



Agency for  
Science, Technology  
and Research



## PRESS RELEASE

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### **TEAMS OF SCIENTISTS IN SINGAPORE AND HUNGARY COLLABORATE TO DISCOVER CURES AND THERAPIES TO ADVANCE HEALTHCARE DELIVERY**

***Research by scientists focuses on cancer, stroke rehabilitation, bio-imaging for stem cell therapy and drug delivery***

***2<sup>nd</sup> Singapore-Hungary Joint Symposium to explore scope for research in Biomedical Devices and Computation Sciences and Bioinformatics***

1. Singapore's Agency for Science, Technology and Research (A\*STAR) and Hungary's National Office for Research and Technology (NKTH) awarded grants to four new research projects in cancer, bio-imaging for stem cell therapy, stroke rehabilitation and drug delivery at the 2<sup>nd</sup> Singapore-Hungary Joint Symposium held in Singapore today. These four research projects were selected from 23 applications made at the grant call following the first joint symposium held in Hungary in March 2008 to explore research in drug discovery and biomaterials. The projects, which would be jointly led by Singapore and Hungary researchers, were carefully selected by an A\*STAR-NKTH Joint Review Panel after they were reviewed by international experts for their scientific merit, and assessed them for their relevance to the needs in the two countries.

2. Said Mr Lim Chuan Poh, Chairman of A\*STAR, "The award of the inaugural A\*STAR-NKTH collaborative research grants for scientists from Hungary and Singapore underscores the excellent scientific relations between the two countries and reaffirms our mutual commitment to enhance this relationship. I am confident that the friendships and collaborations fostered through these partnerships will lead to the cross-fertilisation of ideas and spawn many innovations that will be impactful for Singapore and Hungary, and make a difference to the world."
3. Added Dr Gyula Csopaki, President of NKTH, "Southeast Asia is an important region we have identified to expand beyond our traditional partners like China, India, Japan and Korea. Singapore provides a conducive environment here for us to embark on R&D projects with the vibrant scientific community and the strong will from the government to make it a world-class science and technology hub in this part of the world. We are glad to see this progress with our Singaporean counterparts with the award of four new projects today. These projects tap on the complementary expertise of both Hungarian and Singaporean partners, and this would not have been possible if we had not come together to build this friendship and get to know each other's strengths."

#### **Projects that will potentially advance healthcare delivery**

4. The first A\*STAR-NKTH collaborative research grants were awarded to the following:

- a. Dr Chua Boon Tin and Professor Axel Ullrich from A\*STAR's Institute of Medical Biology (IMB), and Dr Kéri György from Hungary's Vichem Chemie Research Ltd. The team will combine both biology and chemistry expertise to develop small molecule inhibitors against protein tyrosine kinases<sup>1</sup> FGFR4 and Ack1. The team will conduct a chemical screen to isolate potential drug

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<sup>1</sup> Tyrosine kinases are proteins found in all cells and they act as "switches" that trigger on or off important physiological processes such as cell growth, cell survival, and cell movement. Many cancer occurrences have been traced to defects in these kinases.

candidates for future clinical and therapeutic development. Defects in tyrosine kinases have been linked to the development of cancer and have become an important area of study by the pharmaceutical industry for novel drug research and development.

- b. Dr Han Weiping from A\*STAR's Singapore Bioimaging Consortium (SBIC) and Dr Zsombor Lacza from Hungary's Semmelweis University. The team will develop new imaging tools to achieve real-time assessment of the fate of stem cells after they are implanted in the animal models. A novel genetic biomarker will be employed to monitor and validate progress of cell replacement therapy, providing the ability to achieve conclusive imaging results.
- c. Associate Professor Chen I-Ming from Singapore's Nanyang Technological University (NTU) and Professor Gábor Stépán from Budapest University of Technology and Economics. The team will research into developing cognitive stroke movement therapy systems that are wearable. The aim is to develop a device that can be worn by post-stroke patients to provide them with sensory feedback during physiotherapy sessions with minimal supervision by a physiotherapist. This can potentially pave the way for the development of less clinical-intensive practices such as tele-rehabilitation or in the comfort of their own homes.
- d. Dr Xu Jianwei and Professor G. Julius Vancso from A\*STAR's Institute of Materials Research and Engineering (IMRE) and Professor Béla Pukánszky from Hungary's Budapest University of Technology and Economics. The team aims to develop a novel approach to design and synthesize stimuli-responsive nanostructured systems for controlled drug release. This will potentially enable a controlled and targeted delivery of drugs in

particular sites in the body. The research has the potential to be useful in a range of applications including drugs and cosmetics.

5. "I am very proud to say that since 2007 scientific and research collaboration has become a central plank in the wide-ranging bilateral cooperation between Singapore and Hungary. R&D is a truly global enterprise and the four projects awarded today underscore the potential science holds for deepening links between geographically distant small countries, like ours. It also demonstrates the shared desire of the Hungarian and Singaporean governments to create value added through research that is central to our future development in this globalised, flat world and the current economic slowdown will only accentuate the need to do so," said His Excellency Tamás Magda, Ambassador, Embassy of the Republic of Hungary in Singapore.

**2<sup>nd</sup> Singapore-Hungary Joint Symposium to explore scope for research in Biomedical Devices and Computation Sciences and Bioinformatics**

6. The 2<sup>nd</sup> Singapore-Hungary Joint Symposium held today is a platform for the scientific communities of the two countries to come together to explore the scope for research in Biomedical Devices for disease diagnostics and therapy, and Computation Sciences and Bioinformatics.

7. Said Professor Sir George Radda, Chairman of A\*STAR's Biomedical Research Council, "The joint symposium provides an ideal stage for researchers from Singapore and Hungary to share about their research and exchange ideas on their work. This will inevitably lead to the cross-pollination of ideas and possibly result in exciting discoveries and new knowledge. I look forward to the vibrant atmosphere at the symposium where scientists from the two vastly different cultures come together in the spirit of intellectual exchange."

8. Added Professor Charles Zukoski, Chairman of A\*STAR's Science and Engineering Council, "This joint symposium brings together scientists from

Singapore and Hungary in the spirit of discovery, exchange and friendship. Our world faces complex challenges and it is through collaborative discussions such as these that lie at the core of this symposium that new ideas and research partnerships aimed at overcoming these challenges are developed. My deepest hope is that the exchange of ideas at this Hungary-Singapore symposium will lead to innovative solutions. I also hope that through the course of the symposium, the scientists would learn something new through the discussions with their peers or hatch some ideas for collaborative research together to tackle the complex challenges facing our world today.”

9. The joint symposium is one of the results of the Master Collaboration Agreement inked by A\*STAR and NKTH in 2007 to further strengthen the good relations between the two nations and create opportunities for the exchange of ideas and scientific interactions on areas of strategic, tactical and/or commercial interest. The first joint symposium was held in Hungary in 2008.

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#### **About the Agency for Science, Technology and Research (A\*STAR)**

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 22 research institutes, consortia and centres, 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.

*For more information about A\*STAR, please visit [www.a-star.edu.sg](http://www.a-star.edu.sg).*

### **About the Hungarian National Office for Research and Technology (NKTH)**

The Hungarian National Office for Research and Technology (NKTH) is responsible for implementing the government's science and technology policy. It aims to provide a framework for the national innovation system, and to promote research and development that will boost the Hungarian economy. Besides guiding national innovation strategy, NKTH also sets aside funding and management expertise for small enterprises and innovation programmes. NKTH is currently headed by its President, Dr Gyula Csopaki.

*For more information about NKTH, please visit [www.nkth.gov.hu](http://www.nkth.gov.hu)*

### **About the Singapore-Hungary Collaboration In Scientific Research**

In 2007, Singapore's Agency for Science, Technology and Research (A\*STAR) signed a Master Collaboration Agreement (MCA) with Hungary's National Office for Research and Technology (NKTH) to promote scientific R&D and enhance human capital development. Under this collaboration, Singapore and Hungary will create opportunities for exchange of ideas and scientific interactions through joint scientific meetings, research collaborations, PhD and postdoctoral scholarships and fellowships, short term research attachment programmes and industry attachments.

The 1<sup>st</sup> Hungary-Singapore joint workshop was held on from 10-11 March 2008 in Budapest, Hungary, on the theme of Drug Discovery and Biomaterials. Following the workshop, researchers from Singapore and Hungary discussed project ideas in greater detail and submitted their proposals through a grant call made in the two countries.

A total of 23 applications were received at the close of this grant call in September 2008. These applications were sent for international review by experts in the respective fields before they were presented before a Joint Review Panel comprising A\*STAR and NKTH representatives. Apart from taking into consideration comments made by the international reviewers, the Joint Review Panel also evaluated the applications based on their local relevance in both countries.