

## Joint News Release

**Embargoed till 19 October 2007, 4.00pm**

### **Neuroscience Research Partnership forged between A\*STAR and Duke-NUS Graduate Medical School**

*Singapore, 19 October 2007* - The Singapore Agency for Science, Technology and Research (A\*STAR) and the Duke-NUS Graduate Medical School (Duke-NUS GMS) announced a new partnership to build up an integrated neuroscience research programme.

Neuroscience – the study of the brain and the peripheral nervous system – is one of the most challenging and exciting areas of 21<sup>st</sup> century science. It is also of crucial importance to health, the economy and the quality of life, because of the growing burden of diseases and disorders of the nervous system.

This Neuroscience Research Partnership (NRP) will have a strong focus on translational research to provide a link from basic research to clinical applications. The research programme will draw together and expand existing research in developmental neuroscience and molecular neurobiology groups at A\*STAR's Institute for Molecular and Cell Biology, co-ordinated with Signature Research Programme in neurobehavioural disorders at the Duke-NUS GMS. The main research interests of the Partnership will include:

- Molecular, cellular and behavioural aspects of neurodegenerative diseases.
- Neural stem cells and their potential use in new approaches to the treatment of neurological disorders.
- Development of the nervous system, including the formation, migration and differentiation of neurons, the establishment of connections, and the “plasticity” of the nervous system.
- Regulation of behaviour and the origin of behavioural disorders.
- Cognitive neuroscience.
- Psychiatric disorders and mental health.

Neuroscience is essentially multidisciplinary and its future will depend on interactions between biology, the physical sciences, mathematics, computing, cognitive science, and social science, as well as clinical medicine. The Partnership aims to bring into the neuroscience programme related multidisciplinary expertise and resources. These include sophisticated molecular and small animal imaging capabilities from the Singapore Bioimaging Consortium in Biopolis, the A\*STAR-NUS Clinical Imaging

Research Centre that will be operational in 2008, as well as the powerful clinical imaging facilities at the Cognitive Neuroscience Laboratory in Outram. Genomics expertise and research engineers working in the area of cognitive systems at A\*STAR's Genome Institute of Singapore and the Science and Engineering research institutes respectively would also be able to contribute to the Neuroscience Research Partnership.

The NRP will be led by Professor Colin Blakemore, a noted neuroscientist, former President of the British Neuroscience Association and former Chief Executive of the UK Medical Research Council. Prof Blakemore, who has served on Singapore's International Advisory Council for Biomedical Sciences since 2005, has been jointly appointed by A\*STAR and Duke-NUS GMS to be Chairman of the Neuroscience Research Partnership. Professor Blakemore will work closely with the Biomedical Research Council of A\*STAR and Dr Ranga Krishnan, an eminent neuropsychiatrist, and Executive Vice Dean of the Duke-NUS GMS Singapore to establish and develop the NRP.

"We welcome Professor Colin Blakemore as Chairman of this joint Neuroscience Research Partnership between A\*STAR and the Duke-NUS Graduate Medical School. With Professor Colin Blakemore as the Chair, the Partnership will be able to attract some of the best neuroscientists to Singapore and will also open up new opportunities for Singapore to collaborate with similar world-class centres overseas," said Mr Lim Chuan Poh, Chairman of A\*STAR.

"Neuroscience has been identified by the Biomedical Sciences Executive Committee as one of five priority research areas of strategic importance to Singapore. This partnership in neuroscience research will leverage on the complementary research strengths of the Duke-NUS Graduate Medical School and A\*STAR to deepen our scientific and clinical research capabilities in this important field and facilitate effective translation of scientific discoveries from bench to bedside. The partnership will also facilitate sharing of scientific resources between Biopolis and the Outram cluster of medical school and hospitals." said Mr Lim.

The integrated neuroscience research programme is currently working with the Institute of Mental Health and will also explore links with other research groups working in similar or related areas both in Singapore and overseas, including those at Duke University in the US.

Training of research scientists and clinician-investigators in neurosciences will also be an important component of the research partnership. A\*STAR's current pipeline of about a dozen scholars who are pursuing or have recently completed PhD studies in neuroscience-related fields may be considered for deployment or attachments within the NRP. The programme also aims to provide opportunities for clinicians to train in the most modern approaches to neuroscience, in order to build strong links between basic researchers and the clinical community.

Prof Blakemore said "Singapore has already achieved international recognition in many areas of biomedical research. The establishment of this new Partnership accelerates Singapore's efforts to develop neuroscience, taking advantage of existing strengths in related areas of basic research, including molecular and cellular

biology, immunology, developmental biology and genomics. From the start, the Partnership hopes to develop linkages between basic scientists and clinicians, to facilitate the rapid translation of research results into benefits for patients. I am very impressed with the national commitment to research in Singapore and I look forward to helping Singapore to become a leading centre for neuroscience and its clinical application.”

“This partnership will leverage our resources and the many new outstanding faculty members that have joined us here in Singapore to build a world-class neuroscience effort,” said Dr Ranga Krishnan. He added, “There will also be major benefits from the co-development and sharing of technology platforms between Duke-NUS GMS and A\*STAR laboratories.”

The A\*STAR Duke-NUS GMS Neuroscience Research Programme was endorsed by Singapore’s International Advisory Panel for Biomedical Sciences at their 12<sup>th</sup> meeting on 19 October 07.

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Notes to the Editor:

**About the Agency for Science, Technology and Research (A\*STAR)**  
[www.a-star.edu.sg](http://www.a-star.edu.sg)

The Agency for Science, Technology and Research, or A\*STAR, is Singapore's lead agency for fostering world-class scientific research and talent for a vibrant knowledge-based Singapore.

A\*STAR actively nurtures public sector research and development in Biomedical Sciences, Physical Sciences and Engineering, with a particular focus on fields essential to Singapore's manufacturing industry and new growth industries. It oversees 14 research institutes and supports extramural research with the universities, hospital research centres and other local and international partners. At the heart of this knowledge intensive work is human capital. Top local and international scientific talent drive knowledge creation at A\*STAR research institutes. The Agency also sends scholars for undergraduate, graduate and post-doctoral training in the best universities, a reflection of the high priority A\*STAR places on nurturing the next generation of scientific talent.

### **About the Duke-NUS Graduate Medical School**

[www.gms.edu.sg](http://www.gms.edu.sg)

Duke-NUS Graduate Medical School Singapore was established in 2005 as a strategic collaboration between the Duke University School of Medicine, located in the United States, and the National University of Singapore. Duke-NUS Graduate Medical School Singapore offers a graduate-entry, 4-year medical programme based on the unique Duke model of education, with one year dedicated to independent study and research projects of a basic science or clinical nature. The first batch of students started term on 1 August 2007. As a player in Singapore's biomedical community, Duke-NUS Graduate Medical School Singapore has identified four Strategic Research Programmes: Cancer & Stem Cell Biology, Neurobehavioral Disorders, Infectious Diseases and Cardiovascular & Metabolic Disorders.

*Please also see [www.duke.edu](http://www.duke.edu) and [www.nus.edu.sg](http://www.nus.edu.sg)*

### **About Professor Colin Blakemore Chairman, A\*STAR – Duke-NUS Graduate Medical School Neuroscience Research Partnership**

Dr Colin Blakemore, FMedSci, Hon FIBiol, Hon FRCP, FRS, has been Chief Executive of the MRC from 2003 to October 2007.

Dr Blakemore studied Medical Sciences at Cambridge and completed a PhD at the University of California in Berkeley. After 11 years in the Department of Physiology at Cambridge University, he became Waynflete Professor of Physiology at Oxford University in 1979 and he continues to hold a Professorial appointment at Oxford.

From 1996–2003 Dr Blakemore was Director of the MRC Centre for Cognitive Neuroscience at Oxford. His research has been concerned with many aspects of vision, early development of the brain and plasticity of the cerebral cortex.

Dr Blakemore has been President of the British Neuroscience Association, the Physiological Society and the Biosciences Federation. His many prizes and awards include the Robert Bing Prize for Neurology and Physiology (Swiss Academy of Medical Sciences), the Prix du Docteur Robert Netter (Académie Nationale de Médecine, France) for research on developmental disorders of vision, the Norman McAlister Gregg Award in Medical Science (Royal Australian College of Ophthalmologists), the international Alcon Prize for vision research, the Osler Medal and the Baly Medal (Royal College of Physicians), the BioIndustry Award, and the Royal Society's Michael Faraday Prize and Medal.

Described by the Royal Society as “one of Britain's most influential communicators of science”, Dr Blakemore was President of the British Association for the Advancement of Science in 1997-1998 and Chairman in 2001-2004. He is committed to promoting dialogue between scientists and the public and over the years has been a frequent contributor to radio and television programmes, including the 13-part BBC2 series *The Mind Machine*. His books for the general public include *Mechanics of the Mind* (for which he won the Phi Beta Kappa Award in Science), *Images and Understanding*, *Mindwaves*, *The Mind Machine*, *Gender and Society* and *The Oxford Companion to the Body*.

Dr Blakemore has been a member of Singapore's International Advisory Council for Biomedical Sciences since 2005. In October 2007, he was also appointed as Chairman of the Neuroscience Research Partnership between the Singapore Agency for Science, Technology Research, and the Duke-National University of Singapore Graduate Medical School.

**About Prof Ranga Krishnan  
Executive Vice Dean, Duke-NUS Graduate Medical School Singapore**

K. Ranga Rama Krishnan, MD, is the Executive Vice Dean at the Duke-NUS Graduate Medical School Singapore (GMS).

He is also Professor and Chairman of the Department of Psychiatry and Behavioral Sciences, Duke University Medical Center, Durham, North Carolina. His department of psychiatry includes more than 490 faculty members, conducts more than 270 human-subject studies a year and a similar number of in-vitro and in-vivo animal studies, and receives approximately US\$40 million of research funding annually.

Dr. Krishnan earned his medical degree and completed a rotating internship at Madras Medical College in Madras, India. He then completed his residency and held a fellowship in neurobiology at the Duke University Medical Center.

Dr. Krishnan has created a translational research center for depression in the elderly, the only such center in the United States funded by the National Institutes of Health.

Dr. Krishnan is an elected member of the Institute of Medicine – the world's foremost national resource for independent, scientifically informed analysis and recommendations on human health issues. As a further recognition of his contributions to biomedical science, Dr. Krishnan received the 2007 Distinguished Scientist Award from the American Association for Geriatric Psychiatry. He has also received the Laughlin Award from the American College of Psychiatry, Rafflesen Fellowship award from CINP, NARSAD's Distinguished Investigator award, and the Klerman award from DBSA. He has authored over 370 papers and edited several books.

Dr. Krishnan has served and continues to serve on many editorial boards of scientific journals and has received numerous awards.