



The 5th International Meeting on Cerebral Haemodynamic Regulation (CARNet)

Monday 13th July 2015, Chilworth Manor Hotel, Southampton

PROVISIONAL PROGRAMME

- 08:50 – 09:00 **Welcome**
D M Simpson, University of Southampton, UK
- Physiology 1***
- 09:00 – 09:40 **Neural control of the cerebral circulation**
Invited Speaker: E Hamel, McGill University, Montreal, Canada
- 09:40 – 10:00 **Cerebral blood flow changes in response to mild hypovoleemia and positive pressure ventilation**
M Skytjoti, University of Oslo, Norway
- 10:00 – 10:20 **Comparison between wavelet phaseshift and pressure reactivity index in determination of optimal cerebral perfusion pressure**
X Liu, University of Cambridge, UK
- 10:20 – 10:40 **Summary presentation of ‘Science Labs’**
C Haubrich, University Hospital Aachen, Germany
- 10:40 – 11:10 **Break & Exhibition & Set-up for posters**
- Measurement and Modelling 1***
- 11:10 – 11:50 **Individualised-patient modelling for in-silico interpretation and prediction of cerebral tissue physiology and pathophysiology**
Invited Speaker: I Tachtsidis, University College London, UK
- 11:50 – 12:10 **Assessment of dynamic cerebral autoregulation without blood pressure measurement**
J L Jara, University of Santiago de Chile, Chile
- 12:10 – 12:30 **The effect of random step-wise lower-body negative pressure on cardio and cerebrovascular measures**
D Nikolic, University of Southampton, UK
- 12:30 – 12:50 **Posters – 2 minute summary for posters**
- 12:50 – 14:00 **Lunch & Exhibition & Posters**
- Clinical 1***
- 14:00 – 14:40 **Lymphatic drainage of the brain and pathogenesis of Alzheimer’s disease**
Invited Speaker: R Carare, University of Southampton, UK
- 14:40 – 15:00 **Dynamic cerebral autoregulation is impaired in idiopathic Parkinson’s disease**
V Haunton, University of Leicester, UK
- 15:00 – 15:20 **Dynamic cerebral autoregulation impairment in stroke patients with coexistent large artery and small vessel disease**
G Tian, Chinese University of Hong Kong, China
- 15:20 – 15:40 **Posters – 2 minute summary for posters**
- 15:40 – 16:10 **Break & Exhibition & Posters**
- Measurement and Modelling 2***
- 16:10 – 16:20 **Consensus on TFA analysis – short presentation**
J Claassen
- 16:20 – 16:40 **Pseudorandom steps in lower body negative pressure can improve the repeatability in the assessment of cerebral autoregulation**
D M Simpson, University of Southampton, UK
- 16:40 – 17:00 **Contribution of identifyability techniques to cerebral autoregulation**
A Mahdi, University of Oxford, UK
- 17:00 – 17:10 **Posters – 2 minute summary for posters**
- 17:10 – 17:30 **CARNet bootstrap project: summary of first results**
J W Elting, University Medical Centre Groningen, Netherlands
- 17:30 – 18:00 **Break & Exhibition & Posters**
- 18:00 – 19:00 **CARNet AGM**
- 19:00 – 19:30 **Break**
- 19:30 **Dinner at Chilworth Manor**



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Clinical 2

- 09:00 – 09:40 **The brain controls physical exercise, but is also challenged by it**
Invited Speaker: J J van Lieshout, University of Amsterdam, The Netherlands
- 09:40 – 10:00 **Cerebral autoregulation in different hypertensive disorders of pregnancy**
T van Veen, University Medical Center Groningen, The Netherlands
- 10:00 – 10:20 **Cerebrovascular autoregulation during and after surgical ligation of the ductus arteriosus using two surgical approaches in preterm infants**
JW Elting, University Medical Center Groningen, The Netherlands
- 10:20 – 10:40 **Is this autoregulation?**
M Czosnyka, University of Cambridge, UK
- 10:40 – 11:10 **Break & Exhibition & Posters**
- Measurement and Modelling 3***
- 11:10 – 11:50 **Managing an integrated database and large-scale collaboration: the pain and the pleasure**
Invited Speaker: I Piper, South Glasgow University Hospital, Glasgow, UK
- 11:50 – 12:10 **Reduced dynamic cerebral vasomotor reactivity in patients with mild cognitive impairment**
V Marmarelis, University of Southern California, Los Angeles, USA
- 12:10 – 12:30 **Model-assisted assessment of effects of age and hypertension on cerebral blood flow velocity**
G.Mader, North Carolina State University, USA
- 12:30 – 12:50 **The time-dependent variability of arterial CO₂ influences the nonstationary properties of dynamic CO₂ reactivity estimates during resting conditions**
G. Mitsis, McGill University, Montreal, Canada
- 12:50 – 14:00 **Lunch & Exhibition & Posters**

Physiology 2

- 14:00 – 14:40 **Blood pressure trials in acute stroke: an exercise in futility? - what is the role of other haemodynamic parameters?**
Invited Speaker: T Robinson, University of Leicester, UK
- 14:40 – 15:00 **Comparison of cerebral tissue oxygenation with cerebral arterial flow velocity responses to spontaneous changes in blood CO₂ and pressure in older adults**
V Marmarelis, University of Southern California, Los Angeles, USA
- 15:00 – 15:20 **Effects of ageing, and measurement method, on gross and cortical cerebral autoregulatory upper limits**
E Thompson, University of Birmingham, UK
- 15:20 – 15:40 **Aging is associated with maintained cerebral autoregulation despite impaired cerebrovascular dilatory response to carbon dioxide**
J Serrador, Rutgers Biomedical Health Sciences, Newark, NJ, USA
- 15:40 – 16:10 **Break & Posters**

Clinical 3

- 16:10 – 16:30 **Acute stages of sport concussion: heart rate variability and blood pressure suppression during postural hemodynamic drives**
J P Neary, University of Regina, Canada
- 16:30 – 16:50 **Autoregulation-based optimal cerebral perfusion pressure in a prospective traumatic brain injury cohort**
J Donnelly, University of Cambridge, UK
- 16:50 – 17:10 **Relationship between cerebrovascular pressure reactivity and intracranial hypertension in traumatic brain injury**
M Czosnyka, University of Cambridge, UK
- 17:10 – 17:30 **Association of the outcome of traumatic brain injury patients with cerebrovascular autoregulation impairment events**
V Petkus, Kaunas University of Technology, Lithuania
- 17:30 – 17:45 **Break & remove posters**
- 17:45 – 18:45 **Tutorial / Clinic**
J Serrador, Rutgers Biomedical Health Sciences, Newark, NJ, USA
- 19:15 **Conference Dinner**



The 5th International Meeting on Cerebral Haemodynamic Regulation (CARNet)

Wednesday 15th July 2015, Chilworth Manor Hotel, Southampton

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- 09:00 – 10:30 **Bootstrap project**
J W Elting
- 10:30 – 10:50 **Break**
- 10:50 – 12:20 **Science Labs**
C Haubrich
- **The importance of head position on cerebral oxygenation in patients with acute severe brain injury.** Corina Puppo, Montevideo, Uruguay.
 - **The autonomic nervous system and cerebral blood flow regulation in subarachnoid hemorrhage.** Nathalie Nasr, Toulouse, France.
 - **Improved orthostatic tolerance - better cerebral blood flow regulation** Andrea Maier MD, Christina Haubrich, Aachen, Germany.
 - **Can cerebral haemodynamic and autoregulation indices be used to determine disease phenotype in idiopathic Parkinson's disease?** Victoria Haunton, Leicester, UK.
 - **Dynamics of the Liquid Brain: New insights via MR imaging in health and diseases of the brain parenchyma, blood vessels, and cerebrospinal fluid circulation.** Paul Summers, Milan, Italy.
 - **MRI measurements of cerebral autoregulation – proof of principle** Daan de Jong, Nijmegen, the Netherlands.
 - **The effect of an extensive exercise program on mild cognitive impairment (MCI) and the role of cerebral perfusion regulation.** Marit Sanders, Jurgen Claassen, Nijmegen, the Netherlands.
- 12:20 – 13:30 **Lunch**
- 13:30 – 14:30 **Consensus on data analysis**
J Claassen
- 14:30 – 14:50 **Break**
- 14:50 – 15:50 **Collaborative CARNet projects (TBC)**