

Sunday 12th April 2015

09:30 - 09:45

WELCOME: OPENING REMARKS

Venue: Pentland

Russell Foster (BNA President)
John Williams (Wellcome Trust)

PLENARY LECTURE

09:45 - 10:45

Susumu Tonegawa (Massachusetts Institute of Technology)
Nobel Laureate for Physiology or Medicine 1987

Venue: Pentland

'Memory engram cells have come of age'
Chaired by: Russell Foster (University of Oxford)

Sponsored by Hoffman-La Roche



10:45 - 11:30

REFRESHMENTS AND TRADE EXHIBITION VIEWING

Venue: Lennox Suite

SYMPOSIA

11:30 - 13:30

1. Theme F: Nervous System Disorders

Venue: Pentland

The role of synapses in neurodegenerative diseases

Convenor: Tara Spire-Jones (University of Edinburgh)

Chaired by: Tom Gillingwater (University of Edinburgh)

1.01 **Interplay between Amyloid-beta and Tau in degenerating neurons**

Tom Wishart

University of Edinburgh

1.02 **Deficits in synaptic transmission in models of Parkinson's disease**

Richard Wade-Martins

University of Oxford

1.03 **The role of amyloid beta and apolipoprotein E in synapse loss in Alzheimer's disease**

Tara Spire-Jones

University of Edinburgh

1.04 Synaptic dysfunction and nerve terminal degeneration

Rafael Fernández-Chacón

Hosp.Univ. Virgen del Rocío/CSIC/Universidad de Sevilla

This Symposium is sponsored by **Alzheimer's Research UK**



11:30 - 13:30

2. Theme F: Nervous System Disorders

Venue: Sidlaw

The immune system and the brain

Convenor: Sandra Amor (VU University Medical Center)

Chaired by: Sandra Amor (VU University Medical Center) and Bruno Gran (University of Nottingham, School of Medicine)

2.01 The Pathophysiology of Multiple Sclerosis

David Hafler

Yale University

2.02 The dual role of alpha B-crystallin in neuroprotection and neurodegeneration

Johannes van Noort

Delta Crystallon BV

2.03 Inflammatory pathways in multiple sclerosis T cells

Anne Astier

University of Edinburgh

2.04 The choroid plexus: Immune gateway to the CNS

John Curnow

University of Birmingham

This Symposium is sponsored by **British Society for Immunology**



11:30 - 13:30

3. Theme F: Nervous System Disorders

Venue: Fintry

The utility of biomarkers in CNS drug development

Convenor: Alan Palmer (Cerebroscience)

Chaired by: Alan Palmer (Cerebroscience)

- 3.01 Bringing risk forward with in vivo oxygen amperometry - a preclinical surrogate of BOLD fMRI**
Jennifer Li
Eli Lilly & Co Ltd
- 3.02 The utility of pharmacologic fMRI in CNS drug development**
Steven Williams
King's College London
- 3.03 The use of MRI in patient selection and stratification in clinical trials for multiple sclerosis**
Richard Nicholas
Imperial College
- 3.04 The use of PET imaging to reduce the risk of failure in CNS drug development**
Roger Gunn
Imanova

11:30 - 13:30

- 4.** Theme B: Molecular, Cellular and Synaptic Mechanisms **Venue: Lowther**

Brain Cannabinoid System: A New Therapeutic Frontier in Brain Repair

Convenor: Francisco Molina-Holgado (University of Roehampton)

Chaired by: Francisco Molina-Holgado (University of Roehampton)

- 4.01 Crosstalk between endocannabinoid signalling and the immune system in brain repair**
Francisco Molina-Holgado
University of Roehampton
- 4.02 Cannabinoids and neuropathology**
Ken Mackie
Indiana University
- 4.03 The diacylglycerol lipases; roles in and beyond endocannabinoid signalling**
Patrick Doherty
King's College London
- 4.04 Endocannabinoid modulation of toll-like receptors (TLR)-induced neuroinflammation**
Michelle Roche
National University of Ireland Galway

This Symposium is sponsored by the **British Pharmacological Society**



Today's science, tomorrow's medicines

11:30 - 13:30

5. Theme G: Methods and Techniques

Venue: Menteith

Intravital optical imaging: conventional to super-resolution

Convenor: Peter Brophy (University of Edinburgh)

Chaired by: Peter Brophy (University of Edinburgh)

5.01 Protein trafficking to the node of Ranvier

Peter Brophy

University of Edinburgh

5.02 *In vivo* imaging of axon dismantling

Thomas Misgeld

Technische Universität Munich

5.03 Intracellular trafficking visualised at super-resolution

Melike Lakadamyali

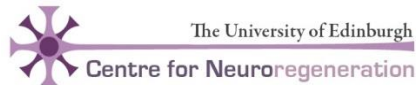
The Institute of Photonic Sciences, Barcelona

5.04 Myelination in the zebrafish

David Lyons

University of Edinburgh

This Symposium is sponsored by **Edinburgh University's Centre for Neuroregeneration**



11:30 - 13:30

6. Theme D: Learning, Memory and Cognition

Venue: Lammermuir 1

The social life of voices

Convenor: Carolyn McGettigan

Chaired by: Carolyn McGettigan

6.01 It ain't what you say: the neural processing of social and emotional cues during vocal communication

Carolyn McGettigan

Royal Holloway, University of London

6.02 Human Brain Oscillations entrain to the rhythm of speech

Joachim Gross

University of Glasgow

6.03 Echoes of the spoken past: How the brain "hears" nonverbal context during spoken language comprehension

Jeremy Skipper

University College London

6.04 Face to Face, Brain to Brain: Exploring the Mechanisms of Dyadic Social Interactions
Uri Hasson
Princeton University

11:30 - 13:30

7. Theme B: Molecular, Cellular and Synaptic Mechanisms **Venue: Lammermuir 2**

Fats are fitting for brain disease, but how do they work?

Convenor: Robin Williams (Royal Holloway)

Chaired by: Robin Williams (Royal Holloway) and Matthew Walker (UCL Institute of Neurology)

7.01 Diet-induced ketosis in regulating brain function

Jong Rho

University of Calgary Faculty of Medicine

7.02 A direct mechanism of medium chain fatty acids in regulating neurotransmission

Robin Williams

Royal Holloway University of London

7.03 Energy metabolism and medium chain dietary fatty acids

Simon Heales

Great Ormond Street Children's Hospital

7.04 The epigenetics of ketogenic diet therapy - opportunities for epilepsy prevention

Detlev Boison

Legacy Research Institute

This Symposium is sponsored by **Vitaflow International Limited**



Innovation in Nutrition

13:30 - 14:30

LUNCH

Venue: Lennox Suite

13:45 - 14:30

ASCUS Art & Science – an introduction to ‘Artists are Present’

Venue: Lammermuir 2

14:30 - 16:00

POSTER SESSION 1 AND TRADE EXHIBITION

Venue: Lennox Suite

P1-A-001 to P1-A-020
P1-B-001 to P1-B-043
P1-C-001 to P1-C-031
P1-D-001 to P1-D-062
P1-F-001 to P1-F-058
P1-G-001 to P1-F-015
P1-H-001 to P1-H-006

SYMPOSIA

16:00 - 18:00

8. Theme B: Molecular, Cellular and Synaptic Mechanisms

Venue: Sidlaw

Learning from LTP

Convenor: Graham Collingridge (University of Bristol)

Chaired by: Tim Bliss (NIMR)

8.01 Synaptic mechanisms relevant to learning and memory

Arturas Volianskis

University of Bristol

8.02 Presynaptic mechanisms of synaptic plasticity

Nigel Emptage

University of Oxford

8.03 Left-right asymmetry in hippocampus-dependent learning

Olivia Shipton

University of Cambridge

8.04 Hippocampal-Neocortical network interactions: Plasticity and implications

Andrea Moreno

University of Edinburgh

16:00 - 18:00

9. Theme F: Nervous System Disorders

Venue: Fintry

Brain repair: from fish to human

Convenor: Siddharthan Chandran (University of Edinburgh)

Chaired by: Siddharthan Chandran (University of Edinburgh)

9.01 Modelling CNS degeneration and regeneration in fish

Catherina Becker

University of Edinburgh

9.02 Neuroimaging signatures of ALS/MND

Peter Bede

Trinity College Dublin

9.03 Stem cell based therapies for ALS/MND

Clive Svendsen
Cedars-Sinai, Los Angeles

9.04 Cell and gene based therapy for retinal degeneration

Robin Ali
Institute of Ophthalmology, UCL

This Symposium is sponsored by **Association of British Neurologists**



ASSOCIATION
OF BRITISH
NEUROLOGISTS

16:00 - 18:00

10. Theme F: Nervous System Disorders

Venue: Lowther

Gene therapy for CNS disorders

Convenor: Stuart Cobb (University of Glasgow)

Chaired by: Stuart Cobb (University of Glasgow) and Steven Gray (University of North Carolina)

10.01 Gene therapy in developmental/intellectual disability disorder - Rett Syndrome

Stuart Cobb
University of Glasgow

10.02 CNS gene therapy in neuropathy - from basic science to clinical trials

Steven Gray
University of North Carolina

10.03 Gene therapy in neurodegenerative disorders

Mimoun Azzouz
University of Sheffield

10.04 Gene therapy in epilepsy

Stephanie Schorge
University College London

10.05 Genome / mRNA editing and mutation correction in CNS disorders

Mark Bailey
University of Glasgow

This Symposium is sponsored by **Rett Syndrome Association Scotland & Rett UK**



16:00 - 18:00

11. Theme D: Learning, Memory and Cognition **Venue: Lammermuir 1**

Dynamics of brain responses to faces

Convenor: Nicholas Furl (Royal Holloway, University of London)

Chaired by: Nicholas Furl (Royal Holloway, University of London)

11.01 Network dynamics in response to moving faces

Nicholas Furl

Royal Holloway, University of London

11.02 Functional connectivity in the face processing network

Lucia Garrido

Brunel University

11.03 The timing of dynamic facial expression processing measured using magnetoencephalography

Philippe Schyns

University of Glasgow

11.04 Computational models of dynamic face representation

Alan Johnston

University College London

SPECIAL EVENT

16:00 - 18:00

S1. Theme S: Special Event **Venue: Pentland**

The Human Brain Project: relevance to UK neuroscience

Chaired by: Seth Grant (Edinburgh University)

S1.01 The Medical Informatics contribution to the Human Brain Project

Richard Frackowiak

Centre Hospitalier Universitaire Vaudois

S1.02 Neuroinformatics and Brain Simulation in the Human Brain Project

Sean Hill

École Polytechnique Fédérale de Lausanne

S1.03 Building brains: neuromorphic computing in the HBP

Steve Furber

University of Manchester

S1.04 Mapping brain and behavioural architecture in mice and humans

Seth Grant

Edinburgh University

SPECIAL EVENT

16:00 - 19:00

S2. Theme S: Special Event

Venue: Lammermuir 2

Challenges and progress from the first calls of the EU Innovative Medicines Initiative

Convenor: Gary Gilmour (Eli Lilly & Co. Ltd.)

Chaired by: Gary Gilmour (Eli Lilly & Co. Ltd.)

S2.01 The Innovative Medicines Initiative: facilitating industrial and academic partnership

Sophie Dix

Eli Lilly & Co. Ltd.

S2.02 What has NEWMEDS taught us about translational science for schizophrenia and depression?

Trevor Robbins

University of Cambridge

S2.03 MRI and qEEG markers in Alzheimer's disease: Can they be back-translated to mouse models?

Claudio Babiloni

University of Rome 'La Sapienza'

S2.04 The IMI European collaboration: Building the chain of evidence for translational research in drug development for pain.

Märta Segerdahl

H.Lundbeck A/S.

SPECIAL EVENT

16:00 - 19:00

S3. Theme S: Special Event

Venue: Menteith

Fat and stressed out, always late, but still in love: a workshop in neuroendocrinology

Convenor: Giles Yeo (University of Cambridge)

Chaired by: Julian Mercer (University of Aberdeen)

S3.01 Introduction to the field of neuroendocrinology

Julian Mercer

University of Aberdeen

S3.02 The hormonal control of food intake

Tony Coll

Institute of Metabolic Science, University of Cambridge

- S3.03 Stressed out: Consequences of stress across the lifespan on mood and cognition**
Megan Holmes
University of Edinburgh
- S3.04 Always late: The neuroscience behind body clocks and sleep regulation**
Maria Canal
University of Manchester
- S3.05 Still in Love: Intranasal oxytocin and vasopressin - do they really have a direct effect on the brain?**
Mike Ludwig
University of Edinburgh

This Special Event is sponsored by the **British Society for Neuroendocrinology**



18:00 - 19:30

S4. Theme S: Special Event

Venue: Lowther

Open Access: Panel Debate

Convenors: Philip Campbell (Nature) and Narender Ramnani (Royal Holloway University of London)

Chaired by: Philip Campbell (Nature)

S4.01 Dimitri Kullmann
Brain

S4.02 Michael Osuch
Elsevier

S4.03 Stavroula Kousta
PLOS Biology

S4.04 Mark Patterson
eLife Sciences Publications Ltd

PUBLIC LECTURE

20:00 - 21:15

David J Nutt (Imperial College London)

Venue: Pentland

'Why Scotland should lead the neuroscientific enlightenment?'

Chaired by: Ben Thomson

In association with **Edinburgh International Science Festival** and the EICC's **InnovationNation** programme.

