
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PCA314
Identification of Kv7 channels in rat mesenteric artery endothelium and role in endothelial derived relaxations.
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**Vascular & Smooth Muscle Physiology**
PCA315
Cytochrome P450 reductase contributes to NADPH-dependent signal in membrane assays used for measuring Nox activity

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PCA316
Sex differences in the circulatory responses to an isocapnic cold pressor test

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PCA317
Epithelial Na+ channel’s ability to mediate arterial shear force responsiveness depends on glycosylated asparagines and the extracellular matrix

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PCA318
Elastin derived peptides augments abdominal aortic aneurysm formation

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PCA319
Differential effects of Integrin-linked kinase knockdown and vascular endothelial growth factor receptor blockade on melanoma cell growth and angiogenesis

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PCA320
Anandamide Modulates Epigenetic Regulation by Nuclear Receptor Mechanism

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Universitätsklinikum Frankfurt, Kardiovaskuläre Physiologie, Frankfurt am Main, Hessen, Germany

PCA321
Lifelong maladaptation to terrestrial high-altitude is associated with inadequate dietary antioxidant vitamin intake and accelerated cognitive decline

Teresa Filipponi1, Julien V. Brugniaux2, Christopher J. Marley1, Danielle Hodson3, Stefano F. Rimoldi4, Emrush Rexhaj4, Lorenza Pratali5, Carlos E. Salinas Salmon6, Carla Murillo Jaruregui6, Mercedes Villena6, Claudio Sartori7, Urs Scherrer4, 8, Damian M. Bailey1
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PCA322
Parastrephia quadrangularis (Meyen) Cabrera exerts a hypotensive effect on rats through a negative inotropic effect and endothelium-dependent vasodilation

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PCA323
Cancer cells “hijack” the services of platelets by phagocytic uptake

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PCA324
Tinzaparin and Tirofiban reduce tumor cell-platelet interaction: a single cell force spectroscopy analysis of two promising drugs

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PCA325
The Englerin A-sensing three charged residues for TRPC5 channel activation

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PCA327
Increased contribution of the inward-rectifying K+ channels to K+-induced dilation of cerebral arteries in Familial hemiplegic migraine type 2. 
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PCA328
Adenosine and L-arginine transport are modulated by an alkaline intracellular pH in human umbilical vein endothelial cells from gestational diabetes mellitus
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PCA329
Hematopoietic Hypoxia-inducible factor 2α deficiency ameliorates pathological retinal neovascularization via modulation of endothelial cell apoptosis.
**Anne Klotzsche - von Ameln**1, Irina Korovina2, Ales Neuwirth2, David Sprott2, Ben Wielockx2, Triantafyllos Chavakis2, Andreas Deussen1
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PCA330
Vascular Scrib Limits Atherosclerosis by Maintaining Arterial Integrity
Christoph Schürmann1, 2, Franziska Dienst1, Estefania Vasconez1, Katalin Pálfi1, James A. Oo1, Fabian Hahner1, Shengpeng Wang3, Stefan Offermanns3, Matthias S. Leisegang1, 2, Christoph Kruse1, Ralf Brandes1, 2
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PCA331
The NADPH oxidase Nox4 promotes endothelial differentiation from murine induced-pluripotent stem cells
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PCA332
Laser Doppler Perfusion Imaging can be used for in vivo continuous perfusion assessment
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PCA333
Application of Texture Analysis to the spectral decomposition of Photoplethysmography vascular signals
Henrique Silva1, 2, Hugo A. Ferreira3, Luis Monteiro Rodrigues1, 2
1CBiOS (Research Center for Biosciences and Health Technologies), U Lusófona, School of Health Sc & Technologies, Lisboa, Portugal, 2Pharmacol. Sciences Departm., U Lisboa, Faculty of Pharmacy, Lisboa, Portugal, 3IBEB Institute Bioph Biomed Engineering, U Lisboa, Faculty of Sciences, Lisboa, Portugal

PCA334
Hypoxic stabilized p22phox modulates vascularization in vitro and in vivo and promotes pulmonary hypertension
Andreas Petry, Benjamin Trautz, Damir Kracun, Zuwen Zhang, Michael Weitnauer, Agnes Görlach
Experimental and Molecular Pediatric Cardiology, German Heart Center Munich, Munich, Germany

PCA335
Influence of high-density-lipoproteins on the endothelial glycocalyx
Bettina Hesse1, 2, Philipp Kümpers1, Kristina Kusche-Vihrog2, Jerzy-Roch Nofer3, Hermann Pavenstädt1, Wolfgang A. Linke2, Alexander Lukasz1
1Medicine D, Division of General Internal Medicine, Nephrology, and Rheumatology, University Hospital Münster, Münster, Germany, 2Institute of Physiology 2, Münster, Germany, 3Center for Laboratory Medicine, Münster, Germany

PCA336
Pregestational maternal obesity-associated human umbilical vein endothelial dysfunction results from endoplasmic reticulum stress
Roberto Villalobos-Labra1, Mario Subiabre1, Luis Silva1, 2, Marcelo Farías-Jofré1, Luis Sobrevia1, 3, 4
1Pontificia Universidad Católica de Chile, Santiago, Chile, 2University Medical Centre Groningen (UMCG), University of Groningen, Groningen, Netherlands, 3Universidad de Sevilla, Seville, Spain, 4UQ Centre for Clinical Research (UQCCR), University of Queensland, Brisbane, Queensland, Australia

Vascular & Smooth Muscle Physiology
PCA337
DIFFERENT ESTROGEN RECEPTORS MEDIATE miRNA REGULATION BY ESTRADIOL IN HUMAN ENDOTHELIAL CELLS
Daniel Pérez-Cremades1, 2, Susana Novella1, 2, Xavier Vidal-Gómez1, 2, Ana Mompeón1, 2, Carlos Hermenegildo1, 2
1Physiology, University of Valencia, Valencia, Spain, 2INCLIVA Biomedical Research Institute, Valencia, Spain

PCA338
Modulation of endothelial chromatin remodelling complexes by long non-coding RNAs
James A. Oo1, 2, Ilka Wittig2, 4, Juliana Heidler2, 4, Stefan Günther3, Matthias S. Leisegang1, 2, Ralf Brandes1, 2
1Institute for Cardiovascular Physiology, Vascular Research Centre, Frankfurt am Main, Germany, 2German Center of Cardiovascular Research (DZHK), Frankfurt am Main, Germany, 3Max-Planck-Institute for Heart and Lung Research, ECCPS Bioinformatics and Sequencing Facility, Bad Nauheim, Germany, 4Functional Proteomics, SFB 815 Core Unit, Faculty of Medicine, Frankfurt am Main, Germany

PCA339
Effect of angiotensin II type 1 receptor antagonist losartan on expression and activity of antioxidative enzymes, cell adhesion molecules and proinflammatory cytokines in cerebral blood vessels of Sprague-Dawley rats
Anita Matic, Nikolina Kolobaric (ex. Bilic-Dujmusic), Zrinka Mihaljevic, Natasa Kozina, Ines Drenjancevic
Department of Physiology and Immunology, Faculty of Medicine Osijek, University Josip Juraj Strossmayer Osijek, Osijek, Croatia
PCA340
Isometric flexor muscle activity alters microcirculatory perfusion in the human lower limb
Margarida M. Florindo1, 3, Henrique Silva1, 2, Sérgio Nuno1, Luis Monteiro Rodrigues1, 2
1CBiOS (Research Center for Biosciences and Health Technologies), U Lusófona, School of Health Sc & Technologies, Lisboa, Portugal, 2Pharmacol. Sciences Departm., U Lisboa, Faculty of Pharmacy, Lisboa, Portugal, 3Portuguese Red Cross Health School, Avenida de Ceuta, Edifício Urbiceuta, 1300–125 Lisboa, Portugal, Portugal

PCA341
Endothelial VEGFR2 KO during CFA induced inflammation is detrimental to murine tibiotalar cartilage integrity
Emily D. Vittersø1, 2, Nicholas Beazley-Long1, 2, Lucy Donaldson1, 2
1Life Sciences, University of Nottingham, Nottingham, United Kingdom, 2Arthritis Research UK Pain Centre, Nottingham, United Kingdom

PCA342
Histone deacetylases are differentially oxidized by NADPH oxidases
Tim Schader1, Oliver Löwe1, Johannes Backs2, Katrin Schröder1
1Institut für Kardiovaskuläre Physiologie, Frankfurt/Main, Germany, 2Molecular Cardiology and Epigenetics, Heidelberg, Germany

PCA343
CASEIN KINASE 1, A POTENTIAL REGULATOR OF THE MINERALOCORTICOID RECEPTOR
Bruno Griesler, Stefanie Ruhs, Nicole Strätz, Claudia Grossmann
Julius–Bernstein–Institute of Physiology, Halle (Saale), Germany

Vascular & Smooth Muscle Physiology
PCA344
A new GUI (graphical user interface) to facilitate photoplethysmography signal processing
Henrique Silva1, 2, Francisco Viana3, Helena Vieira2, Rafaela Francisco2, Hugo A. Ferreira4, Luis Monteiro Rodrigues1, 2
1CBiOS (Research Center for Biosciences and Health Technologies), U Lusófona, School of Health Sc & Technologies, Lisboa, Portugal, 2Pharmacol. Sc Depart, U Lisboa, Faculty of Pharmacy, Lisboa, Portugal, 3IBEB Institute Bioph Biomed Engineering, U Lisboa, Faculty of Sciences, Lisboa, Portugal, 4IBEB Institute Bioph Biomed Engineering, U Lisboa, Faculty of Sciences, Lisboa, Portugal

PCA345
Short-term high salt diet induces changes in CD11a expression of peripheral blood granulocytes and monocytes in young healthy women
Lidija Baric1, Martina Mihalj1, Sanja Novak1, Anita Matic1, Marko Stupin1, 3, Ines Drenjancevic1, Ana Stupin1, 2
1Department of Physiology and Immunology, Faculty of Medicine Josip Juraj Strossmayer University of Osijek, Osijek, Croatia, 2Department of Physiology and Immunology, Faculty of Dental Medicine and Health Josip Juraj Strossmayer University of Osijek, Osijek, Croatia, 3Department for Cardiovascular Disease, Osijek University Hospital, Osijek, Croatia

PCA346
Acute hypoxia decreases microvascular endothelium-dependent function in healthy men
Gabriella M. Rossetti1, Danial T. Jones1, Tim van Riessen2, 1, Hannah E. Davies1, Paul G. Mullins3, Samuel J. Oliver1, Jamie H. Macdonald1, Aamer Sandoo1
1School of Sport, Health, & Exercise Sciences, Bangor University, Bangor, Gwynedd, United Kingdom, 2Faculty of Medicine, University van Amsterdam, Amsterdam, Netherlands, 3Bangor Imaging Unit, School of Psychology, Bangor University, Bangor, United Kingdom

Vascular & Smooth Muscle Physiology
PCA347
The role of beta arrestins and PDEs in smooth muscle tone regulation of vessels and airways
Leonard F. Lebender1, 2, Bernd K. Fleischmann1, Daniela Wenzel1
1Institute of Physiology 1, University of Bonn, Bonn, NRW, Germany,
2University of Bonn, Research Training Group 1873, Bonn, Germany

PCA348
Evidence of a physiological perfusion balance between human limb pairs
Clemente J. Rocha1, Henrique Silva1, 2, Hugo A. Ferreira3, Luis Monteiro Rodrigues1, 2
1CBIOS/ECTS, Universidade Lusofona, Lisboa, Lisboa, Portugal, 2Faculty of Pharmacy, Pharmacol. Sc Depart , Universidade de Lisboa, Lisboa, Lisboa, Portugal, 3Faculty of Sciences - Institute of Biophysics and Biomedical Engineering, Universidade de Lisboa, Lisboa, Lisboa, Portugal

PCA349
Angiotensin II type 1receptor antagonist losartan enhances vascular reactive oxygen species production in middle cerebral arteries of Sprague–Dawley male rats
Ivana Jukic, Zrinka Mihaljevic, Anita Matic, Natasa Kozina, Ines Drenjancevic
Department of Physiology and Immunology, Faculty of Medicine
J.J.Strossmayer University of Osijek, Osijek, Croatia

PCA350
Perivascular Cells Mediate Penile Erection
Eduardo Guimaraes1, David O. Dias1, Daniel Holl1, Soniya Savant1, Evelina Vågesjö2, Jeremie Charbord1, Olov Andersson1, Mia Phillipson2, Christian Göritz1
1Department of Cell and Molecular Biology, Karolinska Institutet, Stockholm, Sweden, 2Department of Medical Cell Biology, Division of Integrative Physiology, Uppsala University, Uppsala, Sweden
PCA351
High salt diet in Sprague Dawley rats alters relaxation response of abdominal aortic ring preparation and reduces eNOS mRNA expression. Abdulahi Adejare, Ahmed Oloyo, Olusoga Sofola
Physiology, College of Medicine, University of Lagos, Lagos, Nigeria

PCA352
The effects of ageing on the biomechanical properties of the rat middle cerebral artery Frederick G. Ewbank, Christopher Torrens
Human Development & Physiology, Faculty of Medicine, University of Southampton, Southampton, United Kingdom

PCA353
The mechanisms underlying cooling induced contraction in detrusor smooth muscle involves neither TRPA1 nor TRPM8. Shunichi Kajioka2, 1, Tomoko Maki2, Yoshiki Kudo3, Masatoshi Etoh2
1Clinical Pharmacology, Kyushu University, Fukuoka, Fukuoka, Japan, 2Urology, Kyushu University, Fukuoka, Fukuoka, Japan, 3Gynecology, Hiroshima University, Hiroshima, Hiroshima, Japan

PCA354
The effects of Coenzyme Q-10 on gestational diabetes myometrium Sasitorn Kerdsuknirund1, Sayah Ongsricharoenbhorn1, Pakanit Kupittayanant2, Sajeera Kupittayanant1
1Institute of Science, Suranaree University of Technology, Nakhon Ratchasima, Thailand, 2Institute of Agricultural Technology, Suranaree University of Technology, Nakhon Ratchasima, Thailand

Vascular & Smooth Muscle Physiology
PCA355
Fasudil modulates hypoxia-induced contraction in the isolated bovine digital vein: preliminary results
Hector Zerpa1, 2, Arnaldo Risso3, 2, Simon Comerma-Steffensen4, 2
1Department of Anatomy, Physiology and Pharmacology, School of Veterinary Medicine, St. George's University, St. George's, Grenada,
2Department of Biomedical Sciences, Faculty of Veterinary Science, Central University of Venezuela, Maracay, Aragua, Venezuela, Bolivarian Republic of,
3Department of Animal and Public Health, Faculty of Veterinary Medicine, National Experimental University “Romulo Gallegos”, Zaraza, Guarico,
Venezuela, Bolivarian Republic of, 4Department of Biomedicine, Pulmonary and Cardiovascular Pharmacology, Aarhus University, Aarhus, Denmark

PCA356
Effects of pomegranate extract on postpartum sow reproduction
Pakanit Kupittayanant
Institute of Agricultural Technology, Suranaree University of Technology, Nakhon Ratchasima, Thailand

PCA357
Efficient ablation of renin cells in adult kidney using inducible transgenic mouse models, evaluated by a novel automatic histological quantification (FACS on a slide)
Anne Steglich, Friederike Kessel, Michael Gerlach, Christian Hugo, Vladimir T. Todorov
Department of Internal Medicine III, Division of Nephrology, University Hospital Carl Gustav Carus, Dresden, Germany
PCA358
Activation of the lactate receptor, GPR81, alters renal vascular function by direct and indirect mechanisms

Natalie K. Jones1, Kristina Wallenius2, Kevin Stewart1, John W. Wiseman3, John J. Mullins1, Matthew A. Bailey1
1BHF Centre for Cardiovascular Science, University of Edinburgh, Edinburgh, United Kingdom, 2CVRM, IMED Biotech Unit, AstraZeneca R&D, Gothenburg, Sweden, 3Discovery Sciences, IMED Biotech Unit, AstraZeneca R&D, Gothenburg, Sweden

PCA360
Investigation Effects of Metformin in rats urinary bladder

Ahmet YARDIMCI1, Serdar Sahinturk2, Nazife Ulker1, Ihsan Serhatlioglu3, Emine Kacar1
1Department of Physiology, Firat University, ELAZIG, Turkey, 2Department of Physiology, Uludag University, Bursa, Turkey, 3Department of Biophysics, Firat University, ELAZIG, Turkey

PCA361
Interleukin-18 promotes osteo-/chondrogenic transdifferentiation of vascular smooth muscle cells through SGK1

Nadeshda Schelski1, Trang Luong1, Burkert Pieske1, 2, 3, Florian Lang4, Jakob Voelkl1, Ioana Alesutan1, 2
1Center for Cardiovascular Research Cardiology CVK, Charité – Universitätsmedizin Berlin, Berlin, Germany, 2Berlin Institute of Health, Berlin, Germany, 3Department of Internal Medicine and Cardiology, DHZB, Berlin, Germany, 4Department of Physiology I, Eberhard-Karls University, Berlin, Germany
PCA362
Fibulin-3 ameliorates phosphate-induced vascular smooth muscle cell calcification through inhibition of oxidative stress

**Trang Luong**1, Nadeshda Schelski1, Beate Boehme1, Manousos Makridakis2, Antonia Vlahou2, Florian Lang3, Burkert Pieske1, 4, 5, Ioana Alesutan1, 4, Jakob Voelkl1

1Center for Cardiovascular Research Cardiology CVK, Charité – Universitätsmedizin Berlin, Berlin, Germany, 2Biomedical Research Foundation, Academy of Athens, Athens, Greece, 3Department of Physiology I, Eberhard-Karls University, Tübingen, Germany, 4Berlin Institute of Health, Berlin, Germany, 5Department of Internal Medicine and Cardiology, DHZB, Berlin, Germany

PCA363
Role of cytosolic serine hydroxymethyl transferase 1 (SHMT1) in osteo-/chondrogenic transdifferentiation and calcification of vascular smooth muscle cells

**Beate Boehme**1, Nadeshda Schelski1, Manousos Makridakis2, Antonia Vlahou2, Florian Lang3, Burkert Pieske1, 4, 5, Ioana Alesutan1, 4, Jakob Voelkl1

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PCA364
C-reactive protein induces osteo-/chondrogenic transdifferentiation of vascular smooth muscle cells via oxidative stress
Laura Henze1, Beate Boehme1, Jaber Masyout1, Trang Luong1, Florian Lang2, Burkert Pieske1, 3, 4, Ioana Alesutan1, 3, Jakob Voelkl1
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PCA365
The genetic deletion of Kvβ2 results in increased MYH1 expression and a protective role in muscle atrophy
Jared Tur, Kalyan Chapalamadugu, Srinivas Tipparaju
College of Pharmacy, University of South Florida, Tampa, Florida, United Kingdom

PCA366
NFAT5/TonEBP - a mechanically-responsive transcription factor that controls arterial remodeling
Maren Zappe1, Anja Feldner1, Caroline Arnold1, Dorde Komljenovic2, Carsten Sticht1, Carolina De La Torre1, Markus Hecker1, Wolfgang Neuhof1, Thomas Korff1
1Heidelberg University, Heidelberg, Germany, 2DKFZ, Heidelberg, Germany

PCA367
Renal resistance arteries are sensitized to L-type Ca2+ channel activation in response to renal denervation
Saskia Pfannkuch1, Jeannine Witte1, Rainer Rettig1, Rudolf Schubert2, Olaf Grisk1
1Physiology, University of Greifswald, Karlsburg, Germany, 2Cardiovascular Physiology, Medical Faculty of Mannheim, Mannheim, Germany
PCA368
How Does Extracellular Acidification Increase Mouse Uterine Contractions?
How much do we know?
Asmaa M. Almohanna1, 2, Susan Wray1
1University of Liverpool, Liverpool, United Kingdom, 2Princess Nourah bint Abdulrahman University, Riyadh, Saudi Arabia

PCA369
Organotypic expression of vascular smooth muscle Kv7.1 channels – potential for renoprotection?
Rudolf Schubert1, Angela Bachmann1, Felix Stocker1, Phillip Quinn1, Stephanie Braun1, Clair Kammermeier2, Aimo Kannt2, Nadine Schmidt1
1Cardiovascular Physiology, Medical Faculty Mannheim, University Heidelberg, Mannheim, Germany, 2Sanofi Diabetes Research, Frankfurt, Germany

PCA370
Organization of vascular smooth muscle cells as multilayered organoids triggers their resting state
Marius Jäger, Anja Feldner, Markus Hecker, Caroline Arnold, Thomas Korff
Institute of Physiology and Pathophysiology, University of Heidelberg, Heidelberg, Germany

Vascular & Smooth Muscle Physiology
Daniel Martin, University College London, UK
From mountains to the bedside: Lessons learnt from Everest

18.30 - 19.30, Friday, 14 September
Churchill, Ground Floor

What happens to your body when you climb Everest? What is the effect of the low level of oxygen? How do the Sherpas that live there adapt, and how can these lessons benefit patients in critical care units?

Join lifelong climber and critical care physician Dr Dan Martin as he talks about his research into the effects of climbing to high altitude on the body.

Dan climbed to the summit of Mount Everest in May 2007 as part of large-scale research expedition. Measurements on his own blood revealed him to have the lowest level of oxygen ever reported in a human.

Dan, who is also the critical care lead for the High Level Isolation Unit at the Royal Free Hospital, will talk about the experiments he has been doing at high altitude over the last 15 years and how the findings can help develop novel therapies to improve the survival rates of patients in intensive care units.

Welcome Reception
19.30 - 20.30, Friday, 14 September
Third floor, and fifth floor

Free to attend, and all are welcome.
Saturday, 15 September
Day schedule

9.00  **Keynote Lectures**
Johannes Backs, University of Heidelberg, Germany
Histone deacetylases as link between cardiac lipid and glucose metabolism
*Churchill, Ground Floor*

Kari Alitalo, University of Helsinki, Finland
Therapeutic potential of vascular growth factors
*Mountbatten, Sixth Floor*

10.00 **Symposia**
Asking an (un)loaded question  *Mountbatten, Sixth Floor*
Dysregulation of cellular and microenvironmental pH as a signal driving cancer development  *St James, Fourth Floor*
Hormone and nutrient sensing in the brain  *Churchill, Ground Floor*
Thermoregulation and hibernation  *Westminster, Fourth Floor*

10.00 **Oral Communications**
Epithelia & Membrane Transport  *Abbey, Fourth Floor*
Neuroscience  *Moore, Fourth Floor*
Vascular & Smooth Muscle Physiology  *Rutherford, Fourth Floor*

11.30 **Refreshment Break**  *Third & Fifth Floor*

11.45 **Plenary Lecture**
Maiken Nedergaard, University of Copenhagen, Denmark
The glymphatic system
*Churchill, Ground Floor*

12.45 **Lunch, Posters & Networking**  *Third & Fifth Floor*

13.00 **Lunchtime Sessions**
Publishing for beginners
*Mountbatten, Sixth Floor*
Open House: What has IUPS ever done for you?
*TBC*
14.15 Symposia
Inflammatory hypoxia  Churchill, Ground Floor
Molecular mechanisms of mechanoprotection, mechanosensation and mechanotransduction in the cardiovascular system  Mountbatten, Sixth Floor
Utilizing single neuron transcriptomics  St James, Fourth Floor

14.15 Oral Communications
Cardiac & Respiratory Physiology  Westminster, Fourth Floor
Human & Exercise Physiology  Abbey, Fourth Floor
Metabolism & Endocrinology  Moore, Fourth Floor
Education & Teaching  Rutherford, Fourth Floor

16.00 Keynote Lectures
The Physiological Society Bayliss Starling Prize Lecture
Patrick Lewis, University of Reading, UK
Leucine rich repeat kinase 2: From pathology to physiology and back again  Churchill, Ground Floor
Deutsche Physiologische Gesellschaft Du Bois-Reymond-Award
Markus Rinschen, University College Cologne, Germany
The proteome in kidney physiology and function  Mountbatten, Sixth Floor

16.45 Poster Communication Session A
Fifth Floor  Cardiac & Respiratory Physiology, Epithelia & Membrane Transport, and Education & Teaching
Third Floor  Human & Exercise Physiology, Metabolism & Endocrinology, Neuroscience, and Vascular & Smooth Muscle Physiology

18.30 Plenary Lecture
The Physiological Society Annual Review Prize Lecture
Juleen Zierath, Karolinska Institute, Sweden
Skeletal muscle mediators and exercise-induced adaptations governing insulin sensitivity in type 2 diabetes  Churchill, Ground Floor

19.30 Conference Dinner - Ticket only
Pickwick Suite, First Floor
PHYSIOLOGY 2019
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First class science, exciting keynotes, and unmissable networking opportunities.

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Submit your abstract 1st - 31st March 2019
www.physoc.org/physiology2019
Johannes Backs, University of Heidelberg, Germany
Histone deacetylases as link between cardiac lipid and glucose metabolism

9.00 - 9.45, Saturday, 15 September
Churchill, Ground Floor

Johannes Backs’ research focuses on the understanding of regulatory epigenetic mechanisms in the diseased heart and its translation to novel diagnostic and therapeutic approaches. He worked first as a clinician in Cardiology in Heidelberg and then conducted his postdoctoral studies on transcriptional control mechanisms in the heart in Dallas from 2003-2007 under the supervision of Eric N. Olson. After leading an Emmy Noether Research Group in Heidelberg, he was in 2013 appointed as a W3 and DZHK professor (Department of Cardiology, Hugo A. Katus), and in 2015 he was promoted to the Director of the Department of Molecular Cardiology & Epigenetics (Center of Internal Medicine of the University Hospital Heidelberg).

Kari Alitalo, University of Helsinki, Finland
PL006 Therapeutic potential of vascular growth factors

9.00 - 9.45, Saturday, 15 September
Mountbatten, Sixth Floor

Kari Alitalo discovered and characterized novel growth factors that regulate lymphangiogenesis, their receptors and signalling mechanisms. He isolated and characterized several tyrosine kinases including the endothelial receptor tyrosine kinase Tie1, which is related to the Tie2 receptor for angiopoietins and is implicated in tumor angiogenesis. Studies in his laboratory have demonstrated VEGF-C induced tumor angiogenesis and lymphangiogenesis, intralymphatic tumor growth, and VEGF-C association with tumor metastasis and its inhibition by blocking the VEGFR-3 signal transduction pathway. Dr. Kari Alitalo is a tenured Research Professor of the Finnish Academy of Sciences and Director of the Wihuri Research Institute and the Centre of Excellence on Translational Cancer Biology in the Faculty of Medicine of the University of Helsinki.
Asking an (un)loaded question: what are the physiological and molecular determinants of atrophy in human skeletal muscle in disuse?

10.00 - 11.30, Saturday, 15 September
Mountbatten, Sixth Floor

Organiser: Stuart Phillips, McMaster University, Canada

10.00  Paul Greenhaff, University of Nottingham, UK  
SA020 Aetiology of immobilisation vs inflammatory induced muscle atrophy in vivo

10.30  Chris McGlory, McMaster University, Canada  
SA021 Can we ‘out-nutrition’ physical inactivity? Nutritional countermeasures to attenuate human skeletal muscle disuse-atrophy

10.45  Lorenza Brocca, University of Pavia, Italy  
SA022 Disuse skeletal muscle atrophy in humans: Proteomic and molecular adaptations

11.00  Abigail MacKey, University of Copenhagen, Denmark  
SA023 Human skeletal muscle cell interactions to maintain muscle mass throughout the lifespan
Dysregulation of cellular and microenvironmental pH as a signal driving cancer development

10.00 - 11.30, Saturday, 15 September
St James, Fourth Floor

Organisers: Stine Falsig Pedersen, University of Copenhagen, Denmark, Christian Stock, Hannover Medical School, Germany and Pawel Swietach, University of Oxford, UK

10.00  Diane L. Barber, University of California, USA
SA024 Regulation by intracellular pH: From protein dynamics to cancer cell behaviors

10.30  Anne Riemann, Martin-Luther-University Halle-Wittenberg, Germany
C127 Tumor microenvironmental acidosis and hypoxia differentially regulate the expression of tumor-related microRNAs

10.45  Jonathan Ashmore, University College London, UK
C126 Wnt peptides control mammalian cell membrane potential

11.00  Pawel Swietach, University of Oxford, UK
SA025 Characterising the acid-handling and acid-sensing phenotype in a large panel of colorectal cancer cell lines
Hormone and nutrient sensing in the brain

10.00 - 11.30, Saturday, 15 September
Churchill, Ground Floor

Organiser: Beatrice Maria Filippi, University of Leeds, UK

10.00  Sabrina Diano, Yale University, USA
SA026 Mitochondrial dynamics in metabolism regulation

10.30  Clemence Blouet, Institute of Metabolic Science, UK
SA027 Brain amino acid sensing in the control of food intake

10.45  Paul Pfluger, Institute for Diabetes and Obesity, Germany

11.00  James Gardiner, Imperial College London, UK
SA028 The role of glucose sensing by glucokinase in the arcuate nucleus in the regulation of energy and glucose homeostasis
Thermoregulation and hibernation: utopia or reality for space exploration in humans?

10.00 - 11.30, Saturday, 15 September
Westminster, Fourth Floor

Organisers: Stéphane Besnard, INSERM, France and Georges Leftheriotis, CHU, Nice, France

Special symposium organised by the French Physiological Society

10.00  Sylvain Giroud, University of Veterinary Medicine, Austria
SA029  Energetics of torpor and hibernation: Implications for human space travels

10.30  Alina L Evans, Innland University of Applied Sciences, Norway
SA030  Hibernation as a spectrum - hypometabolism in large mammals

10.45  To be confirmed

11.00  Hanns-Christian Gunga, Center for Space Medicine, Berlin, Germany
SA031  Core body temperature changes under different physical and environmental conditions on Earth and in Space

Research Symposia
Saturday, 15 September 10.00 - 11.30
Epithelia & Membrane Transport
Oral Communications B

10.00 - 11.30, Saturday, 15 September
Abbey, Fourth Floor

10.00  Robin Lochbaum, Ulm University, Germany  
**C025** Activator protein 1 complex controls Claudin 1 expression in response to air-liquid-interface conditions in NCI-H441 epithelia

10.15  Dan Christensen, University of Copenhagen, Denmark  
**C026** Trafficking, localization and degradation of the Na+, HCO3- co-transporter NBCn1 in breast cancer and kidney epithelial cells

10.30  Katerina Nikolovska, Medical School Hannover, Germany  
**C027** The apical Na+/H+ exchanger 2 regulates intestinal wound healing and barrier function

10.45  Alexandra Hochstetler, Indiana University-Purdue University Indianapolis, US  
**C028** Characterizing the expression of TRPV4 in the choroid plexus epithelia as a prospective component in the development of hydrocephalus

11.00  Max Roberts, University of Surrey, UK  
**C029** The bladder mucosa produces the highest level of NADPH oxidase-derived superoxide in the body: pathological significance and therapeutic potential

11.15  Thibaut Lefebvre, University of Picardie Jules Verne, France  
**C030** Regulation of constitutive cation entry and cell proliferation by TRPM7 channels in human pancreatic stellate cells
Neuroscience Oral Communications B

10.00 - 11.30, Saturday, 15 September
Moore, Fourth Floor

10.00  Alison Todd, University of Edinburgh, UK
**C079** Astrocytic glutamate clearance is regulated by neuron-dependent Notch signalling as well as cAMP

10.15  Guy Bewick, University of Aberdeen, UK
**C080** ASICs in mechanosensation: ASIC2a deletion enhances stretch-evoked responses in mouse muscle spindle primary afferents

10.30  Luisa Kaluza, RWTH Aachen University, Germany
**C081** Loss-of-function mutation causes gain-of-pain syndrome: neuropathy patient harbors a trafficking deficient sodium channel mutation

10.45  Süeda Uludag Tunçak, Uskudar University, Turkey
**C082** Assessing empathy in valproic acid induced autism model of rats

11.00  Laura Hardwick, University of Cambridge, UK
**C083** Multi-site phosphorylation of bHLH transcription factors regulating neural differentiation in Xenopus

11.15  Kira Kleszka, University Hospital Essen, Germany
**C084** Hypoxia-inducible factor 2 alpha is essential for proper brain development
Vascular & Smooth Muscle Physiology
Oral Communications B

10.00 - 11.30, Saturday, 15 September
Rutherford, Fourth Floor

10.00  Maximilian Matthies, University of Southern Denmark, Denmark
C097 A novel role for cyclooxygenase, NO-synthase and soluble guanylyl cyclase in resistance arteries from patients with cardiovascular disease

10.15  Micol Marchetti, University of Uppsala, Sweden
C098 Age, perivascular adipose tissue and browning: the effect of chemically induced browning differs from endogenous browning in aged mice

10.30  Daniyal Jafree, UCL Great Ormond Street Institute of Child Health; University College London, UK
C099 Dynamics and heterogeneity of renal lymphatic vessel development

10.45  Caroline Arnold, Heidelberg University, Germany
C100 Wall stress-mediated RGS5 expression in vascular smooth muscle cells controls arterial remodeling during hypertension

11.00  Jennifer Stott, St George’s University of London, UK
C101 Specific Gβ subunits differentially regulate Kv7.4 channels

11.15  Calum Wilson, University of Strathclyde, UK
C102 Mitochondrial ATP regulates spontaneous calcium signalling in native endothelial cells
Maiken Nedergaard, University of Copenhagen, Denmark

The glymphatic system

11.45 - 12.45, Saturday, 15 September
Churchill, Ground Floor

Maiken Nedergaard is Professor of Glial Cell Biology at the Center for Neuroscience at the University of Copenhagen (KU), Denmark and Dean’s Professor and Co-Director of the Center for Translational Neuromedicine at the University of Rochester Medical Center (URMC) in Rochester, NY.

Her multiple interests range from basic research on neuron-glial interactions to their role in aging, small vessel disease, seizure disorders and cerebral blood flow.

Forefront amongst her discovery is the identification of the glymphatic system, a brain equivalent of the lymphatic system within which cerebrospinal fluid diffuses rapidly and mixes with interstitial fluids, thereby filtering metabolic byproducts that accumulate due to neuronal activity.

The glymphatic system dramatically expands during sleep compared to waking – brain cleaning and detoxification is thus greatly facilitated during sleep, providing a novel and direct explanation for what we all generally consider sleep’s restorative effect.

She is an elected member of the Royal Danish Academy of Sciences and Letters, Royal Academy of Pharmacy of Spain, and Academia Europaea. In 2015 she received the Newcomb Cleveland Prize, from AAAS and the Alzheimer Prize in Denmark.

Selected by the Federation of European Physiological Societies.
Lunch and lunchtime sessions
Saturday, 15 September 12.45 – 14.15

Lunch is available on the third floor, and fifth floor

Publishing for beginners
13.00 – 14.00, Saturday, 15 September
Mountbatten, Sixth Floor

The goal of this session is to introduce postgraduate students, postdoctoral fellows, and early career investigators to some of the unwritten “dos and don’ts” of publishing. Armed with this information, you should be equipped to increase your chances of securing publication of your work in the journal of your choice while avoiding ethical minefields along the way.

Kim E. Barrett, Editor-in-Chief, The Journal of Physiology
Mike Tipton, Editor-in-Chief, Experimental Physiology

Open House: What has IUPS ever done for you?
13.00 – 14.00, Saturday, 15 September
Wordsworth, Fourth Floor

Most physiologists are aware that every four years there is an international meeting that welcomes all physiologists – the IUPS Congress.

Come along to our informal Open House meeting where members of the IUPS Council and Board who are attending Europhysiology 2018 would be delighted to meet you, and share ideas. You may even pick up a $100 Amazon voucher if your name comes out of our hat.
Inflammatory hypoxia

14.15 - 15.45, Saturday, 15 September
Churchill, Ground Floor

Organiser: Joachim Fandrey, University of Duisburg-Essen, Germany

14.15  Sarah Walmsley, MRC Centre for Inflammation Research, UK
SA032  Regulation of neutrophilic inflammation by oxygen sensing pathways

14.45  Sandra Winning, University of Duisburg-Essen, Germany
SA033  Hypoxia inducible factors (HIFs) in acute colitis

15.00  Helene Rundqvist, Karolinska Institutet, Sweden
SA035  CD8+ T-cell depletion abolishes the anti-metastatic effects of voluntary running in a mouse model of breast cancer

15.15  Christian Stockmann, Centre de recherche Cardiovasculaire à l’HEGP, INSERM, France
SA034  The hypoxic response in Natural Killer cells

For publication in Experimental Physiology
Molecular mechanisms of mechanoprotection, mechanosensation and mechanotransduction in the cardiovascular system

14.15 - 15.45, Saturday, 15 September
Mountbatten, Sixth Floor

Organiser: Sarah Calaghan, University of Leeds, UK

14.15  Ben Nichols, University of Cambridge, UK
SA036 Caveolae protect endothelial cells from mechanical damage

14.45  Eva Rog-Zielinska, University Heart Center Freilburg, Germany
SA037 Impact of mechanical deformation on the cardiac excitation-contraction machinery

15.00  Michael Frisk, University of Oslo, Norway
SA038 Load-sensitive regulation of t-tubular structure

15.15  Pieter de Tombe, Imperial College London, UK
SA039 Frank-Starling Law of the heart: myofilament length dependent activation
Utilizing single neuron transcriptomics and targeting specific brain circuits affecting metabolism with chemogenetics

14.15 - 15.45, Saturday, 15 September
St James, Fourth Floor

Organiser: Suzanne Dickson, University of Gothenborg, Sweden

14.15  Roger Adan, University Medical Center Utrecht, Netherlands
SA040 Chemogenetic activation of leptin receptor expressing neurons shows that leptin indirectly acts upon dopamine neurons to affect food reward seeking

14.45  Tune Pers, University of Copenhagen, Denmark
SA041 Towards a nervous system compendium of likely etiologic brain cell types for obesity

15.00  Dilja Krueger-Burg, Max Planck-Göttingen, Germany
SA042 Regulation of anxiety behaviors through targeting of centromedial amygdala inhibitory synapses

15.30  Lora Heisler, University of Aberdeen, UK
SA043 Chemogenetic activation of discrete 5-HT2C receptors impacts food reward
Cardiac & Respiratory Physiology
Oral Communications B

14.15 - 15.45, Saturday, 15 September
Westminster, Fourth Floor

14.15  Daniel Brayson, King’s College London BHF centre, UK
C007 Nuclear envelope disruption drives myocardial ‘Inflammageing’ in cardiomyopathies

14.30  Ilkka Heinonen, University of Turku, Finland & Erasmus University Medical Center
C008 Exercise training increases myocardial capillary density rather than coronary artery size or function in the healthy and diabetic heart

14.45  Julia Shanks, University of Nebraska Medical Center, USA
C009 Modulation of sympathetic tone in heart failure: a Role for neuronal Nrf2

15.00  Mitchell Lock, University of South Australia, Australia
C010 Intra-tissue specific gene and miRNA changes in response to myocardial infarction in fetal compared to adolescent sheep

15.15  Liana Shvachiy, University of Lisbon, Portugal
C011 Different low-level lead exposure profiles induce long-lasting physiological changes

15.30  Michela Masè, University of Trento, Italy
C012 Differential expression profile of microRNAs in patients with atrial dilatation and atrial fibrillation
Human & Exercise Physiology
Oral Communications B

14.15 - 15.45, Saturday, 15 September
Abbey, Fourth Floor

14.15  Katie Hesketh, Liverpool John Moores University, UK
C043 Two popular high intensity interval training protocols elicit similar health benefits in a controlled but real world environment

14.30  Tuuli Nissinen, University of Jyväskylä, Finland
C044 Altered mTOR localization is associated with decreased protein synthesis and loss of body mass in experimental cancer cachexia

14.45  Daiki Watanabe, University of Electric-Communications, Tokyo, Japan
C045 Mechanisms underlying increases in Ca\(^{2+}\) leakage from sarcoplasmic reticulum with prolonged low-frequency force depression in rat skeletal muscle

15.00  Bradley Elliott, University of Westminster, UK
C046 Differing effects of younger and older human plasma on C2C12 myocytes in vitro

15.15  Thomas Francis, King’s College London, UK
C047 Identification and characterisation of the senescent phenotype of human primary myogenic precursor cells

15.30  Wolfgang Linke, University of Muenster, Germany
C048 Specific cleavage of the titin springs in situ uncovers titin’s role in sarcomere structure and active muscle contraction
Metabolism & Endocrinology
Oral Communications B

14.15 - 15.45, Saturday, 15 September
Moore, Fourth Floor

14.15  Joana Sacramento, CEDOC, NOVA Medical School|Faculdade Ciências Médicas, Universidade Nova de Lisboa, Portugal
C061 Can the modulation of adenosine and/or ATP signaling in the carotid body be used to treat type 2 diabetes?

14.30  Johanna Michl, University of Oxford, UK
C062 Surviving metabolism: acidity as a selection pressure in colorectal cancer cell lines

14.45  Raul Garcia Bescos, University of Plymouth, UK
C063 Resting metabolic rate in vegetarians and omnivores before and after inhibition of the oral nitrate/nitrite pathway

15.00  Rachel Tribe, King’s College London, UK
C064 Ethnic differences in the pregnant vaginal environment, host response and risk of spontaneous preterm birth

15.15  Afisu Basiru, University of Ilorin, Ilorin, Nigeria & University of Ibadan, Nigeria
C065 Waltheria indica root exhibits male contraceptive effect through inhibition of androgensis in male Wistar rats

15.30  Janne Lebeck, Aarhus University, Denmark
C066 Sex-dependent hepatic response to high fat diet in male and female C57bl/6 mice
Education & Teaching
Oral Communications B

14.15 - 15.45, Saturday, 15 September
Rutherford, Fourth Floor

14.15  Douglas Bovell, Weill Cornell Medicine Qatar, Qatar
C116  Teaching physiology using a Gamified Flipped Classroom model

14.30  Sean Roe, Queens University Belfast, UK
C117  A simple assessment instrument for physiology coursework; does it drive learning?

14.45  Daniel Khosravinia, University of Bradford, UK
C118  Integration of student-led lectures as an innovative interactivity in teaching

15.00  Michele Sweeney, Newcastle University, UK
C119  Preparing physiology students for group assessed work

15.15  Derek Scott, University of Aberdeen, UK
C120  Women in Physiology: Development of an educational resource to improve awareness of the contributions of historical female physiologists
The Physiological Society Bayliss-Starling Prize Lecture
Patrick Lewis, University of Reading, UK
PL007 Leucine rich repeat kinase 2: From pathology to physiology and back again

16.00 - 16.45, Saturday, 15 September
Churchill, Ground Floor

Patrick Lewis has been investigating neurodegeneration for the past 15 years. First working on Alzheimer’s disease at the Mayo Clinic in Florida, then on prion disease (including Creutzfeldt-Jakob disease and “Mad Cow” disease) at the MRC Prion Unit before starting to work on what causes Parkinson’s disease at the National Institute on Aging and the UCL Institute of Neurology. Most of his research is focused on looking at how mutations in particular genes can cause brain cells to die, leading to Parkinson’s, with a focus on how Leucine Rich Repeat Kinase 2.

For publication in The Journal of Physiology

Deutsche Physiologische Gesellschaft Du Bois-Reymond-Award
Markus Rinschen, University College Cologne, Germany
The proteome in kidney physiology and function

16.00 - 16.45, Saturday, 15 September
Mountbatten, Sixth Floor

Markus Rinschen uses mass spectrometry-based technologies to study kidney pathophysiology. In 2012, Markus joined the Department of Internal Medicine in Cologne, Germany (Head: Thomas Benzing), where he leads a small interdisciplinary group at the interface between kidney physiology, bioinformatics, human genetics and pathology.

His current focus is the impact of the mechanical and chemical microenvironment on cell signaling in glomerular diseases and acute kidney injury.
PCB001
The influence of haemoglobin concentration, arterial oxygen content and blood viscosity on hypoxic pulmonary vasoconstriction in acute and chronic hypoxemia.

Mike Stembridge1, Ryan L. Hoiland2, Alexandra Williams2, Connor A. Howe2, Chris K. Willie2, Joseph Donnelly3, Tony Dawkins1, Damian M. Bailey4, David Macleod5, Philip Ainslie2
1Cardiff Metropolitan University, Cardiff, United Kingdom, 2University of British Columbia Okanagan, Kelowna, British Columbia, Canada, 3Department of Anaesthesiology, University of Auckland, Auckland, New Zealand, 4University of South Wales, Glamorgan, United Kingdom, 5Duke University Medical Center, Durham, North Carolina, United States

PCB002
Low-pressure baroreflex control of renal sympathetic nerve activity in rats exposed to chronic intermittent hypoxia: Effect of TRPV1 channel blockade.

Sara AlMarabeh, Eric F. Lucking, Ken D. O'Halloran, Mohammed Abdulla
Department of Physiology, University College Cork, Cork, Ireland

PCB003
Long-term recording of renal and lumbar sympathetic nerve activity in response to myocardial infarction in conscious rats
Misa Yoshimoto, Shizuka Ikegame, Yuki Shiwa, Kenju Miki
Department of Environmental Health, Nara Women's University, Nara, Japan

PCB004
Preventing Hypertension after Ischemic Stroke in the Spontaneously Hypertensive Rat
Pratik Thakkar1, Carolyn Barrett1, Ailsa McGregor3, Alan Barber2, Julian F. Paton1, 4, Fiona McBryde1
1Physiology, University of Auckland, Auckland, New Zealand, 2Centre for Brain Research, University of Auckland, Auckland, New Zealand, 3Pharmacy, University of Otago, Dunedin, New Zealand, 4Physiology, University of Bristol, Bristol, United Kingdom

Cardiac & Respiratory Physiology
PCB005

Prathamesh H. Kamble1, Rajesh Kumar Sharma1, Pratik Paliwal2, Kaushalkumar Desai2, Anish Singhal1
1Physiology, All India Institute of Medical Sciences, Jodhpur, Jodhpur, Rajasthan, India, 2Mechanical Engineering, Indian Institute of Technology, Jodhpur, Jodhpur, Rajasthan, India

PCB007
Acute changes of natriuretic peptides during pulmonary hyperinflation

Tanja Mijacika1, Otto Barak2, Ivan Drvis3, Jens Peters6, Annemie Stege Bojer4, Per Lav Madsen4, Niels H. Secher5, Aleksandar Klasnja2, Zeljko Dujic1
1Physiology, University of Split School of Medicine, Split, Croatia, 2Physiology, Faculty of Medicine, University of Novi Sad, Serbia, Novi Sad, Serbia, 3University of Zagreb School of Kinesiology, Zagreb, Croatia, 4Cardiology, University of Copenhagen, Denmark, Copenhagen, Denmark, 5Anesthesiology, University of Copenhagen, Denmark, Copenhagen, Denmark, 6University of Copenhagen, Denmark, Copenhagen, Denmark

PCB008
Increased DNA damage with comet assay in patients with pulmonary hypertension

Emine Kilic-Toprak2, Yalin Tolga Yaylali1, Yasin Ozdemir2, Vural Kucukatay2, Hande Senol3, Melek Bor-Kucukatay2
1Department of Cardiology, Pamukkale University Faculty of Medicine, Denizli, Turkey, 2Department of Physiology, Pamukkale University Faculty of Medicine, Denizli, Turkey, 3Department of Biostatistic, Pamukkale University Faculty of Medicine, Denizli, Turkey

Cardiac & Respiratory Physiology

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PCB009
Comparison of nonlinear and linear heart rate variability parameters in diagnosis of cardiac autonomic neuropathy in patients of multiple system atrophy
**Anish Singhal**1, Rajesh Sharma1, Prathamesh H. Kamble1, Suresh Ravichandran1, Yogendra Raj Singh2, 1
1Physiology, All India Institute of Medical Sciences, Jodhpur, Jodhpur, Rajasthan, India, 2Physiology, RKGMC, Hamirpur, India

PCB010
To evaluate the diagnostic efficacy of parasympathetic autonomic response latency in type 2 diabetes mellitus
**Rajesh Sharma**1, Suresh Ravichandran1, Prathamesh H. Kamble1, Anish Singhal1, Yogendra Raj Singh2, 1
1Physiology, All India Institute of Medical Sciences, Jodhpur, Jodhpur, Rajasthan, India, 2Physiology, RKGMC, Hamirpur, India

PCB011
Middle cerebral artery blood flow velocity regulation during short-term normobaric isocapnic hypoxia
**Sultan alsalahi**, Yunlin Shang, George Balanos, James Fisher
University of Birmingham, Birmingham, United Kingdom

PCB012
Chronic exposure to chlorpyrifos changes cardiac morphometry in rats.
**VITOR S. MINASSA**1, Andrew V. Aitken1, Thatiany J. Batista1, Igor S. Felippe1, 2, Karla N. Sampaio1
1PHARMACEUTICAL SCIENCES, FEDERAL UNIVERSITY OF ESPIRITO SANTO, Vitoria, ES, Brazil, 2UNIVERSITY OF AUCKLAND, AUCKLAND, New Zealand
PCB013
Possible Effects Of Agomelatine On Human Heart Muscle Contractility: An In Vitro Experimental Study

**Z. Isik Solak Gormus** 1, Raviye Ozen Koca1, Aynur Koc3, Hatice Solak1, Fatmanur Taki1, Selim Kutlu1, Niyazi Gormus2
1Physiology, Necmettin Erbakan University, Konya, Turkey, 2Cardiovascular Surgery, Necmettin Erbakan University, Konya, Turkey, 3Physiology, Hitit University Faculty of Medicine, Corum, Turkey

PCB014
A high salt diet results in augmented osmolal gradients in rat skin

**Elham Nikpey** 1, 2, Olav Tenstad2, Helge Wiig2
1Medicine, , Haukeland University Hospital, Bergen, Norway, 2Medicine, University of Bergen, Bergen, Norway

PCB015
Proarrythmic effects of β-adrenergic stimulation in a pharmacological model of LQT3 in the absence of action potential prolongation.

Eleonora Lubenko2, Niamh Pomeroy2, Philippa Jolly2, Christopher Shewell2, **Matthew E. Hardy**1, 2
1Faculty of Life Sciences, University of Bradford, Bradford, West Yorkshire, United Kingdom, 2Faculty of Biological Sciences, University of Leeds, LS2 9JT, Leeds, United Kingdom

PCB016
Novel quantitative tool for the blood flow imaging

**Dmitry D. Postnov** 1, 2, Evren Erdener1, Jianbo Tang1, David Boas1
1Biomedical Engineering, Boston University, Boston, Massachusetts, United States, 2Biomedical Sciences, Copenhagen University, Copenhagen, Denmark

PCB017
Non-invasive evaluation of the systolic left ventricular load

**Nina Y. Belova**, Rene D. Mileva-Popova, Nikolay A. Stoynev
Physiology, Medical University of Sofia, Sofia, Bulgaria

Cardiac & Respiratory Physiology
PCB018
Investigation of Glyphosate Toxicity and its Mechanisms using Zebrafish (Danio rerio) Vertebrate Animal Model
Himanshu Gaur, Anamika Bhargava
Ion Channel Biology Lab, Department of Biotechnology, Indian Institute of Technology Hyderabad, Kandi, Telangana, India

PCB019
Effect of Nifedipine on Heart Glucose 6-Phosphate Dehydrogenase of Ischemia / Reperfusion Injured Rat
Ayhan Tanyeli1, Esra Senturk2, Ersen Eraslan3, Mustafa Can Güler4, Murat Sentürk5
1Physiology, Atatürk University, Faculty of Medicine, Erzurum, Turkey, 2Physiology, Agri Ibrahim Cecen University, School of Health Services, , Ağrı, Turkey, 3Physiology, Bozok University, Faculty of Medicine, Yozgat, Turkey, 4Physiology, Atatürk University, Faculty of Medicine, Erzurum, Turkey, 5Biochemistry, Agri Ibrahim Cecen University, Pharmacy Faculty, Ağrı, Turkey

PCB020
Investigation of Intraperitoneally Apelin-13 Infusion on Lung and Kidney Tissues Antioxidant Properties in Experimental Obesity Model in Rats
Suat Tekin, suleyman sandal
Physiology, Inonu University, Malatya, Turkey

PCB021
Different Intrinsic Heart Rate Resetting Responses and the Associated Changes in Cardiac mRNA Expression with Warm Acclimation in Rainbow Trout
Rachel L. Sutcliffe1, Shaorong Li2, Kristi M. Miller2, Anthony P. Farrell1
1Zoology, University of British Columbia, Vancouver, British Columbia, Canada, 2Pacific Biological Station Fisheries and Oceans, Nanaimo, British Columbia, Canada
PCB022
Clinical ECG-gated MRI investigation of intracardiac shunting physiology in the red footed tortoise (Chelonoidis carbonarius).

**Catherine J. Williams**1, Eva M. Greunz2, Steffen Ringgaard3, Kasper Hansen4, Mads F. Bertelsen2, Tobias Wang1, 5
1Bioscience, Aarhus University, Aarhus, Denmark, 2Centre for Zoo and Wild Animal Health, Copenhagen Zoo, Copenhagen, Denmark, 3Department of Clinical Medicine - the MR research centre, Aarhus University, Aarhus, Denmark, 4Forensic Medicine, Aarhus University, Aarhus, Denmark, 5Aarhus Institute for Advanced Studies, Aarhus University, Aarhus, Denmark

PCB023
Derivation of heart rate variability (HRV) indicators in older pet cats from stethoscopes: A Deep Learning neural network (AI) approach

**Fiona O'Brien**, Niamh Hughes, Nathalie Dowgray, Alex German, **Richard Barrett-Jolley**
University of Liverpool, Liverpool, United Kingdom

PCB024
Loss of barrier integrity in alveolar epithelial cells downregulates ENaC expression and activity via Ca$^{2+}$ and TRPV4 activation

**Andre Dagenais**1, 2, Yves Berthiaume1, 3
1Cellular and molecular biology of the lung, Institut de recherches cliniques de Montreal, Montreal, Quebec, Canada, 2Quebec Respiratory Health Network, Quebec, Quebec, Canada, 3Université de Montréal, Montreal, Quebec, Canada

PCB025
The ACE-inhibitory effects of Isoleucine-Tryptophan after oral intake in man.

**Melanie Martin**1, Diana Hagemann2, Thomas Henle2, Andreas Deussen1
1Institute of Physiology, TU Dresden, Dresden, Germany, 2Institute of Food Chemistry, TU Dresden, Dresden, Germany

Cardiac & Respiratory Physiology
PCB026
Effects of ESI-05 induced Epac inhibition on action potential duration are modified by intracellular Ca\textsuperscript{2+} buffering and abolished by pyruvate in isolated rat ventricular myocytes
Hannah M. Kirton, Chris Peers, Derek S. Steele
Biomedical Sciences, University of Leeds, Leeds, United Kingdom

PCB027
Stretch promotes oxidation of elastic I-band titin but not inextensible A-band titin in heart and skeletal muscles
Martin Breitkreuz2, Yong Li1, Karl Toischer3, Lars Leichert4, Nazha Hamdani2, Wolfgang A. Linke1
1Institute of Physiology II, University of Muenster, Muenster, Germany, 2Cardiovascular Physiology, Ruhr University Bochum, Bochum, Germany, 3Dept. of Cardiology and Pneumology, University Hospital, Goettingen, Germany, 4Institute for Biochemistry and Pathobiochemistry, Ruhr University Bochum, Bochum, Germany

PCB028
Label-free analysis of the Na\textsuperscript{+}/Ca\textsuperscript{2+}-exchanger (NCX) isolated from iPSC-derived cardiomyocytes
Maria Barthmes, Andre Bazzone, Ulrich Thomas, Andrea Brüggemann, Michael George, Niels Fertig, Alison R. Obergrussberger
Nanion Technologies GmbH, Munich, Bavaria, Germany

PCB029
Does collagen drive transverse tubule remodelling in human heart failure?
David Crossman
Physiology, University of Auckland, Auckland, Select State, New Zealand
PCB030
The Transverse Tubular System is Preserved by Activation of the Glucocorticoid Receptor in Cultured Rat Cardiomyocytes
Thomas Seidel1, Dominik Fiegle1, Tim Baur1, Anne Ritzer1, Sandra Nay1, Robert H. Oakley2, John A. Cidlowski2, Tilmann Volk1
1Institute of Cellular and Molecular Physiology, University of Erlangen-Nürnberg (FAU), Erlangen, Germany, 2Department of Health and Human Services, National Institute of Environmental Health Sciences, National Institutes of Health, Durham, North Carolina, United States

PCB031
High fat-load induces cardioprotection in hearts from obese mice
Neoma Boardman, Tina M. Pedersen, Anne Hafstad, Line Rossvoll, Ellen Aasum
Department of Medical Biology, Univ. of Tromsø - The Arctic University of Norway, Tromsø, Norway

PCB032
The electrocardiogram of vertebrates: evolutionary changes from ectothermy to endothermy
Bastiaan JD Boukens1, Renato Filogonio2, Dane Crossley3, Tobias Wang4, Bjarke Jensen1
1Academic Medical Center, University of Amsterdam, Amsterdam, Netherlands, 2Department of Physiological Sciences, Federal University of São Carlos (UFSCar), São Carlos, Brazil, 3University of North Texas, Denton, Texas, United States, 4Bioscience, Aarhus University, Aarhus, Denmark

PCB033
Optogenetic stimulation of Gq signaling in cardiomyocytes using Neuropsin (OPN5)
Chu-Jen Jin, Daniela Malan, Philipp Sasse, Tobias Bruegmann
Institute of Physiology I, Medical Faculty, University of Bonn, Bonn, Germany
PCB034
Photopharmacological modulation of cardiac ion channels
**Daniela Malan**1, Timm Fehrentz4, Tobias Bruegmann1, Florian Huber2, Katharina Huell3, Nina Hartrampf2, Nikolaj Klöcker4, Dirk Trauner3, Philipp Sasse1
1Institute of Physiology I, University Bonn, Bonn, Germany, 2Department of Chemistry, University of Munich, Munich, Germany, 3Department of Chemistry, New York University, New York, New York, United States, 4Institute of Neural and Sensory Physiology, University Duesseldorf, Duesseldorf, Germany

PCB035
Role of the late sodium current in determining electrophysiological characteristics of cardiac ventricular myocytes
**Dóra Baranyai**1, Roland Veress1, Balazs Horvath1, Norbert Szentandrassy2, János Magyar1, Dénes Kiss1, Bettina Kurtán1, Csaba Dienes1, Tamás Bányász1, Péter Nánási2
1Department of Physiology, University of Debrecen, Debrecen, Hungary, 2Department of Dental Physiology and Pharmacology, University of Debrecen, Debrecen, Hungary

PCB036
Simultaneous patch clamp and video imaging of CPVT patient specific iPSC derived cardiomyocytes
**Risto-Pekka Pölönen**1, Heikki Swan2, Katriina Aalto-Setälä1, 3
1BioMediTech, University of Tampere, Tampere, Pirkanmaa, Finland, 2Helsinki University Central Hospital, Helsinki, Finland, 3Heart Center, Tampere University Hospital, Tampere, Finland
PCB037
The role of nuclear envelope protein TMEM43 in cardiac development and function in mice
Matthew J. Stroud1, Xi Fang2, Jianlin Zhang2, Nuno Guimaraes-Camboa2, Jen Veevers2, Nancy D. Dalton2, Yusu Gu2, William Bradford2, Kirk Peterson2, Larry Gerace3, Sylvia Evans2, Ju Chen2
1Cardiovascular Medicine and Sciences, King's College London, London, United Kingdom, 2UCSD, San Diego, California, United States, 3Scripps Research Institute, San Diego, California, United States

PCB038
Improved analysis procedures enhance the quantification of spatiotemporal excitation in isolated guinea pig hearts
Wing Chiu Tong, Michael J. Taggart
Institute of Genetic Medicine, Newcastle University, Newcastle upon Tyne, United Kingdom

PCB039
Exploring caveolar protein organisation in cardiac myocytes
Ruth Norman1, Victoria Harman2, Richard Bennett2, Ben Nichols3, Rob Beynon2, William Fuller4, John Colyer1, Izzy Jayasinghe1, Sarah Calaghan1
1University of Leeds, Leeds, United Kingdom, 2University of Liverpool, Liverpool, United Kingdom, 3University of Cambridge, Cambridge, United Kingdom, 4University of Glasgow, Glasgow, United Kingdom

PCB040
Optogenetic stimulation of Gs signaling in intact hearts to analyze Ca2+-leak induced arrhythmia
Vanessa Dusend, Philipp Makowka, Tobias Bruegmann, Daniela Malan, Michael Hesse, Bernd Fleischmann, Philipp Sasse
Institute of Physiology I, University of Bonn, Bonn, Germany
PCB041
Correlating nanoscale Ryanodine Receptor organizations to spontaneous calcium sparks in live cardiomyocytes
Yufeng Hou, Xin Shen, Ornella Manfra, Terje Kolstad, William Louch
Institute for Experimental Medical Research, Oslo, Norway

PCB042
3D imaging and quantitative analysis of mouse coronary vasculature
Nestor P. Lupon1, Jeremy Teillon1, Rene Markovic2, Marko Gosak2, Marko Marhl2, Thierry Couffinhal1, Cecile Duplaa1, Etienne Roux1
1UMR Inserm U1034 Biology of Cardiovascular diseases , University of Bordeaux , Pessac, France, 2University of Maribor, Maribor, Slovenia

PCB043
Echocardiographically-Assessed Right Ventricular Diastolic Function in Hypertrophic Cardiomyopathy
Andrew Fletcher1, 2, Dr Lynne Williams1
1Echocardiography, Royal Papworth Hospital NHS Foundation Trust, Andover, United Kingdom, 2Cardiac Physiology, Royal Papworth NHS Foundation Trust, Cambridge, United Kingdom

PCB044
Identification of proteomes of caveolae subpopulations in cardiac muscle.
Krzys Wypijewski1, Izzy Jayasinghe2, Sarah Calaghan2, William Fuller3
1Cardiovascular and Diabetes Medicine, University of Dundee, Dundee, United Kingdom, 2School of Biomedical Sciences, University of Leeds, Leeds, United Kingdom, 3Institute of Cardiovascular & Medical Sciences, University of Glasgow, Glasgow, United Kingdom
PCB045
Deletion of Akt1 and Akt2 leads to cardiac atrophy and loss of cardiac function

**Stefanie Gödecke**1, Tim Appel1, Phil-Torben Müller1, Finja Möller1, Ulrich Flögel2, Karl Köhrer3, Andre Heinen1, Axel Gödecke1
1Institut für Herz- und Kreislaufphysiologie, Heinrich-Heine-Universität Düsseldorf, Düsseldorf, Germany, 2Institut für Molekulare Kardiologie, Heinrich-Heine-Universität, Düsseldorf, Germany, 3BMFZ, Heinrich-Heine-Universität, Düsseldorf, Germany

PCB046
The effect of infarction method on the development of ventricular arrhythmias in a porcine model of acute myocardial infarction

**Anniek F. Lubberding**1, Stefan M. Sattler2, 3, Mette Flethøj1, Jacob Tfelt-Hansen2, Thomas Jespersen1
1Department of Biomedical Sciences, Faculty of Health and Medical Sciences, University of Copenhagen, Copenhagen N, Denmark, 2Department of Cardiology, Heart Centre, Copenhagen University Hospital, Rigshospitalet, Copenhagen, Denmark, 3Medical Department I, University Hospital Grosshadern, LMU, Munich, Germany

PCB047
Comparing the Effects of Anaesthesia on Cardiac Function in ‘Awake’ and ‘Slept’ Mice by Echocardiography

**Xiao Xiao Han**, Daniel J. Stuckey, Mark F. Lythgoe
UCL Centre for Advanced Biomedical Imaging, University College London (UCL), London, United Kingdom

PCB048
GPR30 mediated cardioprotection of estrogen against stress through rapid signaling pathway

**Hongyuan Zhang**1, 2, Lu Fu1, Hong Sun1
1Physiology Department, Xuzhou Medical University, Xuzhou, Jiangsu, China, 2Institute of Cardiovascular Disease Research, Xuzhou Medical University, Xuzhou, Jiangsu, China

**Cardiac & Respiratory Physiology**  
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PCB049
Inotropic interventions that almost double the systolic force of a cardiac trabecula do not affect the OFF state of the thick filament in diastole
Gabriella Piazzesi1, Marco Caremani1, Massimo Reconditi1, Joseph D. Powers1, Serena Governali1, Francesca Pinzauti1, Ger J. Stienen2, Theyencheri Narayanan3, Marco Linari1, Vincenzo Lombardi1
1PhysioLab, University of Florence, Florence, Italy, 2Department of Physiology, VU University of Amsterdam, Amsterdam, Netherlands, 3European Synchrotron Radiation Facility, Grenoble, France

PCB050
Computational assessment of the role of myocardial structural variability in ventricular arrhythmia dynamics
Dominic G. Whittaker1, Alan P. Benson1, Irvin Teh2, Jurgen E. Schneider2, Michael A. Colman1
1School of Biomedical Sciences, University of Leeds, Leeds, United Kingdom, 2Experimental & Preclinical Imaging Centre (ePIC), University of Leeds, Leeds, United Kingdom

PCB051
Regional differences in Ca2+ signaling and transverse-tubules across left atrium from adult sheep
Caroline Cros1, 2, 3, sebastien chaigne1, 2, 5, Come Pasqualin4, 6, alice recalde1, 3, Caroline Pascarel-Auclerc1, 2, 3, Meleze Hocini1, 2, 3, 5, Pierre Jais1, 2, 3, 5, Olivier Bernus1, 2, 3, Fabien Brette2, 1, 3
1IHU LIRYC, Pessac, France, 2INSERM, Bordeaux, France, 3University of Bordeaux, Bordeaux, France, 4University of Tours, Tours, France, 5Bordeaux CHU Hospital, Bordeaux, France, 6CNRS, Poitiers, France

PCB052
Optogenetic Ca2+-induced Ca2+ release from intracellular stores in cardiomyocytes
Wanchana Jangsangthong1, Alexander Gottschalk2, Philipp Sasse1
1Institute of Physiology I, Medical Faculty, University of Bonn, Bonn, Germany, 2Institute of Biophysical Chemistry, Johann Wolfgang Goethe-University Frankfurt, Frankfurt, Germany

Cardiac & Respiratory Physiology
PCB053
Gene therapy for cardiac conduction system dysfunction in heart failure

Luke Stuart1, Il-Young Oh1, Shu Nakao1, 2, Tobias Starborg1, Joseph
Yanni1, Ashraf Kitmitto1, Elizabeth J. Cartwright1, Delvac Oceandy1, Mark
R. Boyett1
1 Institute of Cardiovascular Sciences, University of Manchester, Manchester,
United Kingdom, 2 Biomedical Sciences, Ritsumeikan University, Kyoto, Japan

PCB054
3D-reconstruction of ventricular cardiomyocyte mitochondria from the
Greenland shark (Somniosus microcephalus) the World’s Oldest Vertebrate

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PCB055
Investigating Ca2+ Mediated Arrhythmias in a Computational Model of
Rabbit Atrial Myocytes

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PCB056
Complexity analysis of equine telemetric electrocardiogram recordings

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Cardiac & Respiratory Physiology
PCB057
Multi-scale Coupling between Cardiac Sub-cellular Calcium Release Events and Re-entrant Excitation
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PCB058
Quantification of collagen deposition in the ventricle of the Greenland shark (Somniosus microcephalus) the World’s Oldest Vertebrate.
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PCB059
Effects of external calcium concentration on diastolic, systolic and time-averaged calcium concentration in mouse ventricular myocytes
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PCB060
A novel method of studying intercellular and intracellular Ca2+signalling in human cardiomyocytes from the right atrial appendage
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PCB061
Increased systemic oxidative stress index and DNA damage in patients with age-related macular degeneration
Emine Kilic-Toprak1, Ibrahim TOPRAK2, Volkan Yaylali2, Yasin Ozdemir1, Burak Oymak1, Melek Bor-Kucukatay1, Vural Kucukatay1
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PCB062
FISIOSINAL, A NEW TOOL FOR HRV ANALYSIS IN SPACE LIFE SCIENCES
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PCB063
Abnormal L-type calcium channel properties in ventricular cardiomyocytes derived from adult dystrophic mdx mice
Lena Rubi, Janine Ebner, Hannes Todt, Xaver Koenig, Karlheinz Hilber
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PCB064
Mitochondrial impairment downregulates inward-rectifying K+ channel (KIR2.1) activity in L6 myoblasts via oxidative phosphorylation dysfunction.
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PCB065
Combining electrophysiology and contractility recordings for more complete assessment of hiPSC-CMs
Alison R. Obergrussberger, Sonja Stoelzle-Feix, Elena Dragicevic, Nadine Becker, Krisztina Juhasz, Ulrich Thomas, Leo Doerr, Markus Rapedius, Claudia Haarmann, Ilka Rinke-Weiβ, Tom A. Goetze, Matthias Beckler, Michael George, Andrea Brüggemann, Niels Fertig
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PCB066
L-type calcium channel inactivation processes during action potential in newborn rat cardiomyocytes stimulated with isoproterenol
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PCB067
Collective and individual dynamics of endothelial cells (HUVEC) in confluent cultures
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PCB068
Fetal hemodynamic response to acute maternal hyperoxygenation in the setting of intrauterine growth restriction
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Cardiac & Respiratory Physiology
PCB069
The Role of Receptors for Advanced Glycation End-products (RAGE) in the development of secondhand smoke (SHS)-induced intrauterine growth restriction (IUGR).

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PCB070
Mechanical stretch induces phosphorylation of keratin intermediate filaments 8 and 18

Anngrit M. Lutz, Tatiana Felder, Paul Dietl, Edward Felder
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PCB071
Effect of the endocannabinoid anandamide on airway tone in healthy and asthmatic mice

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PCB072
Anti-oxidant and Anti-inflammatory effects of Melatonin on TBARS, GSH-Px, SOD, and YKL-40 in Endotoxemic Lung Tissue of Wistar albino Rats
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Cardiac & Respiratory Physiology
PCB073
Apocynin reduces apnoea index in a mouse model of chronic intermittent hypoxia in a non-NADPH oxidase 2 dependent manner
Sarah E. Drummond, David P. Burns, Vincent Healy, Ken D. O'Halloran
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PCB074
Body mass and Body shape Versus Two Indices of Pulmonary Function
Rohith Velusamy, Sanjay Andrew R, Rehana W
Chettinad hospital and Research Institute, Chennai, Tamil Nadu, India

PCB075
Determinants of apnoea–hypopnoea-index (AHI) levels in newly diagnosed obstructive sleep apnoea patients
Julian owen1, Christopher Earing2, Claire Griffith–Mcgeeever1, Jonathan Moore1, Damian McKeon2, Hans-Peter Kubis1
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PCB076
Evaluation of the methods used to measure sniff nasal inspiratory pressure in healthy human subjects
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PCB077
Role of TMEM16A in mucus secretion in airways inflammatory diseases
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Cardiac & Respiratory Physiology
PCB078
Is there correlation between GAP and BODE indexes in Interstitial Lung Disease?

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PCB079
Chronic Intermittent Hypoxia Enhances Respiratory Muscle Weakness in Dystrophin-deficient mdx Mice

**David P. Burns**1, Sarah E. Drummond1, Lauren Sheeran2, Amelie Coiscaud1, Caitlin O'Hehir1, Deirdre Edge2, Ken D. O'Halloran1
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PCB080
RAGE and SAGE: Therapeutic Modalities for smoke-induced COPD

**Paul R. Reynolds**
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PCB081
On Application of Cardiac Preparations of Fish In Physiological Education and Research
Eva Neu1, Michael C. Michailov1, Archana Werner-Srivastava1, 2, Dieter G. Weiss1, 3, Germain Weber1, 4, Gerald Werner1, 5
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PCB082
Perceptions of medical students about an elective on shock physiopathology
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PCB083
Use of student-created video resources to enhance practical training in Objective Structured Practical Examinations (OSPE's).
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PCB084
The effectiveness of drama-based activities to teach the cardiac cycle to undergraduate students.
Gwen Hughes, Angharad Davies
Medical Sciences and Graduate Entry Medicine, University of Nottingham, Derby, Derbyshire, United Kingdom
PCB085
On Philosophical Physiology in Context of Anthropology and Philosophy
Michael C. Michailov1, Eva Neu1, Claude-Daniele Martin-Gibault1, Ursula Welscher1, Christoph Luetge1, 2, Michael Schratz1, 3, Germain Weber1, 4
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PCB086
Chlorogenic acid (CGA) ameliorates Ischemia-Reperfusion-induced Renal Damage through scavenging reactive oxygen species
**Derya Guzel**1, Ayhan Tanyeli2
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PCB087
The role of the glycocalyx in cell-cell interactions in human melanoma
**Jan H. Polmann**, Verena Hofschröer, Albrecht Schwab
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PCB088
Cholinergic receptor agonist, ,carbachol, induces M1 and M4 muscarinic receptors expression in megakaryocytic differentiated K562 cells
**Hulya Cabadak**, Banu Aydin
Biophysics, Marmara University School of Medicine, Istanbul, Turkey

PCB089
CRISPR/Cas-mediated targeting and visualization of long non-coding RNAs in human endothelial cells
**Sandra Seredinski**1, 2, Matthias S. Leisegang1, 2, Ralf Brandes1, 2
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PCB090
Regulation of acetylcholineesterase activity, CXCL8 production and proliferation by pilocarpine in hHuman K562 eErythroleukemia cells
**Zehra Kanli**, Banu Aydin, Hulya Cabadak
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Epithelia & Membrane Transport
PCB091
Antioxidant Effects of Apocynin on Ovarian Ischemia-Reperfusion Induced Remote Lung Injury in Rats
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PCB092
The Effects of Apocynin on Inflammatory Cytokines And Apoptosis in Ischemia-Reperfusion Induced Remote Lung Injury
Ayhan Tanyeli2, Derya Guzel1, Songul Doganay1, Selim Comakli3, Elif Polat4
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PCB093
Ligand/receptor-specific human colonic crypt calcium signatures are conferred in part by membrane receptor location and differential coupling to intracellular calcium stores.
alvin lee, Nicolas Pelaez-Llaneza, victoria jones, George Lines, alyson parris, Mark R. williams
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PCB094
Investigation of Cytotoxic Properties of Hetero-Ring Substituted Organophosphazene Compounds
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Epithelia & Membrane Transport
PCB095
Measuring alveolar epithelial fluid reabsorption with confocal microscopy
Freimuth, Friederike 1, 2, Charlott Bauerdick1, 2, Aliaksandr Halavatyi3, 2, Heimo Mairbäurl1, 2
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PCB096
The effect of Chitosan Nanosilver Dressing Versus Mesenchymal Stem Cells on Wound Healing
Suzan Ghannam2, Horeya Korayem3, Lamia Farghaly4, Somaya Hosny1
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PCB097
Neutraceutical targeting of the bile acid receptor, farnesoid X receptor, for intestinal disease.
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PCB098
Contribution of tricellulin to paracellular water permeability in epithelia of different tightness
Carlos M. Ayala Torres, Rita Rosenthal, Susanne Krug, Jörg-Dieter Schulzke, Michael Fromm
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Epithelia & Membrane Transport
PCB099
Functional activity of plasma membrane NHE isoforms expressed in the self-differentiating intestinal epithelial cell line Caco-2Bbe
Kunyan Zhou1, Yan Yu1, Anna Seidler1, Hua Xu2, Ursula E. Seidler1, Katerina Nikolovska1
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PCB100
A Bacterial Signal Peptide Increases Mucociliary Clearance in Explanted Mouse Trachea by Stimulating Solitary Chemosensory Cells and Paracrine Cholinergic Signaling
Alexander Perniss1, Bernd Buße2, Gabriela Krasteva-Christ3, Silke Appenzeller4, Shuya Liu5, Stefan Offermanns5, Jochen Klein6, Ignaz Wessler7, Ulrich Boehm8, Frank Zufall9, wolfgang kummer1
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PCB101
Investigation of diabetes-induced changes in lung microbiome using next-generation sequencing.
**Stanislavs Vasiljevs**, Deborah L. Baines
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PCB102
Investigating the effect of hyperglycaemia on the airway surface liquid proteome.
**Matthew G. Biggart**, Deborah L. Baines
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PCB103
Impedance spectroscopy indicates multiple barriers in stratified epithelia
**Roman Mannweiler**, Sophia Bergmann, Johanna Brandner, Dorothee Günzel
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PCB104
UT-B Osmoregulation in RT4 Urothelial Cell Line
**Alan Farrell**, Jonathan Fitzgerald, Mireia Torella Planas, Mollie O'Neill, Gavin Stewart
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PCB105
NADPH Oxidase Inhibitor Apocynin Ameliorates Renal Ischemia-Reperfusion Injury by Regulation of Inflammation, Autophagy and Apoptosis
Derya Guzel1, Ayhan Tanyeli2, Songul Doganay1, Selim Comakli4, Elif Polat3
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PCB106
Guardian goblet cells protect the human large intestinal stem cell niche via muscarinic receptor-coupled, ROS/calcium-dependent mucus secretion.
Christy Kam, Nicolas Pelaez-Llaneza, Alyson Parris, Alvin Lee, Victoria Jones, Mark R. Williams
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PCB107
Effect of vape carriers propylene glycol and vegetable glycerine on glucose uptake in airway epithelial cells
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PCB108
Role of neutral amino acid transporter LAT1 in acute pancreatitis regeneration
Cristina Gattiker1, Nadège Poncet1, Giovanni Pellegrini2, Eva Roth1, Jin Cheng1, François Verrey1, Simone M. Camargo1
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Epithelia & Membrane Transport
PCB109
Bile Acids Regulate Expression of Aryl Hydrocarbon Receptor in Colonic Epithelial Cells.
**Caoimhe G. Clerkin, Jessica Smyth, Ciara M. Fallon, Natalia K. Lajczak-McGinley, Stephen J. Keely**
Molecular Medicine, Royal College of Surgeons, Dublin, Ireland

PCB110
Bordetella pseudohinzii targets cilia and impairs tracheal cilia-driven transport in naturally-acquired infection in mice
**Alexander Perniss1, Nadine Schmidt2, Corinne Gurtner3, Kristina Dietert3, Markus weigel4, Oliver Schwengers4, 5, Julia Hempe6, Christa Ewers2, Ulrich Gaertner1, Uwe Pfeil1, Achim D. Gruber3, Torsten Hain4, 7, wolfgang kummer1**
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PCB111
Platelets and von-Willebrand Factor – A two-component adhesive for hematogenous metastasis
**Jonas Haller, Anna Spanhofer, Dominik Berger, Hermann Schillers**
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PCB112
HER2 and p95HER2 differentially regulate miRNA expression, downregulate MYB proteins, and increase invasiveness through miR-221/222 and miR-503 in MCF-7 breast cancer cells
Andrej Gorbatenko1, Rolf Søkilde3, Ester E. Sørensen1, Inga Newie2, Helena Persson2, Thomas Litman2, Carlos Rovira2, Stine F. Pedersen1
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PCB113
Cystic fibrosis mutations at position S549 modulate CFTR Cl- channel processing, gating and responsiveness to mutation-specific therapies
Majid K. Al Salmani1, Andras Rab2, Jeong S. Hong2, Hongyu Li1, Zhiwei Cai1, Uwe W. Fass3, Eric J. Sorscher2, David N. Sheppard1
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PCB114
Intestinal Microbiota Translocation after hemorrhagic shock in a rat model: Role of Gut–Liver Axis
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Physiology, Sinnar University, Sinnar, Sinnar, Sudan

PCB115
Non-neuronal secretion of acetylcholine by human colonic crypts triggers calcium signals in LGR5-positive intestinal stem cells and promotes crypt progenitor cell proliferation
Nicolas Pelaez-Llaneza, alvin lee, alyson parris, victoria jones, George Lines, Jonathan Tang, Mark R. Williams
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Epithelia & Membrane Transport
PCB116
Gastric ulcer healing effects of virgin coconut oil in experimental animals
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PCB117
Gestational and developmental exposure to polychlorinated biphenyls (PCBs) in the maternal diet causes impaired intestinal physiology and altered host-microbe interactions in genetically susceptible mice
Kavi Rude1, Jessica Sladek1, Matteo Pusceddu1, Sunjay Sethi2, Kim Keil2, Isaac Pessah2, Pamela Lein2, **Melanie Gareau**1
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PCB118
Application of ethanol with fatty acids induces Ca2+ responses in pancreatic stellate cells in vitro and leads to activation of these cells in vivo
**Pawel E. Ferdek**1, Monika A. Jakubowska2, Xiaoying Zhang3, Wei Huang4, 5, Robert Sutton3, Ole H. Petersen6

PCB119
Selective inhibition of Bcl-2 by venetoclax (ABT-199) does not induce intracellular Ca2+ responses or cell death in pancreatic acinar cells
**Monika A. Jakubowska**1, 2, Geert Bultynck3, Julia V. Gerasimenko1, Oleg V. Gerasimenko1, Ole H. Petersen1, Tim Vervliet3, Pawel E. Ferdek1, 4
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PCB120
Taurodeoxycholate inhibits ion secretion via basolateral TGR5 receptors on L-cells in mouse ileal and colonic mucosae.
**Helen Cox,** Iain R. Tough
Wolfson CARD, King’s College London, London, United Kingdom

PCB121
Transformation of nuclear pores promotes human lung cancer malignancy
Isabelle Luchtefeld1, Ivan Liashkovich1, Ihab Azzam1, Gonzalo Rosso2,
**Victor Shahin**1
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2BIOTEC, University of Dresden, Dresden, Germany

PCB122
Neutrophil chemotaxis depends on extracellular pH and Na+/H+-exchanger activation
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PCB123
Comparative electrophysiological analysis of the bile acid-sensitive ion channel (BASIC) from different species
Pia Lenzig, Monika Wirtz, Stefan Gründer, **Dominik Wiemuth**
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PCB124
Tracking the uptake of newly designed fluorescent-labeled chitosan–mRNA complexes and their influence on human bronchial epithelial cells
**Svenja K. Nitzlaff,** Nadine Bangel-Ruland, Wolf-Michael Weber
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**Epithelia & Membrane Transport**
PCB125
Proof of Phospholipid Scrambling activity by TMEM16E/ANO5: opposite effects of mutations causing bone dysplasia and muscular dystrophy.
Eleonora Di Zanni, Antonella Gradogna, Cristiana Picco, Joachim Scholz-Starke, Anna Boccaccio
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PCB126
Inhibition of the Ca2+-activated K+ channel KCa3.1 has an impact on the extravasation of A549 lung cancer cells
Etmar Bulk, Ivan Liashkovich, Hermann Schillers, Albrecht Schwab
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PCB127
Establishing an antibody to verify expression of the bovine TRPV3 channel by the rumen of cattle
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PCB128
Proteolytic activation of the epithelial sodium channel: role of pro-protein convertases and prostasin
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PCB129
Development of an enhanced Cystic Fibrosis Transmembrane Regulator gene for Homology-Independent Targeted Integration in Cystic Fibrosis cell lines. Maximilian Woodall1, Ileana Guerrini2, Stella Prins3, Emily Langron3, Paola Vergani3, Stephen Hart2, Deborah L. Baines1
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PCB130
Protective Effect of NADPH Oxidase Inhibitor Apocynin on Ischemia-Reperfusion Injury In The Ovarian Tissue
Derya Guzel1, Ayhan Tanyeli2, Songul Doganay3, Selim Comakli4, Elif Polat5
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PCB131
Control of cellular shape by actomyosin-dependent apical constriction
Alexis Hofherr1, Claudia Seger1, Eryn Dixon2, Samuel L. Svendsen3, Albert Bohn1, Kimon Runge1, Berenike Fajen1, Clara Consoli1, Owen Woodward2, Jens Leipziger3, Michael Köttgen1
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Epithelia & Membrane Transport
PCB132
Mineralocorticoid receptor deficiency in endothelial cells does not aggravate renal fibrosis during unilateral ureteral obstruction in mice

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PCB133
High chloride silences the aldosterone - mineralocorticoid receptor - epithelial Na+-channel - pathway in the distal nephron

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PCB134
Correlation of proteomics and function in isolated perfused single cortical collecting ducts

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PCB135
Permeability properties of the proximal tubular tight junction changes along its course and depends on claudin-2 and -10a

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Epithelia & Membrane Transport
PCB136
Contribution of the proton sensors OGR1 and GPR4 to renal disease progression in mice

Janine Sprenger1, 5, Eva M. Pastor Arroyo1, 5, Thomas Knöpfel1, Giovanni Pellegrini2, Niels Olsen Camara3, 4, Carsten A. Wagner1, 5, Pedro Henrique Imenez Silva1, 5
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PCB137
Erythropoietin stimulates Fibroblast Growth Factor 23 (FGF23) in mice and men

Arezoo Daryadel1, 3, Thomas Haider2, Pedro Henrique Imenez Silva1, 3, Udo Schnitzbauer1, 4, Carla Bettoni1, 3, Eva M. Pastor Arroyo1, 3, Roland H. Wenger1, 3, Max Gassmann2, Carsten A. Wagner1, 3
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PCB138
mCCDcl1 cells show Plasticity Consistent with the Ability to Transition between Principal and Intercalated Cells

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Epithelia & Membrane Transport
PCB139
The role of the actin-sequestering protein, thymosin-β4, on renal podocyte function
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PCB140
Adaptations to Pregnancy: Role of the Proteinase Activated Receptor 2 (PAR2)
David West, Crystal West
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PCB141
The role of the inwardly rectifying potassium channel Kir5.1 in the distal convoluted tubule
Catarina Quintanova2, 1, Anna-Lena Forst2, Richard Warth2
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PCB142
Neutral amino acid transporter LAT1 (Slc7a5) in kidney and its role in compensatory growth
Christian Feuerstacke, Nadège Poncet, Samyuktha Muralidharan Pillai, François Verrey
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PCB143
Sexual dimorphism in Bmal1 regulation of blood pressure and diurnal sodium handling in the rat
David M. Pollock, Chunhua Jin, Jermaine G. Johnston, University of Alabama at Birmingham, Birmingham, Alabama, United States
Epithelia & Membrane Transport
PCB144
Skeletal muscle unfolded protein response is different during muscle growth achieved by resistance training or its “mimetic” myostatin/activin blocker. **Jaakko Hentilä**, Juha Ahtiainen, Olli Ritvos, Antti Mero, Juha Hulmi, 1
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PCB145
Influence of VX-745, inhibitor of p38 MAPK, on the E3-ligases expression in rat soleus during hindlimb unloading **Svetlana Belova**, Ekaterina Mochalova, Boris Shenkman, Tatiana Nemirovskaya Institute of biomedical problems RAS, Moscow, Russian Federation

PCB146
The role of HDACs in the regulation of E3-ligases MuRF-1 and MAFbx expression in rat soleus at the early stage of muscle unloading. **Tatiana Nemirovskaya**, Ekaterina Mochalova, Svetlana Belova, Boris Shenkman
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PCB147
Effects of High Intensity Interval versus Continuous Moderate Intensity Training on Post Traumatic Stress Disorder Induced Cognitive Impairment in Rats **Türkan Koyuncuoğlu**, Zeynep Meral, Nursen Çetrez, Berfin Gönenç, Hacer Sevim, Ekin Kuntsal Dertsiz, Dilek Akakin, Meral Yüksel, Özgür Kasimay Çakır
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PCB148
Spectrum of esophageal motor abnormalities in patients with scleroderma on high resolution manometry
Asma Laabidi1, Lilia Zouiten1, 2, Meriem Serghini1, Jalel Boubaker1
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PCB149
Role of p-Coumaric acid in alleviating of the intestinal Ischemia/Reperfusion injury
Ayhan Tanyeli1, Fazile Nur Ekinci Akdemir2, Ersen Eraslan3, Mustafa C. Guler1, Saime Ozbek Sebin1, Ilhami Gulcin4
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PCB150
The Efficiency of Sinapic acid on oxidative parameters in secondary lung and kidney damage in the peritonite model provoked by sepsis in rats
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PCB151
Role of p-Coumaric Acid on Reproductive and Remote Organ Damages Created by Adnexial Torsion/Detorsion
Ayhan Tanyeli1, Fazile Nur Ekinci Akdemir2, Ersen Eraslan3, Mustafa C. Guler1, Tuncer Nacar1, Ilhami Gulcin4
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PCB152
Hormonal contraceptive use might have an effect on health gains achieved after combined strength and endurance training in women: results from the pilot study
Johanna K. Ihalainen1, Ritva S. Taipale2, 1
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PCB153
Effects of progresssive resistance training targeting skeletal muscles rich in type 1 fibers on fat oxidation rate in young sedentary individuals
Ahmet Ayar2, Elif SAHIN1
1Guneysu School of Physical Therapy and Rehabilitation, Recep Tayyip Erdogan University, Rize, Turkey, 2Department of Physiology, Karadeniz Technical University Faculty of Medicine, Trabzon, Turkey
PCB154
Time course adaptations in oxygen uptake and muscle deoxygenation kinetics during submaximal exercise subsequent to a 12 week moderate-intensity continuous training or low-volume, high-intensity interval training intervention in type 2 diabetes.

Norita Gildea1, Adam D. McDermott1, Joel Rocha2, Domenico Crognale1, Aaron D. Nevin1, Simon Green3, Donal O'Shea4, Mikel Egana1
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PCB155
Analysis of the Major Risk Factors and Genetic Variations of Bone Formation Signaling Pathways in Patients of Osteoarthritis

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PCB156
Does post-exercise hypokalemia increase risk of arrhythmias?

**Michael J. McKenna**1, Tania Atanasovska1, Cao T. Tran2, Robert Smith1, 3, Claus Graff4, Jacob Melgaard4, Jørgen Kanters5, Aaron Petersen1, Antony Tobin6, Keld P. Kjeldsen4, 7, 8

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PCB157
Resistance training upregulates skeletal muscle Na+,K+-ATPase content, with elevations in both α1 and α2 but not β isoforms

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PCB158
Three-dimensional representation of two-dimensional sonography scans to look further into human skin in vivo
Ana Macedo, Henrique Silva, Francisco F. Rego, Luis Monteiro Rodrigues
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PCB159
A Comparison of the Effects of Resistance Exercise Training on Muscle Mass and Function in South Asians and White Europeans
FARIS ABA ALKHAYL
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PCB160
Light-induced ROS production by SuperNova activates Nrf2 response
Niklas Müller, Flávia Rezende, Ralf Brandes, Katrin Schröder
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PCB161
Acute aerobic or resistance exercise does not affect circulating levels of mitochondrial peptides Humanin and MOTS-C
Ferdinand von Walden, Chang Liu, Rodrigo Fernandez-Gonzalo, Eva-Karin Gidlund, Lena Norrbom, Jessica Norrbom, Björn Alkner
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PCB162
Limitations to high-intensity exercise tolerance: implications of the task power
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PCB163
Differences in the cardiorespiratory and metabolic responses in endurance athletes, members of counter-terrorism center and senior athletes
Eliza Tóth2, Akos Koller1, 3, Ferenc Ihász2, Lili Kósa2
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PCB164
Effect of physical activity on plasma PCSK9 in prediabetic subjects.
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PCB165
Tissue saturation index in human skeletal muscle during cycling at different exercise intensity and cadence.
Lisha Shastri1, Mariana Alkhalil1, Claire Forbes1, Tina El-Wadi1, Gerrard Rafferty1, Koji Ishida4, Federico Formenti1, 2, 3
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Human & Exercise Physiology
NR4A3 is a contraction-responsive transcription factor that is induced by acute bouts of exercise and influences metabolism in human skeletal muscle

**Jonathon Smith**1, Brendan M. Gabriel1, Lucile Dollet1, Rasmus Sjögren2, Nicolas J. Pillon1, Juleen Zierath1, 2, Anna Krook1
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Effect of supplementation with fish oil rich in eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) on motor nerve function after eccentric contractions

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A comparison of the effect of high and low intensity intermittent and continuous exercise on gastric emptying rate, appetite and substrate utilisation in healthy males

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Circadian influences on gastric emptying rate, blood glucose and substrate utilisation during fasted and non-fasted brisk walking in healthy males

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**Human & Exercise Physiology**
PCB170
Diving-related microparticle responses following imposed oscillatory shear stress

Otto F. Barak1, Ryan L. Hoiland2, Stephen Thom4, Tanja Mijacika3, Dmitar Vlahovic1, Pavle Jovanov5, Zeljko Dujic3
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PCB171
High intensity exercise training prior to major elective surgery is well tolerated and associated with impressive cardiopulmonary improvement.

George Rose1, Thomas A. Calverley1, Hayato Tsukamoto1, David Byfield1, Richard Davies2, Ian Appadurai2, Damian M. Bailey1
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PCB172
South Asian people have reduced exercise capacity unexplained by type-2 diabetes or impaired skeletal muscle oxidative capacity

Siana Jones, Therese Tillin, Daniel Key, Nishi Chaturvedi, Alun Hughes
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PCB173
High-Intensity Exercise Does Not Activate Coagulation

Lewis Fall1, Thomas A. Calverley2, Thomas S. Owens2, Benjamin Stacey2, Kaitlin M. Thyer1, Rhodri E. Griffiths1, Rhodri D. Phillips1, Damian M. Bailey2
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Human & Exercise Physiology
PCB174
Mechanisms by which isometric handgrip (IHG) training of one arm may improve systemic endothelial dilator function in young healthy men

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PCB175
Modeling the oxyhemoglobin dissociation curve at the cerebral capillary level in humans

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PCB176
Changes in the oxyhemoglobin dissociation curve between the arterial and cerebral capillary level during normo- and hyperventilation in healthy human volunteers

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PCB177
Metabolic alteration and muscle dysfunction in mice with breast cancer
Theresa Mader1, Ellinor Kenne1, Thomas Chaillou2, Monika Petkovic1, Maarten M. Steinz1, Zhengye Liu1, Michaeljohn Kalakoutis1, Lanner T. Johanna1
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PCB178
Skeletal muscle capillarisation and myoglobin are higher but mitochondrial content is similar in elite breath-hold divers versus non-divers.
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PCB179
Investigation of Sportive Capacities of Elite Mountain Skiers with Physiological Parameters of Cardiopulmonary Exercise Test
Kubra Dugenci, Aysegul Kurt, Ahmet Ayar
Physiology, Karadeniz Technical University, Trabzon, Turkey

PCB180
Effect of catecholamines on phagocytosis, oxidative burst and the cytokine-producing activity of neutrophils in athletes
Irina Shvydchenko
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PCB181
Differential effects on lower and upper body muscle mass following 7 days unloading on a hyperbuoyancy floatation bed

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PCB182
The effects of low-volume high-intensity interval training on pulmonary oxygen uptake and muscle deoxygenation kinetics during heavy intensity exercise in type 2 diabetes.

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PCB183
Examining the behaviour of reactive oxygen species in specific intracellular locations of skeletal muscle fibres in inflamed and non-inflamed conditions.

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PCB184
Peroxynitrite-induced modifications results in increased open probability of RyR1 in skeletal muscle
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PCB185
Tissue oxygenation: a novel modulator of compression-induced hyperaemia
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PCB186
Maximum Inspiratory Pressure association with Countermovement Jump with regard to age and gender
Ainoa Roldán1, Esther García-Domínguez1, Cristina Blasco-Lafarga1, Ana Cordellat Marzal1, Pablo Monteagudo1, Nieves María Blasco-Lafarga2, Mari Carmen Gómez-Cabrera3
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PCB187
The role of septins in skeletal muscle
Monika Gonczi, Beatrix Dienes, Peter Szentesi, Karolina Cseri, Norbert Balogh, Janos Fodor, Laszlo Csernoch
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PCB188
Glycogenolytic derived ATP is essential for skeletal muscle fibre excitability and Na,K-ATPase activity in the transverse tubular system

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PCB189
The effects of antenatal hypothyroidism and voluntary exercise training on oxidative capacity and gene expression in soleus muscle of adult rats

Anna Borzykh1, Dina Gaynullina1, 2, Ekaterina Selivanova1, 2, Anastasia Shvetsova1, 2, Daria Kostyunina1, 2, Ilya Kuzmin1, 2, Andrey Martyanov1, 2, Olga S. Tarasova1, 2
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PCB190
Plasma oxytocin level is enhanced by acute high-intensity interval exercise in men

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PCB191
GLP-2 inhibits food intake in DMH and NTS

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PCB192
Dominant effect of experimental cancer over blocking activin receptor ligands on skeletal muscle metabolome

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PCB193
Detection of intracellular cysteine modification with green fluorescent protein variants

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**Metabolism & Endocrinology**
PCB194
The effect of R547, a cyclin dependent kinase inhibitor, on hepatocellular carcinoma cell death
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PCB195
Hesperidin attenuates oxidative ovarian damage injured by ischemia-reperfusion
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PCB196
Aspirin working with platelet for its anti-cancer role on metastatic breast cancer
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PCB197
Cellular Effects of Silver Nanoparticles (AgNPs) on Human Keratinocyte Cell Line (HaCaT) in Vitro
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PCB198
the Epigenetic landscape of two phenotypic extreme skeletal muscles - Soleus and EDL
Mads Bengtsen1, Ivan Myhre Winje1, Johannes Landskron2, Leonardo A. Meza-Zepeda3, Kristian Gundersen1
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PCB199
DAG enriched oil activates Nrf2 pathway and impedes NF-κB translocation to mitigate renal injury in Cadmium Chloride (CdCl2) induced hypertensive rats
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PCB200
Down expression of onco-suppressive CHEK-2, HOXB-13 genes and Up-regulation of Proto-onco AR gene in prostate cancer
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PCB201
Role of inflammation in papillary thyroid carcinoma (PTC) development and progression
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Metabolism & Endocrinology
PCB202
Investigation of the Effect of Nifedipine on Kidney Catalase of Ischemia/Reperfusion Injured Rat
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PCB203
Ghrelin’s effects on Levels of Metalloproteinases and Inflammatory parameters in septic intestinal tissue
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PCB204
Effect of aqueous extract of Tamarindus indica Linn. (Leguminosae) pulp on basal and stimulated gastric acid secretion due to histamine, pentagastrin and carbachol in rats
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Metabolism & Endocrinology
PCB205
The role of endogenous oxytocin on the anti-stress effect of exercise
Sevil Arabaci Tamer1, Selen Ucem2, Muhammed Guner2, Berk Buke2, Alp
Giray Karakucuk2, Niyazi Yigit2, Ozge Cevik3, Busra Coskunlu4, Feriha
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PCB206
Vagal afferents modulate high fat diet induced visceral obesity and dysbiosis
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PCB207
Beneficial effect of oat β-glucans on the inflammation-related gene
expression in colitis
Ewa Zyla1, Katarzyna Dziendzikowska1, Dariusz Kamola2, Jacek
Wilczak2, Michal Oczkowski1, Tomasz Krolikowski1, Malgorzata Gajewska2,
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PCB208
Effects of Gum Arabic (Acacia Senegal) on visceral adiposity index and blood pressure in Type 2 Diabetes Mellitus as indicators of cardiovascular disease: a randomized and placebo-controlled clinical study
Amal M. Saeed1, Rasha Babiker2, Khalifa Elmusharaf3, Michael Keogh4
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PCB209
Effects of intermittent fasting on overall activity and anxiety level and autonomic nervous system balance in male rats.
Irina Dzhumaniazova, Elizaveta Khirazova, Adil Bayzhumanov
Moscow State University, Moscow, Russian Federation

PCB210
The effects of quercetin and fenofibrate supplementation on serum insulin and adiponectin levels in male Sprague Dawley rats fed a high fructose diet, post-weaning
Janine Donaldson, Malehope C. Molopo, Kennedy Erlwanger
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PCB211
Exposure to kerosene fumes deteriorates reproductive functions in male Sprague Dawley rats.
Ibiyemi I. Olatunji-Bello, Odunayo m. Olumide, Funmilayo K. Olaribigbe, Adedoyin A. Sanni
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Metabolism & Endocrinology
PCB212
Involvement of endocannabinoid and vanilloid pathways in periodontal disease in rats

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PCB213
Cholesterol metabolism and cancers: Toward new perspectives in breast cancer treatment

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PCB214
Retinal oxygen levels in the eye are different in macular area of the retina compared to periphery of the retina

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PCB215
Association of serum Leptin level with body mass index and lipid profile in Diacetylmorphine (Heroin) addicts versus healthy controls.

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Metabolism & Endocrinology
PCB216
Dose-Dependent Hemorheological Impairment in Patients with Differentiated Thyroid Cancer Following I-131 Ablation / Metastasis Treatment
Tarik Sengoz1, Emine Kilic-Toprak2, Olga Yaylali1, Ozgen Kilic-Erkek2, Yasin Ozdemir2, Burak Oymak2, Hande Senol3, Dogangun Yuksel1, Vural Kucukatay2, Melek Bor-Kucukatay2
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PCB217
I-131 ablation/metastasis treatment may lead protective effects on lymphocyte DNA by activating repair mechanisms in patients with differentiated thyroid cancer
Emine Kilic-Toprak1, Tarik Sengoz2, Olga Yaylali2, Ozgen Kilic-Erkek1, Yasin Ozdemir1, Burak Oymak1, Hande Senol3, Dogangun Yuksel2, Vural Kucukatay1, Melek Bor-Kucukatay1
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PCB218
Assessing cardiorespiratory and metabolic parameters responses to a mixed meal vs a glucose challenge- a pilot study in healthy volunteers
Marlene C. Lages1, Gabriel Brito1, 3, Nuno V. Lopes1, 3, Rui Fonseca-Pinto1, 3, Maria P. Guarino1, 2
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Metabolism & Endocrinology
PCB219
Impact of feeding cycle upon the biophysics of sodium and calcium currents of rat hippocampal CA1 neurones.
**André E. Bastos**, Pedro Lima
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PCB220
The plasma membrane of Rat sub-cutaneous white adipocytes express a long Cav1.2 channel isoform
**Nneoma E. Akaniro-Ejim**, Susan L. Chan, Paul A. Smith
School of Life Sciences, University of Nottingham, Nottingham, Nottinghamshire, United Kingdom

PCB221
Dysfunctional insulin secretion in the CftrEURtm1/F508del CFTR mouse model due to defective processing of insulin and reduced exocytosis.
**Lena Eliasson**1, Michael Hühn2, Mia Abels1, Ines Mollet1, Emma Svedin2, Anna Wendt1, Nils Wierup1, Bob J. Scholte3, Malin Flodström-Tullberg2
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PCB222
T-type Ca2+ channel blocker mibebradil inhibits ORAI store-operated channels
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PCB223
Role of glycolysis in regulation of endothelial barrier integrity in inflammation
**Muhammad Aslam**, Christian Hamm, Dursun Guenduez
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**Metabolism & Endocrinology**
PCB224
Study of Uterine Contractions in Pregnant Diabetic Rats: Role of Oxidative Stress


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PCB225
Skeletal muscle atrophy before hibernation and recovery after hibernation in a mammalian hibernator, Syrian hamster

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PCB226
Effects of ouabain and/or salbutamol on subcellular glycogen distribution in isolated rat soleus muscle

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PCB227
Effect of Vitamin C on glucose metabolism in partial and total sleep-deprived male Wistar rat

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PCB228
Anti-oxidant supplementation ameliorates noradrenaline and serotonin contents in perimenopausal female rats following acute restraint stress. **Olutope A. Akinnibosun**1, Adesina P. Arikawe1, Adedunni W. Olusanya2, Ifeoma C. Udenze3, Akpevwe M. Aghoghovwia1, Tomisin E. Adedeji1, Kehinde F. Bajomo1, Amarachi W. Erem1
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PCB229
Ocimum gratissimum Leaf Extract May Precipitate Infertility in Male Diabetic Wistar Rats **Sheu-Tijani T. Shittu**1, Seyyid Alli-Sisse Shittu1, Afeez Olatunji1, Wahab Oyeyemi2
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PCB230
Effects of Maternal Tobacco Smoke or Alpha Lipoic Acid on Sexual Behavior in Female Rats **Nazife Ulker**1, Ahmet YARDIMCI1, Ahmet Tektemur2, Nalan Kaya3, Elif Erdem Guzel5, Ramazan Fazil Akkoc4, **Sinan Canpolat**1, Enver Ozan3
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Metabolism & Endocrinology
PCB231
THE EFFECTS OF PAROXETINE, BUPROPION AND AGOMELATINE ADMINISTRATION ON SEMINAL VESICLE FLUID IN MALE RATS
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PCB232
Diet-induced Obesity in Wistar rat: Influence of Normal diet Re-feeding on Altered Levels of Salivary Leptin and Ghrelin
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PCB233
MELATONIN AMELIORATES INFLAMMATION IN KIDNEY AND LIVER OF THE RATS WITH TYPE 2 DIABETES MELLITUS
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PCB234
Intracerebroventricular MOTS-c infusion increases food consumption of obese rats
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Metabolism & Endocrinology
PCB235
Effect of antioxidants supplementation on corticosterone induced changes in testosterone release by Leydig cell
Muhammad Aslam
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PCB236
Effects of noopept on glucose, insulin, insulin resistance and pancreas of streptozotocin-induced diabetic prepubertal rats
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PCB237
The pattern of serum microvesicles changes in preeclamptic women in comparison with controls. Analysis of their effects on renal glomerular endothelial cells and podocytes, cultured alone or in co-stimulation.
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PCB238
Salt overload during gestation increases oxidative stress and impairs fetal survival ability in Sprague Dawley rats
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Metabolism & Endocrinology
PCB240
Normobaric hyperoxia treatment ameliorates renal injury following ischemia reperfusion in rats
Oskar Nensén, Peter Hansell, Fredrik Palm
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PCB241
Gum Arabic (Acacia Senegal) supplementation alleviate oxidative stress and increases High density lipoprotein (HDL) level without affecting other lipid profile parameters among hemodialysis patients
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PCB242
Estrogen and Estrogen Receptor Agonists Protect Against Acetaminophen-induced Hepatorenal Toxicity in Rats
Türkan Koyuncuoğlu1, Alper Yildirim1, Gamze Bastem2, Beyza Doğan2, Emine Dönmez2, Ebru Temel2, Ekin Kuntsal Dertsiz3, Meral Yüksel4, Feriha Ercan3, Berrak Yeğen1
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Metabolism & Endocrinology
PCB243
The Effect of Dietary Amino Acids on Chronic Kidney Disease Progression in Rats
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PCB244
Renal Nox4 contributes to systemic redox homeostasis by controlling glutathione, methionine and cysteine metabolism
Flávia Rezende, Ralf Brandes
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PCB245
Quercetin Prevents the Suppression of Epo by TNF-alpha
METE OZKURT, RUMEYSA ÖZYURT, ABDULLAH KARAĐAĞ, nilufer erkasap
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PCB246
Analysis of Micro-RNAs Participating the Inhibition of Erythropoietin Synthesis by TNF-alpha via Microarray Technology
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PCB247
Possible Role of Garlic Oil in Ameliorating Renal Injury after Liver Ischemia/Reperfusion in Rats
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4Anatomy, Faculty of Medicine, Ain Shams University, Cairo, Egypt, 5Medical student, Faculty of Medicine, Ain Shams University, Cairo, Egypt

PCB248
Effects of Salmon Calcitonin and Omega-3 Fatty Acids on some Biochemical Parameters in Induced Diabetic-Knee Osteoarthritic Rats
Luqman A. Olayaki, Wale J. Adeyemi
Physiology, University of Ilorin, Ilorin, Kwara, Nigeria
PCB249
SALTY BRAIN; NEW INSIGHTS IN SALT-SENSITIVE HYPERTENSION
Anne-Maj Samuelsson, Elham Nikpey, Olav Tenstad, Helge Wiig
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PCB251
The role of the alanine-Serine-Cysteine-1 transporter (SLC7A10, Asc-1) in glycinergic transmission in the pre-Bötzingher Complex
Swen Hülsmann1, Guillaume Mesuret1, Anne Bischoff1, Sepideh Khabbazzadeh1, Hazem Safory2, Herman Wolosker2
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PCB252
Synaptic expression of interleukin-6 receptors and dystrophin may indicate a role in cognitive deficits associated with loss of dystrophin.
Kimberley A. Stephenson, Ciara Shanahan, Mark G. Rae, Dervla O'Malley
Physiology, University College Cork, Cork, Cork, Ireland

Neuroscience
PCB253
Role of the CaVβ and the actin cytoskeleton on synaptic transmission in mouse hippocampal neurons
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PCB254
Re-Organisation Of Frequency Discrimination In The Cochlear Tonotopy.
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PCB255
Mechanism of calcium-dependent activator protein for secretion 1 and 2 differential subcellular localization in dorsal root ganglion neuron
**Angelina Staudt**1, Ali H. Shaib1, 3, Olga Ratai1, Ahmed Shaaban1, Hawraa Bzeih1, Ralf Mohrmann1, 2, Jens Rettig1, Ute Becherer1
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PCB256
Spray-dried animal plasma supplementation attenuates aging neuroinflammation in SAMP8 mice
**Miquel Moretó**1, Lluïsa Miró1, 2, Alba Garcia-Just1, Cristina Rosell-Cardona1, Concepció Amat1, Javier Polo2, Christian Griñán-Ferré3, Mercè Pallàs3, Anna Pérez-Bosque1
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**Neuroscience**
PCB257
L-Arginine supplementation with Carbamazepine improves cognition in male Sprague-Dawley rats
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PCB258
The peripheral nervous system in vitro – Characterization of a co-culture system with human derived neurones and Schwann cells
\textbf{Claudia Trinler}, Corinna Rösseler, Petra Hautvast, Angelika Lampert
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PCB260
Foundations of neocortical high-fidelity synaptic transmission
\textbf{Grit Bornschein}, Jens Eilers, Hartmut Schmidt
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PCB261
GABAergic modulation of cells within the neurogenic niche of the postnatal spinal cord
\textbf{Nazlahshaniza Shafin}1, Jame Deuchars1, Andrew Wilson2, Julien Chuquet3, Susan Deuchars1
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PCB262
Aberrant Changes in Oxygen Levels in the Brain during Seizures in Awake Freely Behaving Rodents
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PCB263
Permethrin in low dose reduces excitability in murine peripheral sensory neurons
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PCB264
Ischaemic preconditioning induced tolerance in PC12 cells
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PCB265
A classic updated – the sodium hypothesis of action potential generation
Angus M. Brown
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PCB266
Investigation of NMDA receptor modulation by adenosine A2A and D2 dopamine receptor activation in rat substantia nigra dopaminergic neurones. **Rumaitha Al-Hosni**1, Federica Cherchi2, Xiaochun Cai3, Wanyu Lei3, Zhuo Huang3, Elisabetta Coppi2, Alasdair Gibb1
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PCB267
Metabolically induced changes of nerve conduction velocity of spinal fibers in vivo in mice **Payam Diba**
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PCB269
The role of interstitial K+ in stimulating lactate release from adult mouse optic nerve **Angus M. Brown**1, Laura R. Rich1, Bruce R. Ransom2
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PCB270
Long-term treatment of live HEK293 cells expressing δ-opioid receptor with therapeutic concentration of lithium results in decrease of receptor level and attenuation of its function **Lenka Roubalova**1, Miroslava Vošahlíková1, Hana Ujcikova1, Jana Brejchova1, Martin Alda2, 3, Petr Svoboda1
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PCB271
Expression of calcium sensing receptors increases in differentiated human odontoblasts at stable extracellular calcium

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PCB272
The implication of Interstital cells in understanding Hirschsprung's Disease Pathology

Hanan El-kuwaila
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PCB273
Assessment of hearing status of Rickshaw drivers by Pure tone audiometry test in Karachi, Pakistan.

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PCB274
P3a amplitude reduction in antipsychotic-naive first-episode psychosis
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PCB275
High incidental physical activity is associated with faster speed of processing in a reading task. An Event-Related Potentials study
**Juan Silva-Pereyra**1, Javier Sanchez-Lopez2, Graciela C. Alatorre-Cruz1, Thalía Fernández3
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PCB276
Plasma levels of the high mobility group box 1 protein are associated with severity of gastrointestinal dysfunction in individuals with autism spectrum disorder
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PCB277
The Preventive Effects of Oxytocin and Liraglutide to Vincristine-Induced Neuropathy: An Experimental Rat Model
Mumin A. Erdogan1, Oytun Erbas2, Emin Taskiran3, Gurkan Yigitturk4, Ayfer Meral5, Dilek Taskiran6
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PCB278
Evaluation of toxicity of gadolinium based contrast agents on neuronal cells
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PCB279
Antiepileptic activity of ellagic acid in pentylenetetrazole-kindled rat and role in motor function
Philemon P. Mshelia, 2Danjuma, N.M.; 3Magaji, R.A.; 4Dzenda, T.
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Neuroscience
PCB280
The structural basis for the interaction of TRPM3 channel proteins with G protein beta-gamma subunits
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PCB281
Low nanomolar concentrations of isradipine selectively reduce in vivo burst firing of dopamine neurons in the lateral substantia nigra
Josef Shin1, Lora Kovacheva1, Dominique Thomas2, Strahinja Stojanovich1, Carlos A. Paladini3, Gerd Geisslinger2, Jochen Roeper1
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PCB282
Loss of pain due to a gain-of-function mutation: iPSC-derived human nociceptors as a disease model of a Nav1.9-linked pain syndrome
Alec Foerster1, Stephanie Sontag2, Jannis E. Meents1, Martin Hampl1, Herdit M. Schüler3, Ingo Kurth3, Martin Zenke2, Angelika Lampert1
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PCB283
Establishing a neurotoxicological assay using human induced pluripotent stem cell (hiPSC)-derived sensory neurons
Sara B. Gutiérrez1, 2, Alec Foerster1, Andreas Schiwy2, Jessica Legradi2, Petra Hautvast1, Henner Hollert2, Angelika Lampert1
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PCB284
Pharmacological activation of Nav1.9 – a model for Nav1.9 channelopathies linked to chronic pain or congenital insensitivity to pain
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PCB285
Expression and pharmacology of GluA2-containing AMPA receptors in cell lines and stem cell-derived neurons
Alison R. Obergrussberger, Nina Brinkwirth, Ilka Rinke-Weiβ, Nadine Becker, Tom A. Goetze, Sonja Stoelzle-Feix, Patrick Mumm, Michael George, Andrea Brüggemann, Niels Fertig
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PCB286
Modulation of Transient Receptor Potential Melastatin 8 Channel by tyrosine phosphorylation
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Neuroscience
PCB287
The thermosensitivity of two-pore potassium channels depends on their phosphorylation status
Soenke Cordeiro, Elena Riel, Thomas Baukrowitz
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PCB288
Heterodimerization across K2P Channel subfamilies: A systematic BiFC screen reveals interaction between members of different subfamilies
Agreen Horr, Marianne Musinszki, Elena Riel, Soenke Cordeiro, Thomas Baukrowitz
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PCB289
Studying ligand binding and gating of retinal CNGA1 channels by FRET
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PCB290
Functional Evidence for P2X7 Receptor-Mediated Ionic Currents and Macromolecule Uptake in Cochlear Glial Cells
Silvia Prades I Abadias, Gregory Heard, Katie Smith, Jonathan Gale, Dan Jagger
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PCB291
Effects of dynamic arm cycling on motor cortical excitability in humans
Eri Fujitake, Shin-Yi Chiou, Paul Strutton
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Neuroscience
PCB292
Pathological changes in muscle signaling mechanisms in muscle contractures of children with cerebral palsy
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PCB293
Developmental easing of short-term depression in ‘winner’ climbing fibers
Christina Paetz, Simone Brachtendorf, Jens Eilers
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PCB294
Activation of 5-HT4 receptors induced a lower extent of cell proliferation and differentiation in spinal cord and hippocampus of postnatal mice
Nurhafizah Ghani, Katie Greenin, Grace Ford, Jaime Deuchars, Susan Deuchars
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PCB295
Association of serotonin levels in urine with the autism severity.
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PCB296
Effect of High Fructose Corn Syrup Consumption and Stress on TRPM2 Immunoreactivity in Rat Brain
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PCB297
Circadian rhythms in a rat model of depression.
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PCB298
Investigating the neuronal networks responsible for insulin sensing in the dorsal vagal complex
Lauryn New, Bianca Patel, Imogen Letts, Beatrice Maria Filippi
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PCB299
Differential selectivity and distributed pattern of S1 neurons for multiple features of touch and pain mechanosensations
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Neuroscience
PCB300
Dopamine and glutamate dysbalance in the dorsal striatum of parkinsonian mice: glial cells induced inflammatory environment
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PCB301
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PCB302
Feedforward and internal feedback motor circuit dysfunction impairs reaching movements in EphA4 knockout mice
**Juan Jiang**
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PCB303
Dicarbonyls from the diabetic metabolism activate nociceptors
**Anna K. Becker**, Peter Reeh, Barbara Namer, Susanne K. Sauer
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Neuroscience
PCB304
Effect of Agomelatine on Transient Receptor Potential Vanilloid-1 Expression in Mice
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PCB305
Exploration of contributions from retinal pigment epithelium and retinal ganglion cells to the “Light Adaptation Effect” of the human photopic electroretinogram
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PCB306
Investigating the effect of scotopically or photopically matched pre-adapting backgrounds on the “Light Adaptation Effect” of the human electroretinogram
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PCB307
Pruritogen-induced scratching behaviour in mice is a heritable trait
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Neuroscience
PCB308
Effects of 5-HT1 and 5-HT2 receptor agonists on electromagnetic field induced analgesia in rats
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PCB309
Epilepsy and Neuropathic Pain: Investigation of Pain Sensitivity in Schiatic Nerve Chronic Constriction Injury-Induced Neuropathic Pain Model in Absence Epileptic WAG/Rij Rats
Asiye Malkoc, Omer F. KALKAN, Busra P. Yucel, Eda N. Saral, Zafer Sahin, Ahmet Ayar
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PCB310
Association between iron depletion and cognitive development in Santal children of Purulia Distrcit, West Bengal, India
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Neuroscience
PCB311
The role of chloride ions in contraction of rat saphenous artery changes during postnatal development partly due to influence of sympathetic innervation

**Daria Kostyunina**, Anastasia Shvetsova, Dina Gaynullina, Olga S. Tarasova
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PCB312
Perivascular nerve-mediated vasodilation is predominantly β1-AR mediated in vivo in rat mesenteric small arteries.

**Asger M. Søndergaard**, Cathrine Bang Overgaard, Vladimir Matchkov, Christian Aalkjaer
Biomedicine, University of Aarhus, Aarhus, Denmark

PCB313
Knockout of Tumor Necrosis Factor in myeloid cells does not protect against development of Abdominal Aortic Aneurysms in Mice

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PCB314
Selective inhibition of tumour necrosis factor signalling diminishes the formation of abdominal aortic aneurysms

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Vascular & Smooth Muscle Physiology
PCB315
Repeated episodes of forearm ischemia and reperfusion and its remote effects on mechanical properties of the arterial pressure waveforms on the contralateral arm in healthy volunteers.

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PCB316
Applying Bayesian data analysis for automated image segmentation – overcoming a gap between computer scientists and biomedical researches

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PCB317
Efficacy and Safety of Botulinum Toxin Type A (Botox®) Injections to Rat aorta

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PCB318
The effect of short term high salt diet on cerebrovascular reactivity in response to orthostatic position change in young healthy subjects
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PCB319
Effect of exercise on venoarterial response in young healthy subjects
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PCB320
Efficacy and Safety of Botulinum Toxin Type A Injections on Rat aorta
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PCB321
Efficacy of Botulinum Toxin Type A Injection on Human Atrium
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Vascular & Smooth Muscle Physiology
PCB322
Humanized Sickle Cell Disease Mice Exhibit a Blunted Pressor Response to Acute Behavioral Stress
Jennifer Pollock, Brandon Fox
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PCB323
Perinatal exposure of dams to a high salt diet Impaired vascular function and elevated biomarkers of inflammation in the offspring
Ahmed Oloyo, Santan Olley, Esther Ohihoin, Abdulahi Adejare, Khadijat Ismail-Badmus, Olusoga Sofola
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PCB324
Long non-coding RNA MANTIS is induced by statins and limits monocyte adhesion to human endothelial cells
Matthias S. Leisegang1, 2, Sofia-Iris Bibli3, 2, Stefan Günther4, Beatrice Pflüger-Müller1, 2, James A. Oo1, 2, Jiong Hu3, 2, Fragiska Sigala5, Reinier A. Boon6, 2, Ingrid Fleming3, 2, Ralf Brandes1, 2
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PCB325
The epidermal growth factor receptor in vascular smooth muscle cells and endothelial cells is needed for an appropriate vasoactive response.

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PCB326
Stimulation of Epac activates PI3K/Akt and MEK/ERK signalling in endothelial cells: Role in endothelial barrier stabilisation and survival

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PCB327
Estrogen determines the sex-differences in adrenergic vessel tone regulation

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PCB328
Investigation Effects of Metformin in rats ileum contractility

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PCB329
Cardio-Ankle Vascular Index in obese adolescents
Barbora Czippelova1, 2, Zuzana Turianiková1, 2, Jana Krohova2, Zuzana Lazarova2, Katarina Pozorciakova3, Miriam Ciljakova3, Michal Javorka1, 2
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PCB330
Effect of omega-3 on endothelial dysfunction in rat model adjuvant arthritis: Role of vascular cell adhesion molecule
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PCB331
Neurovascular coupling is blunted during acute poikilocapnic hypoxia
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PCB332
A novel physiological role for dynein motor proteins in arterial smooth muscle
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Vascular & Smooth Muscle Physiology
PCB333
Remodeling of vascular smooth muscle ion channels contributes to the UTP-induced vasoconstriction in essential hypertension.
INES ÁLVAREZ MIGUEL, Pilar Cidad, Esperanza Alonso, Maria Teresa Perez-Garcia, Jose Ramon Lopez-Lopez
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PCB334
Kv1.3 channel blockers as therapeutical agents against intimal hyperplasia: New evidences in human arteries from diabetic patients.
Marycarmen Arévalo Martínez1, Nadia García-Mateo1, Miguel A de la Fuente1, Esperanza Alonso1, Mireia Fernández2, Luis Varela2, Jose Ramon Lopez-Lopez1, Maria Teresa Perez-Garcia1, Pilar Cidad1
1University of Valladolid, Valladolid, Spain, 2Hospital Clínico Universitario de Valladolid, Valladolid, Spain

PCB335
Human myometrial artery function is critically affected by maternal BMI
Clodagh Prendergast, Susan Wray
Cellular & Molecular Physiology, University of Liverpool, Liverpool, United Kingdom

PCB336
Dietary Salt Induces Vascular Dysfunction in C57BL/6J Mice
Ailsa Ralph, Celine Grenier, Hannah M. Costello, Kevin Stewart, Alicja Czopek, Neeraj Dhaun, Matthew A. Bailey
University of Edinburgh, Edinburgh, United Kingdom

Vascular & Smooth Muscle Physiology
PCB337
Novel insights into the role of oxidant-activation of Protein Kinase G within the vascular endothelium
Sharifah Zamiah Syed A Kadir1, 2, Mark Nelson3, 1, Adam S. Greenstein1
1Division of Cardiovascular Sciences, University of Manchester, Greater Manchester, United Kingdom, 2Department of Pharmacology, University of Malaya, Kuala Lumpur, Malaysia, 3Dept. of Pharmacology, University of Vermont, Burlington, Vermont, United States

PCB338
Angiotensin II effect on dynamics of leukocyte's subpopulations in rats on short-term high salt diet
Nikolina Kolobarić, Martina Mihalj, Anita Matic, Zrinka Mihaljevic, Ines Drenjancevic
Department of Physiology and Immunology, Faculty of Medicine, Osijek, Croatia

PCB339
Exploring the effect of an oral glucose load on the cutaneous microvascular dynamics with the wavelet transform
Jernej Šorli1, Henrique Silva2, 3, Helena Lenasi1
1Institute of Physiology, Faculty of Medicine, University of Ljubljana, Ljubljana, Slovenia, 2U Lusófona, School of Health Sc & Technologies, CBiOS (Research Center for Biosciences and Health Technologies), Lisboa, Portugal, 3Pharmacol. Sc Depart, U Lisboa, Faculty of Pharmacy, Lisboa, Portugal

PCB340
Extra virgin olive oil phenol, hydroxytyrosol, vasodilates uterine arteries in an estrogen receptor- and nitric oxide-dependent manner
Laura Barberio, Rossana D’ Agostino, Maurizio Mandala
Biology, Ecology & Earth Sciences, University of Calabria, Rende (CS), Italy

Vascular & Smooth Muscle Physiology
PCB341
Omega-3 enriched eggs consumption reduces oxidative stress in granulocytes in men
Nikolina Kolobarić1, 3, Martina Mihalj1, 3, Anita Matic1, 3, Ana Stupin1, 3, Lidija Baric1, Zlata Kralik2, 3, Gordana Kralik2, 3, Ines Drenjancevic1, 3
1Department of Physiology and Immunology, Faculty of Medicine, Osijek, Croatia, 2Department of Special Zootechnology, Faculty of Agriculture, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia, 3Scientific Centre of Excellence for Personalized Health Care, University of Osijek, Osijek, Croatia

PCB342
Assessment of the reliability of subdural intracranial pressure measurement method in preclinical ischaemic stroke models
Adjanie Patabendige1, 2, Nick MacKovski1, Rebecca Hood1, Neil J. Spratt1, 2, 3
1School of Biomedical Sciences & Pharmacy, University of Newcastle, Callaghan, New South Wales, Australia, 2Hunter Medical Research Institute, Newcastle, New South Wales, Australia, 3Neurology, John Hunter Hospital, Newcastle, New South Wales, Australia

PCB343
Structural remodeling in cerebral and mesenteric arteries from obese Göttingen minipigs with or without diabetes
Trine P. Ludvigsen2, Lisbeth H. Olsen1, Henrik D. Pedersen1, 3, Berit Ø. Christoffersen4, Lars J. Jensen1
1Veterinary and Animal Sciences, University of Copenhagen, Frederiksberg C, Denmark, 2Cardiovascular Research, Novo Nordisk A/S, Måløv, Denmark, 3Ellegaard Göttingen Minipigs, Dalmose, Denmark, 4Obesity Pharmacology, Novo Nordisk A/S, Måløv, Denmark
PCB344
Role of the catalytic beta-subunit of calcineurin (PPP3CB) in angiotensin II-induced vascular changes
Alexander Nolze, Stefanie Ruhs, Katja Quarch, Conny Köhler, Claudia Grossmann
Julius-Bernstein-Institute of Physiology, Martin Luther University Halle-Wittenberg, Halle (Saale), Germany

PCB345
Evidence that altered redox status results in KCa3.1 channel reduced endothelial cell surface expression
Anas Bani Khalaf1, Matthew J. Smith1, Giovanni E. Mann1, Geraldine Clough2, Paul Fraser1
1King's College London, London, London, United Kingdom, 2University of Southampton, Southampton, United Kingdom

PCB346
Double-edged vasomotor regulation of healthy resistance arteries by COX: Role of isoforms
Nelson N. Orie1, Asmaa Raees1, Mashael Al-Jaber1, David Abraham2, Lucie Clapp3
1Life Sciences Research Division, Anti Doping Lab Qatar, Doha, Qatar, 2Medicine, University College London, London, United Kingdom, 3Institute of Cardiovascular Sciences, University College London, London, United Kingdom

PCB347
Optical coherence tomography as a novel method to measure endothelial dysfunction in mice in vivo
Heike Langbein1, Amna Shahid1, Peter Cimalla2, Christian Schnabel2, Edmund Koch2, Henning Morawietz1, Coy Brunssen1
1Division of Vascular Endothelium and Microcirculation, Department of Medicine III, University Hospital Carl Gustav Carus Dresden, TU Dresden, Dresden, Germany, 2Department of Anesthesiology and Intensive Care Medicine, Clinical Sensoring and Monitoring, University Hospital Carl Gustav Carus Dresden, TU Dresden, Dresden, Germany

Vascular & Smooth Muscle Physiology
PCB348
Intracellular Ca2+ dynamics govern Weibel–Palade Body trafficking
Katarina Miteva, Lucia Pedicini, David J. Beech, Lynn McKeown
LICAMM, School of Medicine, Faculty of Medicine and Health, University of Leeds, Leeds, United Kingdom

PCB349
Platelet releasate upregulates mRNA expression of various angiogenesis-related genes in cultured endothelial cells: a new approach to study intercellular cross-talk in humans
Nicolai Rytter, Lasse Gliemann, Ylva Hellsten
Department of Nutrition, Exercise and Sports, University of Copenhagen, Copenhagen, Denmark

PCB350
Mitochondria in skeletal muscle endothelial cells – A new method designed for investigating the development of cardiovascular disease
Camilla V. Hansen, Lasse Gliemann, Ylva Hellsten
Department of Nutrition, Exercise and Sports (NEXS), Cardiovascular Physiology, Section of Integrative Physiology, Faculty of Science, University of Copenhagen, Copenhagen Ø, Denmark

PCB351
Are endothelium-dependent dilator responses blunted in young South Asian women relative to young White European women?
Majid Ali, Janice M. Marshall
Cardiovascular Science, University of Birmingham, Birmingham, West Midlands, United Kingdom

PCB352
Enhancing endothelial cell signaling in resistance arteries to reverse vasospasm.
Joshua Smith, Hamish A. Lemmey, Kim Dora, Christopher Garland
Department of Pharmacology, University of Oxford, Oxford, United Kingdom

Vascular & Smooth Muscle Physiology
PCB353
Insulin therapy does not reverse the gestational diabetes mellitus-associated human umbilical vein endothelial dysfunction

Mario Subiabre1, Luis Silva1, 2, Roberto Villalobos-Labra1, Marcia Lopez3, Mario Paublo3, 4, 5, Luis Sobrevia1, 4, 5
1Pontificia universidad católica de chile , Santiago, Chile, 2University Medical Centre Groningen (UMCG), University of Groningen, Groningen, Netherlands, 3Service of Obstetrics and Gynecology, Hospital San Juan de Dios, Santiago, Chile, 4Department of Physiology, Universidad de Sevilla, Sevilla, Spain, 5UQ Centre for Clinical Research (UQCCR), University of Queensland, Brisbane, Queensland, Australia

PCB354
Hyperglycaemia disrupts conducted vasodilation in the resistance vasculature of db/db mice

Hamish A. Lemmey, Xi Ye, Christopher Garland, Kim Dora
Department of Pharmacology, University of Oxford, Oxford, Oxfordshire, United Kingdom

PCB355
Thyroxine direct vasodilating effect in skeletal muscle artery is mediated by integrin αvβ3

Ekaterina Selivanova1, 2, Dina Gaynullina1, 2, Olga S. Tarasova1, 2
1Institute for Biomedical Problems, Russian Academy of Sciences, Moscow, Russian Federation, 2Biological faculty, Lomonosov Moscow State University, Moscow, Russian Federation

PCB356
Somatostatin effects on endothelial barrier function and angiogenesis

Muhammad Aslam1, 2
1Kerckhoff Herzforschungsinstitut, Justus Liebig University Giessen, Bad Nauheim, Hessen, Germany, 2Franz-Groedel-Institut, Kerckhoff-Klinik, Bad Nauheim, Germany

Vascular & Smooth Muscle Physiology
PCB357
Influence of oxidative stress on microvascular function in humans during acute hypoxia

**Geoff Coombs**1, Jordan C. Patik2, John D. Akins2, Philip Ainslie1, Matthew Brothers2

1Health and Exercise Sciences, University of British Columbia Okanagan, Kelowna, British Columbia, Canada, 2Department of Kinesiology, University of Texas Arlington, Arlington, Texas, United States

PCB358
Oxidant activation of PKG controls vascular tone by regulating Ca2+ spark frequency

**Viktória Csató**1, 2, Sharifah Zamiah Syed A Kadir1, Hayley Bennett1, Adam S. Greenstein1

1Division of Cardiovascular Sciences, University of Manchester, Faculty of Biology, Medicine and Health, Manchester, United Kingdom, 2Division of Clinical Physiology, University of Debrecen, Faculty of Medicine, Debrecen, Hungary

PCB359
Role of adenosine kinase in gestational diabetes mellitus-associated fetoplacental vascular alterations.

**Luis Silva**1, 2, Torsten Plösch2, Luis Sobrevia1, 3, 4, Marijke Faas2

1Pontificia Universidad Católica de Chile, Santiago, Santiago, Chile, 2University Medical Centre Groningen (UMCG), University of Groningen, Groningen, Groningen, Netherlands, 3Universidad de Sevilla, Seville, Spain, 4UQ Centre for Clinical Research (UQCCR), University of Queensland, Brisbane, Queensland, Australia

**Vascular & Smooth Muscle Physiology**
PCB360
In vitro effects of alarin on human saphenous vein contraction

Raviye Ozen Koca1, Aynur Koc3, Hatice Solak1, Z. Isik Solak Gormus1, Fatmanur Taki1, Niyazi Gormus2, Selim Kutlu1
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PCB361
Effects of sertraline treatment on saphenous vein contraction

Aynur Koc3, Hatice Solak1, Z. Isik Solak Gormus1, Raviye Ozen Koca1, Fatmanur Taki1, Selim Kutlu1, Niyazi Gormus2
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PCB362
Effects Of Alarin In Healty And Damaged Rat Aorta

Hatice Solak1, Z. Isik Solak Gormus1, Raviye Ozen Koca1, Aynur Koc3, Fatmanur Taki1, Niyazi Gormus2, Selim Kutlu1
1Meram faculty of medicine department of physiology, Necmettin erbakan University, Konya, Konya, Turkey, 2Meram faculty of medicine department of cardiovascular surgery, Necmettin erbakan University, KONYA, Turkey, 3physiology, Hitit University Medicine Faculty, Çorum, Turkey

Vascular & Smooth Muscle Physiology
PCB363
Histamine promotes osteo-/chondrogenic transdifferentiation of vascular smooth muscle cells through the H1 histamine receptor

Misael Estepa1, Laura Henze1, Beate Boehme1, Trang Luong1, Florian Lang2, Burkert Pieske1, 3, 4, Jakob Voelkl1, Ioana Alesutan1, 3
1Center for Cardiovascular Research Cardiology CVK, Charité – Universitätsmedizin Berlin, Berlin, Germany, 2Department of Physiology I, Eberhard–Karls University, Tübingen, Germany, 3Berlin Institute of Health, Berlin, Germany, 4Department of Internal Medicine and Cardiology, DHZB, Berlin, Germany

PCB364
Natriuretic peptides BNP and ANP and soluble guanylate cyclase agonists relax human intrarenal arteries

Andreas Frees1, 2, Kasper Assersen1, 2, Pernille Lærkegaard Hansen1, 2, Mia Jensen1, 2, Kirsten Madsen1, 2, Anja Toft2, Boye L. Jensen1, 2
1Cardiovascular and Renal Research Odense, Odense C, Denmark, 2University of Southern Denmark, Odense C, Denmark

PCB365
Perivascular P2X7-expressing cells in hypertensive renal vascular injury

Rob I. Menzies, Amelia Howarth, Bryan Conway, Matthew A. Bailey
Centre for Cardiovascular Science, University of Edinburgh, Edinburgh, United Kingdom

Vascular & Smooth Muscle Physiology
PCB366
Serum- and glucocorticoid-inducible kinase 1 promotes vascular smooth muscle cell calcification via NF-κB
**Jakob Voelkl**1, Trang Luong1, Rashad Tuffaha2, Katharina Musculus2, Tilman Auer2, Xiaoming Lian3, Christoph Daniel4, Daniel Zickler3, Beate Boehme1, Michael Sacherer5, Bernhard Metzler6, Dietmar Kuhl7, Maik Gollasch3, Kerstin Amann4, Dominik N Müller8, Burkert Pieske1, 9, 10, Florian Lang2, Ioana Alesutan1, 9
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PCB367
Investigation of the effects of tetrahydrobiopterin on renal nitric oxide synthase isoforms in Experimental Myoglobinuric Acute Kidney Injury
**Nurettin Aydogdu**1, Hakan Erbas2, Ebru Tastekin3, Nihayet Kandemir1, Muhammed Ali Aydin1, Necdet Sut4
1Physiology, Trakya University Faculty of Medicine, Edirne, Turkey, 2Biochemistry, Trakya University Faculty of Medicine, Edirne, Turkey, 3Pathology, Trakya University Faculty of Medicine, Edirne, Turkey, 4Biostatistics, Trakya University Faculty of Medicine, Edirne, Turkey
PCB368
Uromodulin inhibits medial vascular calcification by interfering with pro-inflammatory cytokines

**Ioana Alesutan**1, 2, Trang Luong1, Nadeshda Schelski1, Jaber Masyout1, Susanne Hille3, Markus Schneider4, Daniel Zickler5, Nicolas Verheyen6, Misael Estepa1, Andreas Pasch7, Winfried Maerz8, Andreas Tomaszczik9, Stefan Pilz10, Norbert Frey3, Florian Lang11, Oliver Mueller3, Burkert Pieske1, 2, 12, Kai-Uwe Eckardt5, Juergen Scherberich13, Jakob Voelkl1

1Center for Cardiovascular Research Cardiology CVK, Charité – Universitätsmedizin Berlin, Berlin, Germany, 2Berlin Institute of Health, Berlin, Germany, 3Department of Internal Medicine III, University of Kiel, Kiel, Germany, 4Department of Nephrology and Hypertension, Universität Erlangen-Nürnberg, Erlangen, Germany, 5Department of Nephrology and Medical Intensive Care, Charité – Universitätsmedizin Berlin, Berlin, Germany, 6Department of Cardiology, Medical University of Graz, Graz, Austria, 7Calciscon, Nidau-Biel, Switzerland, 8Clinical Institute of Medical and Chemical Laboratory Diagnostics, Medical University of Graz, Graz, Austria, 9Bad Gleichenberg Clinic, Bad Gleichenberg, Austria, 10Department of Internal Medicine, Division of Endocrinology and Diabetology, Medical University of Graz, Graz, Austria, 11Department of Physiology I, Eberhard-Karls University, Tübingen, Germany, 12Department of Internal Medicine and Cardiology, DHZB, Berlin, Germany, 13Department of Nephrology and Clinical Immunology, Klinikum München–Harlaching, Teaching Hospital of the Ludwig-Maximilians-Universität, Munich, Germany

PCB369
Genetic deletion of cyclooxygenase-2 impairs glomerular slit diaphragm formation during late stages of kidney development

**Kirsten Madsen**1, Niels Marcussen2, Boye L. Jensen1

1Department of Cardiovascular and Renal Research, Institute of Molecular Medicine, Odense, Denmark, 2Department of Pathology, Odense University Hospital, Odense, Denmark
PCB370
Plasminogen deficiency attenuates angiotensin II-induced hypertension in diabetic mice
**Maria H. Hansen**1, Henrik Andersen1, Kristian Buhl1, Mette Stæhr1, Ulla Friis1, Per Svenningsen1, Camilla Enggaard1, Ida Lund2, Shanya Supramaniyam1, Pernille Lærkegaard Hansen1, Boye L. Jensen1
1Cardio-vascular and renal research, University of Southern Denmark, Odense, Denmark, 2University of Copenhagen, Copenhagen, Denmark

PCB371
Mechanisms involved in relaxations induced by electrical field stimulation in murine airways smooth muscle.
**Xin Rui Lim**, Eamonn Bradley, Gerard Sergeant, Mark Hollywood, Keith D. Thornbury
Smooth Muscle Research Centre, Dundalk Institute of Technology, Dundalk, Ireland

PCB372
The Epidermal growth factor receptor mediates cardiac hypertrophy and structural associated gene expression alteration in the aorta of diabetes mellitus type II mice.
**Christian Stern**, Barbara Schreier, Sindy Rabe, Sigrid Mildenberger, Michael Gekle
Julius Bernstein Insitute for Physiology, Martin Luther University Halle-Wittenberg, Halle, Saxony-Anhalt, Germany

PCB373
The Gq protein inhibitor FR900359 induces strong vasodilation in pulmonary arteries
**Alexander Seidinger**1, Gabriele König2, Evi Kostenis2, Bernd K. Fleischmann1, Daniela Wenzel1
1Physiology I, University of Bonn, Bonn, Germany, 2Pharmaceutical Biology, University of Bonn, Bonn, Germany
PCB374
Platelet derived growth factor driven vascular smooth muscle cell remodelling potentiates abdominal aortic aneurysm

Parkavi Kandavelu, Karen E. Porter, David J. Beech, Marc A. Bailey
LICAMM, Faculty of Medicine and Health, University of Leeds, Leeds, WY, United Kingdom

PCB375
Inverse relationship between the media-to-lumen ratio and smooth muscle contractile function in resistance arteries from patients with residual cardiovascular disease

Maria Bloksgaard1, Sören Möller2, Thomas Leurgans1, Akhmadjon Irmukhamedov3, Lars P. Riber3, Yu Wang4, Jo G. De Mey1, 3
1 Institute of Molecular Medicine – Department of Cardiovascular and Renal Research, University of Southern Denmark, Odense C, Denmark, 2 Odense Patient data Exploratory Network, Odense University Hospital, Odense C, Denmark, 3 Dept. Cardiac, Thoracic and Vascular Surgery, Odense University Hospital, Odense C, Denmark, 4 Dept. Pharmacology and Pharmacy and Dept. of Medicine, The University of Hong Kong, State Key Laboratory of Pharmaceutical Biotechnology, Hong Kong, China

PCB376
Disruption of the smooth muscle actin cytoskeleton decreases human resistance artery stiffness and abolishes smooth muscle contractile function

Maria Bloksgaard1, Mariana Morales-Quinones2, Luis Martinez-Lemus2
1 Institute of Molecular Medicine – Department of Cardiovascular and Renal Research, University of Southern Denmark, Odense C, Denmark, 2 Dalton Cardiovascular Research Center, University of Missouri – Columbia, Columbia, Missouri, United States

Vascular & Smooth Muscle Physiology
PCB377
The Effect of Visfatin on Pregnant Mouse Myometrial Contractility In vitro
Seham Alsaif, Susan Wray
University of Liverpool, Liverpool, United Kingdom

PCB378
Influence of muscle mass on capillarity and fibre composition in fast muscles of inbred and wild type rats
Mohd H. Nazir, Stuart Egginton
University of Leeds, Leeds, United Kingdom
Juleen Zierath, Karolinska Institute, Sweden
PL008 Skeletal muscle mediators and exercise-induced adaptations governing insulin sensitivity in type 2 diabetes

18.30 – 19.30, Saturday, 15 September
Churchill, Ground Floor

Professor Zierath’s research has provided evidence for the physiological regulation of insulin signaling pathways in skeletal muscle, revealing key steps are impaired in diabetic patients.

As an exercise physiologist, she has a long-standing interest in the health promoting benefits of physical exercise.

The ultimate goal of her work is to identify and validate molecular candidates to prevent or treat insulin resistance in type 2 diabetes.

Improving insulin sensitivity should alleviate diabetic complications and enrich the quality of life for the diabetic patient.

For publication in The Journal of Physiology

Conference Dinner – Ticket only
19.30 – late, Saturday, 15 September
Pickwick, First Floor

Drinks reception, followed by a call for dinner at 20.00
98TH MEETING OF THE
GERMAN PHYSIOLOGICAL SOCIETY

JOINT MEETING WITH THE AUSTRIAN
PHYSIOLOGICAL SOCIETY (APS) AND
LIFE SCIENCES SWITZERLAND (LS²) PHYSIOLOGY

30.09. – 02.10.2019 ULM

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9.00  **Keynote Lectures**  
The Physiological Society Michael de Burgh Daly Prize Lecture  
Katrin Schröder, University of Frankfurt, Germany  
Nox4 – multiple functions of a NADPH oxidase in health and disease  
Churchill, Ground Floor  
Jan Erik Siemens, University of Heidelberg, Germany  
TRP ion channels – Multimodal sensors and guardians of homeostasis  
Mountbatten, Sixth Floor

10.00  **Symposia**  
The dynamic response of mitochondria  
Mountbatten, Sixth Floor  
Lysophysiology  
St James, Fourth Floor  
Novel physiological roles for “ignored” receptors  
Churchill, Ground Floor

10.00  **Oral Communications**  
Cardiac & Respiratory Physiology  
Westminster, Fourth Floor  
Neuroscience  
Abbey, Fourth Floor  
Vascular & Smooth Muscle Physiology  
Moore, Fourth Floor  
Education & Teaching  
Rutherford, Fourth Floor

11.30  **Refreshment Break**  
Third & Fifth Floor

11.45  **Plenary Lecture**  
Peter Ratcliffe, University of Oxford, UK  
Elucidation of oxygen sensing pathways in human and animal cells:  
Implications for physiology  
Churchill, Ground Floor

12.45  **Lunch, Posters & Networking**  
Third & Fifth Floor

12.45  **Late breaking posters**  
Fifth Floor

13.00  **Lunchtime Sessions**  
Annual General Meeting, The Physiological Society  
Gielgud, Second Floor  
General Assembly, The Scandinavian Physiological Society  
Olivier, Second Floor
Sunday, 16 September
Day schedule

14.30 Symposia
- Microbial fingerprints and bile acid signatures  St James, Fourth Floor
- Structure-function relation in the myosin II motor  Westminster, Fourth Floor
- Sympathetic activity in hypertension  Mountbatten, Sixth Floor
- Vascular microdomain signaling  Churchill, Ground Floor

14.30 Oral Communications
- Epithelia & Membrane Transport  Moore, Fourth Floor
- Human & Exercise Physiology  Abbey, Fourth Floor
- Metabolism & Endocrinology  Rutherford, Fourth Floor

16.15 Keynote Lectures
- Benjamin Prosser, University of Pennsylvania, USA
  Tuning the heart beat through cytoskeletal regulation  Mountbatten, Sixth Floor
- The Physiological Society Paton Prize Lecture
  Josephine Arendt, University of Surrey, UK
  From toads and sheep to chronotherapy: A melatonin story  Churchill, Ground Floor

17.00 End of Europhysiology 2018
The Physiological Society Michael de Burgh Daly Prize Lecture
Katrin Schröder, Goethe University Frankfurt, Germany
PL009 Nox4 – multiple functions of a NADPH Oxidase in health and disease

9.00 – 9.45, Sunday, 16 September
Churchill, Ground Floor

Katrin Schröder focuses her work on the identification of physiological functions of the family of NADPH oxidases. She found that the transient formation of reactive oxygen species by acutely inducible NADPH oxidases to be involved in phosphatase inhibition or modulation of enzyme activity. The main focus of her work is Nox4. She identified this constitutive active NADPH oxidase to be an essential component of cellular differentiation and to play protective roles against vascular diseases and cancer development.

Jan Erik Siemens, University of Heidelberg, Germany
PL010 TRP ion channels – Multimodal sensors and guardians of homeostasis

9.00 – 9.45, Sunday, 16 September
Mountbatten, Sixth Floor

My scientific interest is centered on three interconnected research topics: The first line of research is geared towards a deeper understanding of TRP receptor function in the context of the somatosensory system and the detection of temperature and painful stimuli. Next, we have started to establish a human ES-cell based system to recapitulate sensory neuron development in vitro, with the goal to provide a cellular model system for biochemical and functional analysis of sensory transduction processes. The third line of research is geared towards understanding cellular and molecular mechanisms of central core body temperature detection and regulation as well as the connection between thermoregulatory and metabolic pathways.
The dynamic response of mitochondria to exercise

10.00 - 11.30, Sunday, 16 September
Mountbatten, Sixth Floor

Organisers: Gareth Wallis, University of Birmingham, UK and David Bishop, Victoria University, Australia

10.00  Henriette Pilegaard, University of Copenhagen, Denmark
The molecular mechanisms underlying the effects of exercise on mitochondria

10.30  Ian Ganley, University of Dundee, UK
**SA044** Illuminating mitochondrial architecture and autophagy in vivo

10.45  Francesca Amati, University of Lausanne, Switzerland
**SA045** Effects of exercise on mitochondria respiratory supercomplex assemblies

11.00  David Bishop, Victoria University, Australia
**SA046** Optimising the exercise prescription to promote mitochondrial adaptations
Lysophsyiology

10.00 - 11.30, Sunday, 16 September
St James, Fourth Floor

Organiser: Sandip Patel, University College London, UK

10.00  Paul Luzio, University of Cambridge, UK
SA048  The dynamics, machinery and function of the lysosome-endosome kissing, fusion and regeneration cycle

10.30  Bethan Kilpatrick, University College London, UK
SA049  Connecting endo-lysosomes with the endoplasmic reticulum

10.45  Christian Grimm, Ludwig-Maximilians-Universität, Germany
SA050  New tools to functionally investigate endolysosomal cation channels

11.00  Karl-Johan Malmberg, University of Oslo, Norway
SA051  TRPML1-mediated modulation of dense-core granules tunes functional potential in NK cells
Novel physiological roles for “ignored” receptors: Ignored no more!

10.00 - 11.30, Sunday, 16 September
Churchill, Ground Floor

Organiser: Jennifer Pluznick, Johns Hopkins University School of Medicine, USA

10.00  Peter Mombaerts, Max Planck, Germany
SA052 Olfr78 is not required for oxygen regulation of breathing in mice

10.30  Ross Corriden, University of California, USA
SA053 Neutrophil GPCRs as novel therapeutic targets

10.45  Blythe Shepard, Georgetown University, USA
SA054 Uncovering a novel role for olfactory receptors in glucose handling

11.00  Graeme Milligan, University of Glasgow, UK
SA055 Chemogenetic approaches to define G protein–coupled receptor mediated effects of Short Chain Fatty Acids

Sponsored by the American Physiological Society
Cardiac & Respiratory Physiology
Oral Communications C

10.00 - 11.30, Sunday, 16 September
Westminster, Fourth Floor

10.00  Irakli Kopaliani, Technische Universität Dresden, Germany
C013 Anti-inflammatory factor Del-1 protects from angiotensin II-induced hypertension and cardiovascular remodelling

10.15  Christina Alter, Heinrich-Heine-University Düsseldorf, Germany
C014 Immune modulatory role and cardio stimulatory effect of the adenosine 2b Receptor in a murine model of myocardial infarction

10.30  Yanwen Wang, The University of Manchester, UK
C015 Circadian rhythm in heart rate is due to an intrinsic circadian clock in the sinus node

10.45  Tobias Bruegmann, University of Bonn, Germany
C016 Optogenetic hyperpolarization of cardiomyocytes to terminate ventricular arrhythmia

11.00  Harley Stevenson-Cocks, University of Leeds, UK
C017 Inward rectifier current downregulation in heart failure promotes triggered activity in a novel model of rat ventricular electrophysiology and calcium handling

11.15  Luca Soattin, University of Copenhagen, Denmark
C018 The pro-arrhythmic effect of adenosine A1-receptor activation in the atrium
Neuroscience Oral Communications C

10.00 - 11.30, Sunday, 16 September
Abbey, Fourth Floor

10.00  Olga Netsyk, Uppsala University, Sweden
C085 Effect of insulin on GABAergic signalling in hippocampal dentate gyrus granule cells in a mouse model of Alzheimer’s disease

10.15  Michael Vaughan, University College Cork, Ireland
C086 Calcium homeostasis is significantly disrupted in dentate gyrus neurons of acute, ex vivo brain slices of a mouse model of Alzheimer’s disease

10.30  Tatiana Korotkova, Max Planck Institute for Metabolism Research & FMP Leibniz Institute/ NeuroCure Cluster of Excellence, Germany
C087 Neuronal coding of food-seeking and food intake in hypothalamic networks

10.45  Stefan Heber, Medical University of Vienna, Austria
C088 A human TRPA1-specific pain model

11.00  Lora Kovacheva, Institute for Neurophysiology, Germany
C089 Transient impairment of in vivo burst firing in surviving dopamine neurons is associated with a temporary motor deficit after partial lesion

11.15  Rupsa Ghosh, University of Calcutta, India
C090 Effects of crocins on intacerebroventricular streptozotocin induced neuroinflammation and peripheral immune changes in experimental rats of Alzheimer’s disease
Vascular & Smooth Muscle Physiology
Oral Communications C

10.00 - 11.30, Sunday, 16 September
Moore, Fourth Floor

10.00  Samira Lakhal-Littleton, University of Oxford, UK
C103 Smooth muscle cell iron homeostasis is autonomously controlled by the hepcidin/ferroportin axis and its disruption leads to pulmonary arterial hypertension

10.15  Aisha Alfituri, University of Liverpool, UK & University of Benghazi, Libya
C104 Anatomic distribution of Bradykinin 2 receptors in the upper rat ureteric smooth muscle corresponded to regions of high sensitivity to Bradykinin

10.30  Kristina Lyngsø, University of Southern Denmark, Denmark
C105 Role of mineralocorticoid receptors in mediating endothelial dysfunction in experimental diabetes

10.45  Tore Reikvam, University of Bergen & Norwegian Health Association, Norway
C106 Skin lymphatic vasculature participates in sodium and blood pressure homeostasis

11.00  Matthew Lee, University of Strathclyde, UK
C107 Multiple stimuli are detected by specialised cells in the vascular endothelium

11.15  Arne Beyer, University of Münster, Germany
C108 Uremic serum affects endothelial nanomechanics and expression of ion channels
Education & Teaching
Oral Communications C

10.00 - 11.15, Sunday, 16 September
Rutherford, Fourth Floor

10.00  Derek Scott, University of Aberdeen, UK
C121 Enhancing engagement with physiology using infographic presentations

10.15  Ethem Gelir, Hacettepe University, Turkey
C122 A new elective course at the Faculty of Medicine: Robophysiology

10.30  Yasser Elwazir, Suez Canal University, Egypt
C123 Teaching physiology to medical students in an integrated computer-assisted problem-based context

10.45  Graham Barnfield, University of East London and European Animal Research Association, UK
C124 Institutional openness in Animal Research under EU Directive 2010/63/eu

11.00  Sheila Amici-Dargan, Cardiff University, UK
C125 How can we help undergraduate students in large cohorts identify as Physiologists?
Peter Ratcliffe, University of Oxford, UK

PL011 Elucidation of oxygen sensing pathways in human and animal cells: Implications for physiology

11.45 - 12.45, Sunday, 16 September
Churchill, Ground Floor

Peter Ratcliffe is a physician scientist who trained in medicine at Gonville and Caius College, Cambridge and St. Bartholomew’s Hospital, London, before moving to Oxford to specialise in renal medicine.

After studying the physiology of renal circulation, he became interested in the regulation of the haematopoietic growth factor erythropoietin, which is produced by the kidneys in response to reduced blood oxygen availability, and in 1989, he set up the Hypoxia Biology Laboratory at Oxford.

His work on oxygen sensing has won a number of awards including the Louis-Jeantet Prize in Medicine, the Canada Gairdner International Award, and the Lasker Award for Basic Biomedical Research.

Peter was elected to the Fellowship of the Royal Society and to the Academy of Medical Sciences in 2002. He is a member of EMBO and a foreign honorary member of the American Academy of Arts and Sciences.

He was knighted for services to medicine in the New Year’s Honours, 2014.
Lunch and lunchtime sessions
Saturday, 15 September 12.45 - 14.30

Lunch is available on the third floor, and fifth floor

Late breaking posters
12.45 - 14.30, Sunday, 16 September
Fifth floor

Annual General Meeting
The Physiological Society
12.45 - 14.30, Sunday, 16 September
Gielgud, Second Floor
12.45  Registration and lunch
13.00  Meeting begins

General Assembly
The Scandinavian Physiological Society
12.45 - 14.30, Sunday, 16 September
Olivier, Second Floor
12.45  Registration and lunch
13.00  Meeting begins
Late breaking posters
Sunday 16 September 12.45 - 14.30 • Fifth Floor

PCLB002
Methyl donor supplementation reverses effects of a low protein diet on fatty acid metabolism in mice.
**Isaac Ampong** 1 , Adam Watkin 2 , Helen Griffiths 1 FHMS, University of Surrey, UK; 2 School of Medicine, University of Nottingham, UK

PCLB003
Circulating MIR148A Associates with Sensitivity to Adiponectin levels in Human Metabolic Surgery for Weight Loss
**Magnolia Ariza-Nieto** PhD. epiWELL, LLC. USA

PCLB004
Fetal response to musical elements from maternal voice
Alba M. Marín1, Bernardo Amor2, Sofía Lorca1, Jaime Mendiola3, Juan L. Delgado1 & **Bárbara Bonacasa**4
1.- Department of Gynecology and Obstetrics, “Virgen de la Arrixaca” Clinical University Hospital, El Palmar, Spain
3.- Division of Preventive Medicine and Public Health, Department of Health and Social Sciences, School of Medicine, University of Murcia, IMIB-Arrixaca, Espinardo, Spain.
4.- Department of Physiology, School of Exercise & Sports Sciences. San Javier, University of Murcia; IMIB-Arrixaca, Espinardo, Spain.

PCLB005
The acute influence of maximal intensity exercise on peripheral and cerebral vascular function in adolescents
**Bond B.**, Banger R., Banks R., Koep J., Sansum K., McManus A. and Barker A. Children’s Health and Exercise Research Centre at the University of Exeter, University of British Colombia, Canada

PCLB006
Flowcharts to aid student comprehension of Nernst equation calculations
**Angus Brown** University of Nottingham, UK
Late breaking posters
Sunday 16 September 12.45 - 14.30 • Fifth Floor

PCLB008
The impact of exercise on cutaneous angiogenesis
Howard Carter, Jonathan Andreasen, Lasse Gliemann, Nicolai Mortensen and Ylva Hellsten, The University of Copenhagen, Denmark

PCLB009
The developmental effects of Nrf2 deficiency
Sarah Chapple, King’s College London, UK

PCLB010
Douglas Crockett1, John Cronin2, Minh Cong Tran1, Clive Hahn1, Goran Hedenstierna3, Anders Larsson4, Phi Anh Phan1, Federico Formenti2, Andrew Farmery1
1Nuffield Division of Anaesthetics, University of Oxford, Oxford. UK
2Centre for Human and Applied Physiological Sciences, King’s College, London. UK
3Hedenstierna Laboratory, Department of Medical Sciences, Uppsala University, Uppsala. Sweden
4Hedenstierna Laboratory, Department of Surgical Sciences, Uppsala University, Uppsala. Sweden

PCLB011
The Zucker Diabetic Sprague Dawley rat: an experimental model for studying the pathophysiology of diabetes-related liver disease
Rachael Dangarembizi, Pilani Nkomozepi and Robert Ndou; University of the Witwatersrand, South Africa

PCLB012
The utility of salivary EBV as an in vivo marker of immunity and upper respiratory illness risk in athletes
Glen Davison, Eleanor Hynes. Endurance Research Group, School of Sport and Exercise Sciences, University of Kent, UK
Late breaking posters
Sunday 16 September 12.45 - 14.30 • Fifth Floor

PCLB013
Quantification of functional network electrophysiology from stem cell derived neurons with multiwell microelectrode array technology
Mike Clements, Giovanna De Filippi, Heather B Hayes, Anthony M Nicolini, Colin A Arrowood, Daniel C Millard, Axion Biosystems, USA

PCLB016
Reflecting on the use of Assertion-Reasoning Question (ARQ) format to deepen learning in human physiology
Laura Ginesi & Marie McGee. School of Health Sciences, University of East Anglia, UK

PCLB017
The Flying Dutchman Sails again: A method to assess the mechanisms of sympathetic vascular restraint.

PCLB018
The mechanisms of plasticity in mesolimbic da function underlying behavioural and neurochemical sensitisation
Athar Hussein, Juan Canales and Andrew Young, University of Leicester, UK

PCLB019
The use of bioinformatic tools to identify candidate biomarkers for bladder cancer
Guldal Inal Gultekin, Özlem Timirci Kahraman, Seda Gulec Yilmaz, Hüseyin Seker, han Yaylim, Turgay Isbir

PCLB020
Identification of a novel smooth muscle cell type in rat coronary arteries
Conor Kearns, Lydmyla Borisova, Xi Ye, Kim Dora, Department of Pharmacology, University of Oxford, UK
Late breaking posters  
Sunday 16 September 12.45 - 14.30 • Fifth Floor

PCLB021  
The acute and postprandial effect of sugar moiety on cerebrovascular function in adolescents  

PCLB022  
The effect of exercise intensity on vascular function pre and post a glucose challenge in adolescent boys  
**S. H. Kranen**, R. S. Oliveira, B. Bond, C. A. Williams, A. R. Barker; University of Exeter, UK

PCLB023  
Effect of anthropometric and body composition parameters on energy expenditure during walking and running exercise  
**Rudite Lagzdina**, Maija Rumaka, Rīga Stradiņš University Riga Stradins University

PCLB024  
Acute sleep deprivation impairs skeletal muscle protein synthesis  
**Severine Lamon**, Institute for Physical Activity and Nutrition, Deakin University, Australia

PCLB025  
A central set-point for long-term regulation of mean blood pressure?  
**Vaughan Macefield**, Baker Heart & Diabetes Institute; Western Sydney University, University of Sydney, Australia

PCLB026  
The Relationship Between a Direct Measure of Physical Activity Against Self-Reported Physical Activity in Pulmonary Sarcoidosis  
**Luke Morton-Holtham**, Hannah Moir, Nicola Swann, Kingston University, UK

PCLB027  
The effect of naturally-derived sweeteners on a cell model of the gut epithelium  
**Roxanne Newman**, Anglia Ruskin University, UK
Late breaking posters  
Sunday 16 September 12.45 - 14.30 • Fifth Floor

PCLB029  
Spatial differences in mitochondrial function following myocardial infarction  
**Radcliffe E.J**; Pius C1; Galli G1 and Trafford A.W1. 1 The University of Manchester, UK

PCLB030  
Lithium carbonate and Valproic acid at physiologically-relevant concentrations: an investigation into the cytotoxic and oxidative effects on human astrocytoma cells  
**Joana GC Rodrigues** and Havovi Chichger, Anglia Ruskin University, UK

PCLB031  
Use of gamification to improve student revision of physiological and pharmacological concepts  
Cameron Malcolm, Jack Kirkman & **Derek Scott**, School of Medicine, Medical Sciences & Nutrition, University of Aberdeen, UK

PCLB032  
Development of a LabTutor experiment to simulate *in vitro* Using chamber frog skin practical  
**Derek Scott** & Gordon McEwan, School of Medicine, Medical Sciences & Nutrition, University of Aberdeen, UK

PCLB033  
Use of LabTutor improves student engagement and achievement in nerve conduction and autonomic physiology practical classes  
**Derek Scott**, School of Medicine, Medical Sciences & Nutrition, University of Aberdeen, UK

PCLB034  
Student perceptions of Objective Structured Practical Examination (OSPE) assessments - a comparison between disciplines  
Jack Kirkman, Cameron Malcolm & **Derek Scott**, School of Medicine, Medical Sciences & Nutrition, University of Aberdeen, UK
Late breaking posters
Sunday 16 September 12.45 - 14.30 • Fifth Floor

PCLB035
Impact of a final year project skills workshop series
John Barrow & **Derek Scott**, School of Medicine, Medical Sciences & Nutrition, University of Aberdeen, UK

PCLB036
Anatomical and functional aspects of the innervation of the mouse tail.
**T.A.Sears**. Wolfson CARD, King’s College London, UK

PCLB037
Phoenix dactylifera seeds: composition, biological activities and incorporation in yogurt
**Raja Serairi Beji**, Mariem Cheikh, Rim Ben Mansour, Riadh Ksouri. Laboratoire des Plantes Aromatiques et Médicinales, Centre de B

PCLB038
Chemical composition, antioxidant, antimicrobial and antitumoral properties of Tunisian propolis extracts
**Raja Serairi Beji** 1, Islem Younes1, Majdi Snoussi2, Riadh Ksouri1, Véronique Frachet3, Wided Megdiche-Ksouri1

PCLB039
Punica granatum extract ameliorates bleomycin-induced pulmonary fibrosis in rat via inhibiting oxidative stress markers and amel
**Raja Serairi Beji** 1, K Ayed2, M Mlika3, Rayen Ben Slama1, S Jameleddine2, Riadh Ksouri1, A Hayouni1 1- Laboratoire des Plantes Ar

PCLB040
Circadian patterns of aortic pressure and augmentation index in adolescents.
**Anastasia M. Sheveleva**, Volgograd State Medical University

PCLB041
Artificial sweeteners increase the pathogenic effect of two model gut bacteria on the intestinal epithelium
**Aparna Shil** 1, Linda King1, Benjamin Evans2 and Havovi Chichger1,1 Anglia Ruskin University, UK, 2 University of East Anglia, UK
PCLB042
Androglobin is a recently discovered oxygen-binding globin with a crucial role in spermatogenesis

PCLB043
Endothelial homeostasis associated genes polymorphism and cardiometabolic risks in type 2 diabetes
**Sulaieva O. N.**, Goncharov S.V., Larin A.S.

PCLB044
Do maternal glucocorticoids transmit the programming effects of maternal stress to the fetus?
**Sze Y**, J Fernandes, PJ Brunton. The Roslin Institute and Centre for Discovery Brain Sciences, University of Edinburgh, UK

PCLB045
New perspectives on capillary structure as revealed by 3D electron microscopy
Nabilla M Kusuma, Kathryn White, Tim Curtis & **Michael Taggart**. Queens’ University Belfast & Newcastle University.

PCLB046
Investigation of the Human Uterine Acetylome.
P Palmoski, M Karolczak-Bayatti, R Watson, N Europe-Finner, A Treumann, **Michael J Taggart**. Newcastle University

PCLB047
Transcriptional regulation and activation of a novel globin gene – androglobin
**T. W. Koay**1, M. Suárez-Alonso1, S. Schmidiger1, J. Schödel2, D. Hoogewijs1. 1) Uni. of Fribourg 2) Universitätsklinikum Erlangen

PCLB048
Assessment of alcohol related neuronal cell damages
**Wijesekara W.M.A.U.K.M**1, Wijamunige W.B.C1, Knagg C.M1, Cater W.G1, University of Nottingham
PCLB049
Serotonin induces inward current in the dorsal raphe nucleus neurons of mice in K+- rich aCSF
Burak YAMAN, Ramazan BAL

PCLB050
Single-Cell Genomic and metabolic Analysis on Head and Neck Squamous Cell Carcinoma
Andres Stucky, Parish P. Sedghizadeh, Susan Mahabady, Xuelian Chen, and John Zhong, University of Southern California
Microbial fingerprints and bile acid signatures in health and disease

14.30 - 16.00, Sunday, 16 September
St James, Fourth Floor

Organiser: Stephen Keely, Royal College of Surgeons in Ireland, Ireland

14.30  Hanns-Ulrich Marschall, University of Gothenburg, Sweden
SA056 Bile acid-gut microbiota crosstalk induced changes in TGR5-regulated metabolism

15.00  Rafaella Gadaleta, PMI Science, Switzerland
The intestinal interplay of bile acids and gut microbiota: War and peace

15.15  Natalia Lajczak-McGinley, Royal College of Surgeons in Ireland, Ireland
SA057 Regulation of intestinal inflammation by bile acids

15.30  Catherine Williamson, King’s College London, UK
SA058 Relationship between microbes, bile acids and FXR signalling in gestational metabolic switching
Structure-function relation in the myosin II motor

14.30 - 16.00, Sunday, 16 September
Westminster, Fourth Floor

Organisers: Marco Linari, Università degli Studi di Firenze, Italy
Special symposium organised by the Italian Physiological Society

14.30  Anne Houdusse, Institut Curie, Paris, France
SA059 Allosteric tuning of myosin force generation: New avenues towards therapeutical treatment

15.00  Andras Malnasi, Eötvös University, Hungary
SA060 Motor Pharmacology: novel inhibitors for different myosin-2 isoforms

15.15  Marco Caremani, University of Florence, Italy
SA061 In situ study of the coupling of the working stroke with the release of the hydrolysis products in muscle myosin

15.30  Mike Geeves, University of Kent, UK
SA062 Structure-function relations in the muscle myosin family: Isoforms and myopathies
Sympathetic activity in hypertension: new insights in pathophysiology

14.30 - 16.00, Sunday, 16 September
Mountbatten, Sixth Floor

Organisers: Maarten Koeners, University of Bristol and University of Exeter, UK and Jaap Joles, University Medical Center Utrecht, Netherlands

14.30  John Osborn, University of Minnesota, USA
SA063 Renal nerves, renal inflammation, and hypertension: Is there a link?

15.00  Daniela Patinha, University of Exeter, UK
SA064 Blood pressure regulation: contribution of renal oxygen metabolism and sympathetic nerve activity

15.15  Tycho Tromp, Utrecht University, Netherlands

15.30  Julian Paton, University of Auckland, New Zealand
SA064 The afferent activation hypothesis of hypertension

This symposium is supported by Frontiers in Physiology
Vascular microdomain signaling and possible novel treatments in cardiovascular diseases

14.30 - 16.00, Sunday, 16 September
Churchill, Ground Floor

Organiser: Vladimir Matchkov, Aarhus University, Denmark

14.30  Christopher Garland, University of Oxford, UK
SA065 Calcium channels and microvascular reactivity: Possible novel therapeutic targets

15.00  Daria Kostyunina, Lomonosov Moscow State University, Russia
PCB311 The role of chloride ions in contraction of rat saphenous artery changes during postnatal development partly due to influence of sympathetic innervation.

15.15 Rajkumar Rajanathan, Aarhus University, Denmark
PCA327 Increased contribution of vascular inward-rectifying K+ channels in migraine

15.30  Erik N.T.P. Bakker, Academic Medical Center, Amsterdam, Netherlands
SA067 Fluid flow in the brain, role of perivascular spaces and hypertension
Epithelia & Membrane Transport
Oral Communications C

14.30 – 16.00, Sunday, 16 September
Moore, Fourth Floor

14.30  Ruolin Ma, University of Portsmouth, UK
**C031** Spadin selectively antagonises arachidonic acid activation of mTREK-1 channels

14.45  David Luecht, Institute for Physiology II, Munster, Germany
**C032** EnNaC regulation: SECS, drugs and Rho/Rac

15.00  Alexandr Ilyaskin, Institut für Zelluläre und Molekulare Physiologie, Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), Germany
**C033** Bile acids down-regulate human purinergic receptor P2X4 heterologously expressed in Xenopus laevis oocytes

15.15  Nuria Perretta-Tejedor, UCL Great Ormond Street Institute of Child Health, UK
**C034** Using CRISPR technology to generate models of polycystic kidney disease

15.30  Jade Bearham, St Georges University of London, UK
**C035** FRET-ting about intracellular airway epithelial glucose concentrations and metabolism

15.45  Fenja Knoepp, Justus-Liebig-University Giessen, Germany
**C036** Hypoxia inhibits K⁺-currents and alters the redox state in murine pulmonary arterial smooth muscle cells
Human & Exercise Physiology
Oral Communications C

14.30 – 16.00, Sunday, 16 September
Abbey, Fourth Floor

14.30  Ville Stenbäck, University of Oulu
C049 Effect of physical activity on telomere length in elderly subjects

14.45  Philip Herrod, University of Nottingham; Royal Derby Hospital
C050 Two-weeks of time-efficient high-intensity interval training (HIIT) does not appear sufficient to elicit cardiorespiratory fitness gains in older adults

15.00  Andrea Tamariz, University of Copenhagen, Denmark
C051 The effect of lifelong physical activity on vascular function in postmenopausal women

15.15  Zhengye Liu, Karolinska Institutet, Sweden
C052 The role of mitochondrial NDUFA4L2 in peripheral artery disease

15.30  Matthew Chadwick, University of Leeds, UK
C053 Exercise-induced fatigue is a consequence of exercise intensity and is independent of task power

15.45  Daniel Shill, University of Maryland & University of Georgia, USA
C054 Effects of mitochondrial antioxidant (MITOQ) supplementation and endurance exercise training on endothelial microparticles and endothelial cell integrity
Metabolism & Endocrinology
Oral Communications C

14.30 – 16.00, Sunday, 16 September
Rutherford, Fourth Floor

14.30  Cengizhan Tanman, Marmara University, Turkey
C067  The effects of oral chondroitin sulfate on metabolism and gut inflammation induced by high fat diet in rats

14.45  Marlene Lages, ciTechCare, Polytechnic Institute of Leiria, Portugal
PCB218  Assessing cardiorespiratory and metabolic parameters responses to a mixed meal vs a glucose challenge- a pilot study in healthy volunteers

15.00  Joseph Boachie, University of Warwick, UK
C069  Vitamin B12 deficiency inhibits the lipid lowering effect of metformin in the liver

15.15  Valentin Schmidt, Charité - Universitätsmedizin Berlin, Germany
C070  A novel tool for identifying transcriptional targets in kidney development using the example of Wilms tumor protein (WT1)

15.30  Elizabeth Haythorne, University of Oxford, UK
C071  Hyperglycaemia adversely affects mitochondrial function in pancreatic islets

15.45  Wesam Farrash, University of Nottingham; Umm Al-Qura University, Saudi Arabia
C072  The impact of acute exercise upon myokine secretion in rat models outbred for either low or high aerobic capacity in response to treadmill run training
Benjamin Prosser, University of Pennsylvania, USA
Tuning the heart beat through cytoskeletal regulation

16.15 - 17.00, Sunday, 16 September
Mountbatten, Sixth Floor

The Prosser lab focuses on the mechanobiology of the heart – the mechanisms that regulate the ability of the heart cell to generate force, and how external forces in turn feedback to influence myocyte physiology and pathology. The lab leverages super-resolution imaging, cellular biophysics and bioengineering to tackle fundamental questions of mechanics and mechanosensing, with a particular focus on the cardiac cytoskeleton. In recognition of the lab’s early work, Dr. Prosser was named the Outstanding Early Career Investigator by the American Heart Association and the Outstanding Young Investigator of the Penn School of Medicine in 2017.

The Physiological Society Paton Prize Lecture
Josephine Arendt, University of Surrey, UK
PL013 From toads and sheep to chronotherapy: A melatonin story

16.16 - 17.00, Sunday, 16 September
Churchill, Ground Floor

Josephine Arendt has pioneered immunotechnology for the detection and measurement of melatonin and its metabolites, their circadian and seasonal response to light, and their use to characterise circadian responses particularly in conditions such as jet lag and shift work. She first described the chronobiotic properties of melatonin in relation to human sleep and the circadian system and initiated its use for circadian rhythm related sleep disorders such as jet lag and non-24h sleep disorder of the blind.

She highlighted the importance of light and melatonin in humans and for many years pursued research interests in this area including in Polar regions. In 1988 she founded a company Stockgrand Ltd, to exploit this expertise with all profits supporting research.
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- Sir Mark Walport, UKRI

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Acta Physiologica, the official journal of the Federation of European Physiological Societies, is published by the Scandinavian Physiological Society and contains original contributions to physiology and related sciences such as pharmacology and biochemistry, provided the physiological relevance is evident either from the title, the content of the article or an explanatory statement by the author.

The journal is read internationally and welcomes submission of original papers and reviews by authors from throughout the world. No affiliation to a Scandinavian institution is required. Examination of all submitted papers by at least two well-respected specialists guarantees a high scientific standard of the papers accepted for publication.
The American Physiological Society (APS) is a community that champions the discipline of physiology. The Society’s mission is to advance scientific discovery, understand life and improve health.

Founded in 1887, APS is one of the oldest professional scientific societies in the U.S. The Society is an essential driving force behind the discipline of physiology and its contributions to scientific discovery and humanity.

APS publishes 15 research journals, organizes several scientific meetings and conferences, offers numerous career development and research awards, advocates for sound science policy and research funding and supports extensive educational programs in the biomedical and biological sciences.
Aurora Scientific provides solutions for measuring the dynamic physical properties of muscle and connective tissue. Muscle mechanics systems cover the range from single myocyte to whole large-animal in-situ.


Axion BioSystems’ proprietary multi-well microelectrode array (MEA) technology combines an industry-leading electrode count with the simplicity of a benchtop system to bring you unprecedented access to electrical behavior from cultured cells in vitro. In essence, we’re making powerful electrophysiology data accessible to everyone, for a more comprehensive understanding of life’s circuitry.
BIOPAC Systems Inc

BIOPAC offers complete data acquisition and analysis solutions for biomedical engineering applications.

BIOPAC is trusted by thousands of labs and cited in over 18,000 scientific articles.

Wireless and wearable solutions: Mobita 32-CH, BioNomadix ECG, EEG, EMG, EOG, NICO, GSR, Pulse, Resp., and more!

Powerful AcqKnowledge software has automated analysis and customizable display.
British Neuroscience Association

The British Neuroscience Association is a professional membership organisation for everyone interested in neuroscience. As the largest UK-based organisation representing all aspects of nervous system research, from single nerve cells to human behaviour and beyond, the BNA represents a wide-ranging community that supports people at all stages of their career. Through the BNA our members also become part of the international network of neuroscientists thanks to membership of the Federation of European Neuroscience Societies, the International Brain Research Organisation, and shared initiatives with the US-based Society for Neuroscience.

The BNA owns the gold open access journal Brain and Neuroscience Advances and has active programmes in a number of areas, including the credibility of neuroscience, education, public outreach and industry engagement. A key activity of the BNA is convening the biennial Festival of Neuroscience. This is a unique international forum where multiple organisations come together to share and celebrate the latest in neuroscience research. See www.bna2019.org for details of the next Festival.

We welcome everyone interested in the nervous system to get involved; why not join us?
Cairn Research

Cairn Research is an independent scientific instruments company based in Faversham, Kent.

We design, manufacture and support specialist research equipment for the biological sciences, in particular fluorescence microscopy and electrophysiology.

We have long-established expertise in using optical techniques to measure intracellular ion concentrations as well as knowledge of all aspects of biological microscopy and macroscopy, including experimentally related techniques such as optogenetics, flash photolysis, patch clamping and bioluminescence.

Our aim is to provide versatile but affordable equipment with high sensitivity and time resolution. We are a research led business and are always happy to discuss new ideas.
Cambridge Electronic Design

Cambridge Electronic Design Limited have been producing data acquisition systems for engineering, electrophysiology and other life sciences applications for over 45 years. We understand research often involves approaching a problem in a new way, so our systems are designed to provide a platform that you can configure easily to match your unique needs. The unparalleled balance of power and simplicity makes CED systems the logical choice for experiments of almost any level of complexity.

The versatility and reliability of CED systems ensures we provide a superior, cost effective and user-friendly alternative to what may appear to be cheaper, ‘simpler’ systems. Time saved on repetitive data analysis, reduced need for expensive additional equipment and software, together with one of the best support packages available are some of the most compelling reasons why CED systems are used in leading laboratories around the world.
The idea of the German Physiological Society (DPG) emerged during the 75th congress of the society of German natural scientists and physicians in 1903 in the city of Kassel and was established in 1904 in Breslau by its founding board member Karl Hürthle.

DPG promotes research and teaching in all fields of physiology. It is an interdisciplinary society where physicians, biologists, chemists and physicists account for the majority of its 800 members.

The annual meeting with symposia, lectures and poster sessions is hold every year in March at the residency of the respective first meeting executive, including special symposia of the (presently) six workgroups on several areas of expertise.
Digitimer manufactures and distributes scientific instrumentation for research & clinical environments. We manufacture the renowned NeuroLog System, which is a modular electrophysiology platform, offering extracellular, intracellular and isolated amplification, signal conditioning, electrical stimulation and pulse generating functions. We also manufacture a wide range of isolated electrical stimulators for studying in vitro, animal and human physiology. As well as electrical stimulators, our human research product range includes the D440 (2 or 4 channel) and D360 (8 channel) isolated EMG amplifiers.

Digitimer represents a number of companies with complementary equipment, including: Alpha MED Scientific (MED64 MEA systems), AutoMate Scientific (perfusion systems), Harvard/Warner (drug delivery and incubation), HEKA (patch-clamp), Narishige (pipette fabrication, stereotaxic frames and micro-manipulators), Scientific Systems Design (brain slice chambers and pre-incubators), ThorLabs (anti-vibration tables) and Quest Scientific (The Humbug 50Hz/60Hz Noise Eliminator).

We look forward to meeting you at the Europhysiology 2018 exhibition. For further details, please visit www.digitimer.com or contact us via sales@digitimer.com
DMT is a life science company with more than thirty years of experience in development, manufacture and sale of hardware and software for ex vivo studies in smooth, skeletal and cardiac muscle.

It’s our ambitions to provide the scientists with a first-class mechanical, electrical and software engineering expertise.

In this role driven by the requirements of our global customer base, we also provide complete and integrated technologies including surgical, electrophysiological, pharmacological and physiological tools used by the research communities and the pharmaceutical industry.

www.dmt.dk
emka TECHNOLOGIES and SCIREQ, have been providing integrated systems for preclinical physiology, pharmacology and toxicology research in vivo and ex vivo, for over 20 years.

Our scientific instruments are used daily, validated by renowned academic institutions, pharmaceutical companies and CROs, and cited in over 2,000 peer reviewed scientific publications.

We provide solutions for researchers performing different types of studies, including:

- implanted and non-invasive telemetry for rodents and large animals (ECG, EEG, blood-pressure, activity, temperature, respiration...)
- acute cardiovascular measurements (ECG, BP, PV loops, Flow, LVP...)
- pulmonary using conscious or anesthetize animals, for acute or chronic studies:
  - respiratory mechanics with the FlexiVent
  - exposure systems: InExpose, aerosol generator, cigarette smoking robot...
  - Whole body Plethysmography ...
    - ex vivo:
      - tissue bath
      - isolated heart
      - myograph ...
  - Electrophysiology: intracardiac ECG, EEG, action potential...

We can offer integrated systems, including hardware and software or complete existing setups (for example, ecgAUTO software, performing in-depth analysis of ECG is commonly used to compute data recorded with other products).

We are proud to have committed teams, ready to provide a high-level service and support all around the world, with 80 professionals located in France, Canada, USA, China, Japan, and through a network of distributors.
European Animal Research Association

The European Animal Research Association (EARA) is a communications and advocacy organisation whose mission is to uphold the interests of biomedical research and healthcare development across Europe.

By providing accurate and evidence-based information on the benefits of biomedical animal research, EARA will inform, educate and unify audiences in support of research and will facilitate an open debate.

www.eara.eu
@The_EARA
Experimental Physiology has been publishing discovery in physiology since 1908. The journal focuses on the translation and integration of research, specifically manuscripts that deal with both physiological and pathophysiological questions that investigate gene/protein function using molecular, cellular and whole animal approaches. Methodological papers are encouraged, as are papers that use computational models to further our understanding of physiological processes.

The journal is published once a month.

The journal’s Editor-in-Chief is Mike Tipton, University of Portsmouth, UK, and the 2016 Impact Factor is 2.912.
The Federation of European Physiological Societies (FEPS) was founded during the Regional Meeting of IUPS in Prague (Czech Republic) on July 2, 1991. It now comprises 27 Constituent Societies. The aims of FEPS can be summarized as follows:

- to promote and foster the exchange and diffusion of concepts and information between physiologists and the societies of physiology in the European region
- to facilitate the dissemination of information concerning the activities of the member societies
- to encourage joint meetings of two or more member societies
- to facilitate the exchange of invitations between member societies to national or regional meetings
- to advance knowledge in the scientific disciplines relating to physiology by supporting and providing suitable mechanisms for training programs in physiology
- to advance the exchange of graduate students and scientists within Europe and on an international scale
- to stimulate international scientific research projects in Europe.
Fluicell aims to be a world-leading provider of high resolution SINGLE-CELL DISCOVERY PLATFORMS for biomedicine, drug development, and bioprinting.

We redefine the approach to cell biology and drug discovery by providing cost-effective platforms which generate unique and critical data from individual cells.

Fluicell’s technologies are environmentally friendly and sustainable, which ultimately reduces cost and resource consumption.
Frontiers in Physiology

Frontiers is an award-winning Open Science platform and leading Open Access scholarly publisher.

Our mission is to make high-quality, peer-reviewed research articles rapidly and freely available to everybody in the world, thereby accelerating scientific and technological innovation, societal progress and economic growth. Founded in 2007 by neuroscientists Kamila Markram and Henry Markram, Frontiers has grown to become one of the world’s largest open-access publishers, receiving the industry-leading ALPSP Gold Award for Innovation in Publishing in 2014.

For more information, visit www.frontiersin.org and follow @Frontiersin on Twitter.
International Mouse Phenotyping Consortium STAND 50

The entire genome of many species has now been sequenced, but the function of the majority of genes still remains unknown. This is where the International Mouse Phenotyping Consortium (IMPC) comes in, with the goal of characterising all 20,000 or so protein-coding mouse genes.

To achieve this, genes are systematically inactivated then mice are put through a standardised phenotyping platform, with tests undertaken across a broad range of biological systems.

The consortium is comprised of 19 research institutions, 5 national funders and 11 countries. Each centre focuses on particular genes, applies standardised tests and then adds the resulting phenotypes to the database. As well as completing large scale comparative studies, the overall aim of the project is to create a platform for this data where researchers and clinicians can search for genes, phenotypes or diseases of interest to help them understand human biology, health and disease.

In the last few years the IMPC have made major discoveries in parts of the genome that were hitherto unexplored, with new genes discovered relating to areas such as deafness, diabetes, and rare diseases.

Explore our free, online database at www.mousephenotype.org
IonOptix manufactures high-performance fluorescence and function data acquisition systems.

Well known for our popular Cardiomyocyte Calcium and Contractility System, we’re proud to offer our new MultiCell high-throughput system for fast data acquisition and analysis.

Always innovating, IonOptix now offers calcium and force measurements in whole muscle as well as isolated cardiomyocytes, and our C-Stretch enables combined stretch and electrical stimulation in cultured cells – easy-to-use with the new C-Pace Navigator software.
The Journal of Physiology publishes research that significantly advances our knowledge of physiology and increases our understanding of how the body functions in health, and disease. Published since 1878, this prestigious journal has published papers from over 40 Nobel laureates. It is published twice per month.

The Journal of Physiology welcomes research papers in all areas of physiology that present new physiological principles or mechanisms. Papers are welcomed on work at the molecular level, the level of the cell membrane, single cells, tissues or organs and on systems physiology.

The Journal of Physiology’s Editor-in-Chief is Kim E. Barrett, University of California, San Diego, USA and the 2016 Impact Factor is 4.739.
**Lafayette-Campden Neuroscience**

**In-vivo E-phys and Behaviour**
Listening to our customers’ requests, we have developed an integrated In-vivo electrophysiology and Bussey-Saksida touchscreen system for rat and mouse, with a choice of specially designed tethered or wireless headstages with ‘time-stamped’ video have been integrated into these e.m.c. shielded chambers with the Brainbavior system to provide artefact free recording, and temporally linked data streams for easy search and analysis. Also with our new partners, Plexon Inc., we have developed an improved chamber for high resolution tracking, improving contrast and illumination utilising the powerful CineLab software suite. These systems are delivered ‘ready to go’ for immediate productivity in your lab.

**Vibrotomes and Slice Chambers**
Vibrotomes for a range of applications the Campden 7000smz-2 and 5100mz/5100mz-plus models with z-axis deflection calibration and specialist blades delivering healthy, high viability slices consistently. Slice chambers with integral heater/controllers and p.i.d. algorithms for recovery, visual patching/imaging and for LTP recordings and for biochemistry.

**A New Partnership**
As the new European distributors for Plexon products, we are pleased to be able to offer the powerful Omniplex D system, the flexible Plexbright optogenetic system and the versatile Cinelyzer video tracking which can be upgraded for freely moving Photometry.
ATCC serves and supports the scientific community with the World’s largest and most diverse collection of human and animal cell lines, as well as molecular genomic tools, bacteria, viruses, protists, fungi and biological products.

LGC’s partnership with ATCC facilitates the distribution of this extensive collection to Life Science researchers throughout Europe and Africa. Our objective is to ensure the important resources of ATCC are more easily accessible; through:

- Local stock holding of more than 5,000 authentic ATCC cultures and bioproducts, enabling faster delivery
- Communication in same time zone and in native language for many customers
- Easier payment in national currency or the Euro
- Provision of local technical support
- Expediting handling of paperwork related to import permits and special forms
- No additional charges for order processing, duties and taxes
- Lower shipping costs
- Scientific products and services (Pharmaceutical Reference Substances, Reference Materials, Chemical and Microbiological Analysis)

Interested in the ATCC portfolio? To speak with an ATCC Technical Specialist, just drop by booth number 24.
LI-COR® Biosciences offers a complete discovery process to give you accurate, reproducible data, including imaging platforms, analysis software, standardized protocols, training, and validated IRDye® infrared dye reagents for protein and molecular imaging. Our complete solutions for Western blot imaging include the Odyssey® CLx and Odyssey Fc Infrared Imaging Systems and unique IRDye Infrared Dye-based antibodies and reagents. LI-COR also offers the C-DiGit® Blot Scanner for chemiluminescent Western blots as an affordable digital replacement for film. Molecular imaging on the Pearl® Trilogy now features a bioluminescence channel. Using revolutionary FieldBrite™ XT^2 optical technology results in unparalleled dynamic range that never saturates.

LI-COR provides complete solutions for accurate, reproducible quantitative and chemiluminescent Western blot imaging, and a variety of other applications including in vivo imaging with its Odyssey® CLx and Fc Infrared Imaging Systems, C-DiGit® Blot Scanner, Pearl® Trilogy Imaging System, Image Studio® analysis software and IRDye® Infrared Dye-based antibodies and reagents.
Luigs & Neumann GmbH

Founded 1960 by Guenter Neumann and Willi Luigs, Luigs & Neumann GmbH established itself, since the early eighties, as well known designer, manufacturer and distributor of electrophysiological workstations.

This wealth of experience and the feedback from scientists from all over the world are the foundations of the high engineering standards and superb manufacturing quality of Luigs & Neumann.

Our broad product range and the ability to create customer specific workstations are a result of our flexible and innovative inhouse design and manufacturing and therefore to adapt fast to new scientific requirements.

Our array of products includes
- Patch manipulators
- heated chamber designs
- shifting tables
- optical components
- as well as our new LNscope, a novelty in upright microscopy, and our AtomicForceSystem.
MaxWell Biosystems AG

MaxWell Biosystems provides advanced high-resolution electrophysiology platforms to facilitate detailed investigation of excitable cells in vitro.

MaxOne and MaxTwo allow to stimulate and record from every active cell on a dish at unprecedented spatial and temporal resolution.

Every cell has a story to tell. MaxWell Biosystems' aim is to empower everyone with systems that enable easy access to cells and fast discovery of cells’ function.
Molecular Devices

Molecular Devices’ Axon Instruments portfolio provides a complete workflow solution for patch-clamp electrophysiology.

Best-in-class instruments facilitate the entire range of patch-clamp experiments including whole cell patch-clamp, extracellular, and single-channel recordings.

With a comprehensive range of amplifiers, digitizers, and accessories, plus the widely used Axon pCLAMP 11 Software Suite for acquisition, recording and analysis, you can achieve a truly streamlined workflow.
Moor Instruments

Moor specialise in complete solutions for the measurement and quantification of blood-flow and oxygenation for clinical and pre-clinical research. Associated metrics include:

- Angiogenesis
- Endothelial function testing
- Pressure indexes (ABPI / SPP / TPBI / PV / etc)
- Microvascular responsiveness (Flare response / Axon reflex)
- Inflammation
- Muscle oxygenation
- Cerebral oxygenation
- TCPO2

Research areas include;
- Neuroscience (Stroke, CSD, Behavioural, Cognition)
- Vascular biology (PVD, Ischemia reperfusion)
- Sports and exercise science
- Health, exercise and nutrition
- Ergonomics
- Diabetes (SFN, CLI, PVD)
- Dermatology
- Wound healing
- Thermoregulation
- Cancer research

Please inquire as to how we might help with your research requirements
www.moor.co.uk / sales@moor.co.uk
Multi Channel Systems focuses on the development of precision scientific measuring instrumentation and equipment in the field of electrophysiology for research groups at universities and for the pharmaceutical industry. We provide solutions for extra-cellular recordings with microelectrode arrays in vitro and in vivo as well as for electrical stimulation.

Moreover, we offer devices for automated RNA injection and for automated two-electrode voltage-clamp recording of Xenopus oocytes. Because of their modular principle, our products can be extended and adjusted to your specific experimental needs. Apart from their flexibility, our products fit into your laboratories because of their size.

Together with our Smart Ephys partner brands HEKA Elektronik Dr. Schulze GmbH, Triangle BioSystems International and Warner Instruments as well as our well established distribution partners, we serve laboratories, research institutes and the pharmaceutical industry all over the world. Over 20 years of experience and our international distribution network make us the global market leader in the field of non-clinical electrophysiology with microelectrode arrays.
npi electronic GmbH

For over 30 years npi electronic develops and produces equipment for research in life sciences with main focus on neurosciences and cardiac research. Instruments include patch and voltage clamp amplifiers, oocyte amplifiers, extracellular amplifiers, stimulus isolators, voltammetric/amperometric amplifiers, miniature headstages for in vivo experiments, instrumentation for optogenetics and high resolution microscopy, amplifiers for electroporation, filters, substance application systems and temperature controllers.

Our latest developments include a fiber based optical stimulation and detection unit. It allows optogenetic activation as well as fluorescence monitoring of up to two different dyes. This FiberOptoMeter is used e.g. for monitoring calcium of signals in awake behaving animals.
Physiological Reports

Physiological Reports is an open access journal with all articles free to all readers. It is published online only and all papers are published upon proof correction in final form. It is a collaboration between The Physiological Society and the American Physiological Society.

Physiological Reports publishes original research in all areas of basic, translational and clinical physiology and allied disciplines. It publishes peer-reviewed papers that are accepted solely on the basis of scientific rigor, adherence to technical and ethical standards, evidence that the data support the conclusions and being sufficiently well-conceived.
The Physiological Society brings together over 3,800 scientists from over 60 countries. Since its foundation in 1876, its Members have made significant contributions to our knowledge of biological systems and the treatment of disease. Please visit our History of The Society page to learn more.

We promote physiology and support those working in the field by organising world-class scientific meetings, offering grants for research, collaboration and international travel, and by publishing the latest developments in our leading scientific journals, The Journal of Physiology, Experimental Physiology and Physiological Reports.

The Society also runs events for the general public on how physiology relates to everyday life, and for students who may be considering physiology as a career.

Membership is available for all career stages, from undergraduate level to senior level scientists.

The Society was one of the first member bodies to sign the Science Council Declaration on Diversity, and is committed to promoting a diverse scientific workforce.
Since 2002, RWD Life Science has been the world leading manufacturer for pre-clinical research laboratory instruments in animal model, we specialize in producing Inhalation Anesthesia Machines, Active Gas Scavenger, Stereotaxic Instruments, Cannula Implantation System, MCAO Sutures, Stainless Steel Mouse and Rat Brain Matrix, Optogenetic Stimulation Solutions, Animal Ventilator and Temperature Controller, and more than 1,000 kinds of Surgical Tools.

For more information about our products, please check our website: www.rwdstco.com or e-mail us: sales@rwdstco.com.
The Scandinavian Physiological Society was founded in 1925 and is a society for researchers in physiology and related sciences in the Nordic countries; Denmark, Finland, Iceland, Norway and Sweden. The Society is a non-profit organization whose objectives are to promote research, education and interest in physiological sciences in its member countries.

The Society is a member of the Federation of European Physiological Societies, a coalition of all the European physiological societies.

In earlier years, the Society arranged Nordic Congresses every 3rd or 4th year; the last one took place in Copenhagen 1992. Since then, annual or bi-annual meetings, which were introduced in 1968, have become the only type of regular meeting activity.

From the very beginning, the Society has supported the congresses and ordinary meetings with fairly generous travel grants, thanks to means supplied by its journal, the Acta Physiologica. In addition to these ordinary member meetings, the Society also runs its own series of specialist symposia – Acta Physiologica International Symposia – and from time to time supports specialist meetings arranged by others in one of the Nordic countries.
Scientifica specialises in providing cutting-edge equipment optimised for electrophysiology, multiphoton imaging and optogenetics research. Their world-class laboratory equipment allows researchers to gain a better understanding of the nervous system and neurological diseases. Scientifica collaborates with world-class researchers to develop their range of pioneering instruments for electrophysiology studies. These include microscopes, cameras, micromanipulators and stages.

They have also developed award-winning multiphoton imaging systems, which enable researchers to visualise structures deep within thick tissues. The company was formed in 1997. Initially, sales were only within the UK, but strong demand for its products led the company to begin exporting. Scientifica now exports worldwide, selling both directly and through a network of distributors. At the beginning of 2016, Scientifica opened an office in the United States, its first office outside of the UK.

Scientifica have two Centres of Excellence; one in the Neurophotonics Centre, associated with Université Laval, in Quebec, Canada, and the other at Cold Spring Harbor Laboratory, New York. This collaboration with researchers allows them to help scientists enhance their research and try new applications.
Society for Endocrinology

The Society for Endocrinology is the UK home of endocrinology. We bring together the global endocrine community to share ideas and advance our discipline.

As a membership organisation, we support scientists, clinicians and nurses who work with hormones throughout their careers. We also engage policy-makers, journalists, patients and the public with hormone science to encourage informed health decisions, and to demonstrate the value of endocrinology to the wider world.

Members of the Society for Endocrinology benefit from access to grants, reduced registration fees to the society’s conferences, free online access to the society’s journals and publishing discounts. Most importantly society members benefit from the experience of an invaluable network of peers and are part of the community that is at the forefront of endocrinology.

https://www.endocrinology.org/
TRANSONIC Europe BV

TRANSONIC Europe BV STAND 22

Transonic is the global leader in blood flow measurement technology. Implantable ultrasonic transit-time probes measure cardiac output, coronary, renal, mesenteric or carotid artery blood flow in conscious animal protocols.

Flow telemetry is available for large animal models.

Flow-through tubing sensors measure buffer, saline or blood in isolated organ studies.

The newest addition to the Transonic family is Scisense Inc. and Transonic is pleased to be able to offer Scisense’s premier micro-sensing devices for the measurement of blood pressure, volume, and ECG.

Transonic provides a full range of support and calibration services with headquarters in the US, Europe & Asia.
Understanding Animal Research STAND 46

Understanding Animal Research (UAR) is a not-for-profit organisation that explains why animals are used in medical and scientific research.

We aim to achieve a broad understanding of the humane use of animals in medical, veterinary, scientific and environmental research in the UK. We are funded by our members who include universities, professional societies, industry and charities.

The information provided by UAR is based on thorough research and understanding of the facts, historical and scientific.

www.uar.org.uk
@animalresearch
Wisepress Ltd

Wisepress.com, Europe’s leading conference bookseller, has a complete range of books and journals relevant to the themes of the meeting.

Books can be purchased at the stand or, if you would rather not carry them, posted to you – Wisepress will deliver worldwide. In addition to attending 200 conferences per year, Wisepress has a comprehensive medical and scientific bookshop online with great offers.
World Precision Instruments

We are a leading laboratory product manufacturer focused on providing our customers with cutting-edge laboratory instruments at cost-effective prices.

50 years ago, we designed and manufactured electrophysiology equipment. Now, we are in several areas of study, the core being in tissue and cell biology, animal physiology and electrophysiology.

On display will be:
- our microinjection systems, UMP3;
- pullers and manipulators from Sutter Instrument;
- solutions for in vivo imaging and patch electrophysiology in freely moving animals from Neurotar.
- ECGenie device for measuring ECG in freely moving rodents.

Please stop by to discuss your needs.
Third Floor
Posterboard Plan & Trade Exhibition Floorplan
Visit us on stand 2 to discover how our products can help you with your electrophysiology, multiphoton imaging and optogenetics research.

www.scientifica.uk.com
It's survival of the fittest out there. In the world of scientific research, accuracy matters.
You need failproof equipment and dependable data, every time.
Millar Mikro-Tip pressure catheters, PowerLab and LabChart produce results with unparalleled accuracy, reliability and data quality.
That's why 72% of all animal PV research papers published have used Millar catheters.

Find out more at adinstruments.com/millar