

NEW CONCEPTS OF NEUROSCIENCE FOR BASIC RESEARCH AND
THERAPEUTIC ADVANCES

Brain^{+Creativity} Science^{+Future}



*The Latimer Room,
Clare College, Cambridge,
United Kingdom*

15-16 Sept. 2015



Professor Youngchan Lee

*President of Korea Health Industry
Development Institute (KHIDI),
Republic of Korea*

Dear colleagues and friends,

I would like to extend a warm welcome to everyone attending the 8th UK-Korea Neuroscience Symposium. Over the past ten years UK-Korea Neuroscience Symposia have played a vital role in bridging the gap between neuroscience and medical research in the UK and Korea, as well as being committed to ensuring our research helps to address global ageing issues with excellence and impact.

This symposium will feature insightful speakers from a diverse cross section of neuroscience including neurodegenerative disease research. Basic, medical, and translational advancements will be highlighted, from which we will foster next-generation neuroscience research and strengthen our collaborative relationship.

As the president of Korea Health Industry Development Institute (KHIDI), on behalf of the event organisers, I would like to thank all of our participants, keynote speakers, and guests. Without your attendance and participation in our ongoing symposia we would not have been able to build this innovative platform for fruitful collaborations between the two nations.

In conclusion, we look forward to meeting each and every one of the symposium participants. I strongly encourage everyone to reach out to the UK-Korea network and hope that you will experience rewarding discussions and interesting findings during this event. Thank you very much for your generous support and contribution.

Best regards,

youngchan lee



Professor Doochul Kim

*President of Institute for Basic Science
(IBS),
Republic of Korea*

I would like to congratulate everyone involved in hosting “The 8th UK-Korea Neuroscience Symposium”, which will bring together distinguished scientists from the UK and Korea. I am confident that this symposium will foster new research relationships, and encourage our nations to increasingly share knowledge, ideas, and resources. In this regard, I am delighted that the Institute for Basic Science (IBS) is actively supporting this symposium since hosting last year’s at IBS Center for Synaptic Brain Dysfunctions. As the president of IBS, I offer my wholehearted support to the symposium so that we can share our research outcomes and make progress in neuroscience research. I wish this year’s symposium every success, and trust everyone will find the event thoroughly rewarding.

2015 Programme Committee



John O'Keffe
(Chair of Committee)
UCL



Kei Cho
Univ. of Bristol



Morgan Sheng
Genentech, USA



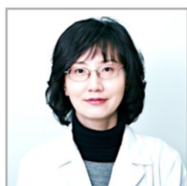
Eunjoon Kim
IBS-KAIST



Kyungjin Kim
KBRI, Korea



Seong-Gi Kim
IBS



Inhee Mook-Jung
Seoul Nat. Univ.



Hee-Sup Shin
IBS-KIST

The UK-Korea Programme Committee members are delighted to welcome you to the 8th UK-Korea Neuroscience Symposium in Cambridge, UK. This symposium sees the continuation of our collaboration for over ten years, since 2005. We would like to thank the UK Medical Research Council (MRC), Korea Health Industry Development Institute (KHIDI) and Institute for Basic Science (IBS) for their long-term funding and support for UK-Korea Neuroscience. This has helped to develop the UK-Korea Neuroscience collaboration from 'knowing each other' to working together through research activity. In this context, we have established a new collaboration platform 'UKorea (www.ukorea.ac.uk)', which will further establish lively connections among neuroscience research groups in the UK and Korea. In particular, the Committee would like to invite more young scientists to join the UKorea Neuroscience Symposium, as we aim to bridge to the next generation that will be vital for the continuation of our partnership.



Plenary Speaker: Professor Trevor Robbins
Head of Department, Experimental Psychology
Univ. of Cambridge

Professor TW Robbins F.R.S. works in the areas of cognitive and behavioural neuroscience, with a special emphasis on psychopharmacology. He is particularly interested in the cognitive functions of the frontal lobes of the brain, in understanding the neural basis of motivation and reward, in the neuropsychological basis of drug addiction and obsessive-compulsive disorder, and in the treatment of neurocognitive disorders such as Alzheimer's and Parkinson's diseases, schizophrenia and attention deficit disorder with 'cognitive enhancing' drugs. Much of his work is devoted to understanding how such drugs actually work, based on their actions on the chemical neurotransmitter systems of the brain. These systems include the monoamines dopamine, noradrenaline and serotonin, as well as acetylcholine. Professor Robbins uses a variety of techniques in his work, ranging from the invention of a computerized neuropsychological test battery ('CANTAB') for assessing cognition in patients to functional brain imaging and molecular neuropharmacology, and it seeks to translate basic neuroscience findings into clinical application.

15-Sep Tue.	The Latimer Room, Clare College, Cambridge	
8:45	REGISTRATION	
9:00	Opening	John O'Keefe (Chair of Programme Committee)
	Invited Young Scientist Talk 1	Session Chair - Graham Collingridge
9:10	Seung-Hee Lee (KAIST-Korea)	<i>Virtual perception induced by artificial stimulation of mouse sensory cortices</i>
	Session 1	Session Chair: Morgan Sheng & Eunjoon Kim
9:30	Anne Bertolotti (MRC LMB Cambridge)	<i>Correcting protein quality control failure to prevent neurodegenerative diseases</i>
9:50	Yong-Seok Oh (DGIST, Korea)	<i>Hilar mossy cell as a neural substrate of mood regulation</i>
10:10	Laura Andreae (King's College London)	<i>Building synaptic connections: a new role for spontaneous neurotransmitter release</i>
10:30	Coffee break	
10:50	Jinhyun Kim (KIST, Korea)	<i>mGRASP for mapping synaptic connectivity at multiple scales</i>
11:10	Michael Johnson (Imperial College London)	<i>Integrated systems genetics identifies hippocampal gene co-expression networks for human declarative memory</i>
11:30	Jaewon Ko (Yonsei University, Korea)	<i>Leucine-rich repeat transmembrane proteins (LRRTMs) as central mammalian synapse organizers</i>
11:50	Matt Jones (Bristol)	<i>Assembly-ing information across limbic-cortical circuits</i>
12:10	Min Whan Jung (IBS-KAIST, Korea)	<i>Distinct roles of parvalbumin- and somatostatin-positive neurons in working memory</i>
12:30	Lunch	Clare College-Main hall
	Session 2	Session Chair: Kei Cho & Bruno Frenguelli
13:40	Philip Regan (Bristol)	<i>Regulation of synaptic long-term depression by tau protein</i>
14:00	Won Do Heo (IBS – KAIST, Korea)	<i>Optogenetic Control of Intracellular Signaling Proteins</i>
14:20	Michael Häusser (UCL)	<i>All-optical interrogation of neural circuits</i>
14:40	Jee Hyun Choi (KIST, Korea)	<i>Gamma oscillation studied by high density EEG in mice</i>
15:00	Coffee break	
15:20	Jenni Harvey (Dundee)	<i>Food for thought: Leptin and synaptic function in health and disease</i>
15:40	Eunji Cheong (Yonsei University, Korea)	<i>Thalamocortical circuit in vigilance control</i>
16:00	Tiago Branco (MRC LMB, Cambridge)	<i>A mouse neural circuit for computing escape decisions during foraging</i>
16:20	Tae Kim (Kyung Hee Univ., Korea)	<i>Cortically projecting basal forebrain parvalbumin neurons: novel regulators of cortical gamma band oscillations</i>
16:40	Closing remarks	Morgan Sheng, Eunjoon Kim
18:00	Dinner	Clare College-Main hall (<i>invitation only</i>)

16-Sep	Wed.	The Latimer Room, Clare College, Cambridge
	Invited Young Scientist Talk 2	Session Chair: Graham Collingridge
9:00	Sue-Hyun Lee (KAIST-Korea)	<i>Representation of information during memory retrieval compared to perception</i>
	Session 3	Session Chair: John O'Keefe & Lisa Saksida
9:20	Ingo Greger (MRC LMB, Cambridge)	<i>Assembly, structure and organization of AMPA receptor heteromers</i>
9:40	Taekwan Lee (DGMIF, Korea)	<i>Molecular-Level Functional Magnetic Resonance Imaging: Spatio-temporal mapping of dopamine release</i>
10:00	Gwenaëlle Douaud (Oxford)	<i>From prediction to treatment, and basic understanding of disease spread: what can be gained from using MRI in neurodegenerative disorders?</i>
10:20	Coffee break	
10:40	Inah Lee (Seoul Nat. University, Korea)	<i>Scenic hippocampal formation: Neural circuits for scene-dependent decision making</i>
11:00	Chris Heath (Cambridge)	<i>Touchscreen-based assessment of motivation and emotion in rodents</i>
11:20	Hyosang Lee (DGIST, Korea)	<i>Genetic dissection of the neural circuits mediating mouse social behaviours</i>
11:40	Michael Hastings (MRC LMB, Cambridge)	<i>Circadian clocks in the brain: genes, cells and circuits</i>
12:00	Lunch Clare College-Main hall	Congratulatory address: Prof. Doochul Kim (President, IBS)
13:20	Plenary Lecture	Chair: Graham Collingridge
	Trevor Robbins (Cambridge; Neuropsychopharmacology) “ Translational Neuropsychopharmacology: Potential and Limitation ”	
	Session 4	Session Chair: Dennis Chan & John Wood
14:00	Michael Owen (Cardiff)	<i>What genetics tells us about the biology of schizophrenia</i>
14:20	Seung-Jae Lee (Seoul Nat. University, Korea)	<i>Mechanisms of propagation of synucleinopathies</i>
14:40	Peter St. George-Hyslop (Cambridge)	<i>Multi-disciplinary approaches to understanding mechanisms of risk genes identified by GWAS and WES/WGS</i>
15:00	Coffee break	
15:20	Jin-Hee Han (KAIST, Korea)	<i>Synaptic manipulation of memory trace</i>
15:40	Tara Spires-Jones (Edinburgh)	<i>Staying connected: the role of synapse degeneration in Alzheimer's disease</i>
16:00	Changjoon Justin Lee (KIST, Korea)	<i>Tonic GABA from reactive astrocytes: the next generation therapeutic target for Alzheimer's disease</i>
16:20	John Wood (UCL)	<i>New Insights into Peripheral pain mechanisms</i>
16:40	Uhtaek Oh (Seoul Nat. University, Korea)	<i>The Role of Anoctamin 1 in Sensory Transduction</i>
17:00	Paul Matthews (Imperial College London)	<i>Microglia, neurodegeneration and new perspectives on an old molecule</i>
17:20	Ja Wook Koo (KBRI, Korea)	<i>Essential role of mesolimbic brain-derived neurotrophic factor in depressive behaviors</i>
17:40	Closing remarks	John O'Keefe, Peter St George-Hyslop
18:30	Symposium dinner	Old Library, Pembroke College (invitation only)