

PRESS RELEASE

27 JULY 2009

EXPERTS FROM EU AND SOUTHEAST ASIA DISCUSS NEW STRATEGIES TO COMBAT DISEASES LIKE DENGUE, MALARIA, CHIKUNGUNYA

1. More than 20 outstanding scientists and experts from leading research centres, universities and hospitals in the European Union (EU) and Southeast Asia discussed topics such as virology, parasitology, transmission, diagnostics, and treatment and prevention strategies of vector-borne diseases at the “EU-Southeast Asia Expert Meeting on Vector-Borne Diseases” at Biopolis today. Organised by the Singapore Immunology Network (SIgN) under the Agency for Science, Technology and Research (A*STAR) and jointly sponsored by SEA-EU-NET and the UK-Singapore Partners in Science programme, the two-day meeting (27 – 28 Jul 2009) brought together 200 researchers from EU and the region.

2. Professor Sir Roy Anderson¹, distinguished epidemiologist and Rector of Imperial College London, delivered the first keynote lecture. Drawing on his extensive experience in working with government departments, pharmaceutical companies, international aid agencies, as well as research collaborations with developed and developing nations, he spoke on ways to manage and tackle the threats posed by fast-spreading and emerging infectious agents in an increasingly populous and globalised world.

¹ Professor Sir Roy Anderson is Rector and Professor of Infectious Disease Epidemiology at Imperial College London. He also chairs the science advisory board of the World Health Organisation’s (WHO) Neglected Tropical Diseases programme, is a member of the Bill and Melinda Gates Grand Challenges advisory board, and chairs the Schistosomiasis Control Initiative advisory board funded by the Gates Foundation. He is a non-executive director of GlaxoSmithKline. He was also Chief Scientific Advisor to the UK Ministry of Defence from 2004 to 2007.

3. Other topics discussed at the symposium include:
- a. “Threats and opportunities from vector-borne diseases for Southeast Asia” – a keynote lecture by Professor Yongyuth Yuthavong², from the National Centre for Genetic Engineering and Biotechnology, Bangkok, Thailand. Professor Yuthavong spoke about the socio-economic and environmental factors that surround vector-borne diseases in Southeast Asia, and how the developing region might turn socio-economic threats into opportunities for strengthening capabilities in R&D for new drugs, diagnostics and vaccines.
 - b. “Global warming and malaria re-emergence in Portugal” – a talk by Professor Virgílio Estólio do Rosário from the Instituto de Higiene e Medicina Tropical, Universidade Nova de Lisboa, Portugal. Professor do Rosário discussed how the EDEN (Emerging Diseases in a Changing European Environment) international network aimed to address the problems of environmental and climatic change as well as emerging infectious diseases. In particular, he presented data from studies on malaria, and shared insights on how scientists and health authorities should work together to improve the understanding of data, standardisation of different study techniques and dissemination of results.
 - c. “Dengue and chikungunya: A major shift in approach to contain these diseases is desperately needed” – a talk by Professor Sazaly AbuBakar³ from the Faculty of Medicine, University of Malaya, Malaysia. Professor Sazaly spoke about the disease epidemiology of dengue and chikungunya, and how the patterns of spread of these

² Professor Yuthavong served as Minister of Science and Technology in Thailand from 2006 to 2008, after which he returned to his research career. In 2006, *The Nation* newspaper named him one of 35 most influential Thais over the past 35 years. He is also known for his work on developing anti-malarial drug targets.

³ Professor Sazaly is the Head of Department of Medical Microbiology, Faculty of Medicine, University of Malaya and Director of the Tropical Infectious Diseases Research and Education Centre. He is also the Director of the WHO Collaborating Centre for Arbovirus Research and Reference (DF/DHF).

diseases have evolved in regions of Southeast Asia over the years. He also stressed the urgent need for effective approaches to contain the spread of these diseases.

- d. “A network approach to vector-borne diseases: the impact of DENFRAME and the International Network of Pasteur Institutes” – a talk by Dr Roberto Bruzzone⁴ from HKU-Pasteur Research Centre, Hong Kong SAR. Dr Bruzzone discussed how international research networks such as DENFRAME and the International Network of Pasteur Institutes played key roles in the management of infectious diseases world-wide. The former had contributed to the management of dengue disease in Latin America and Asia, while the latter had launched a surveillance programme for the clinical recognition and diagnosis of infections of the human central nervous system in Vietnam, Laos, Cambodia and China.

(A detailed programme is attached at the Annex.)

4. Said, Mr Lim Chuan Poh, Chairman of A*STAR, “This is a timely meeting. The Influenza Type A H1N1 pandemic is with us and poised for a second wave. The world scientific community has generally responded well to the threat by sharing information, materials and working together. This meeting serves to foster this same spirit of sharing and collaboration by bringing together scientists from EU and Southeast Asia to share research findings on and exchange ideas on solutions to vector-borne diseases such as dengue, chikungunya and malaria – formally more known to occur in the tropics. I trust that these discussions will lead to new research collaborations and spawn innovations that will advance our knowledge of the diseases and enhance human healthcare delivery.”

5. Ms Amanda Brooks, Deputy High Commissioner of the British High Commission, Singapore, said, “The EU-Southeast Asia Expert Meeting on Vector-

⁴ Dr Roberto Bruzzone is currently the Chief Executive Officer of the HKU-Pasteur Research Centre. He is also the Scientific Coordinator of the SISEA Programme of the International Network of Pasteur Institutes — a network programme and public health project supported by the French Development Agency, for the surveillance and investigation of respiratory infections and acute encephalitis syndromes. He is also on the Executive Bureau of the International Network of Pasteur Institutes.

Borne Diseases will help to identify opportunities for research collaborations and further, facilitate the forming of consortia, which can bid into the European Commission collaborative research fund, FP7. We are delighted to partner SIgN in supporting this important workshop and hope the resulting collaborations will help to combat the threat posed by vector-borne diseases – an increasing danger to both developed and developing countries alike.”

6. Added Professor Philippe Kourilsky, Chairman of SIgN, “We are happy to organise this workshop and bring together world renowned scientists from the EU and Southeast Asia to share about their research on vector-borne diseases. This is in line with SIgN’s objectives – to collaborate with, and leverage on, the expertise of our local and international partners to establish immunology as a core capability in Singapore, as well as participate in international efforts to solve major health problems.”

Background

7. Vector-borne diseases are infectious diseases that are transmitted by mosquitoes, ticks, sand-flies and rodents. Amongst others, they include dengue, malaria, chikungunya and encephalitis, which are a rising concern in developing and developed nations. Vector-borne diseases put up to 80% of the world’s population at risk of infection, with approximately 500 million reported cases a year. Due to factors like climate and environmental changes, globalisation and the increasing international travel and trade that it brings, the spread of vector-borne diseases are no longer confined to specific regions of the world as before.

8. An example of how globalisation can drive the spread of vector-borne diseases is the international spread of the *Aedes albopictus* mosquito (also known as the Asian Tiger mosquito), which has been linked to outbreaks of chikungunya fever. Previously found in the tropics, this species of mosquito has spread across large parts of Asia, Africa and the Americas in recent decades. It has also spread to some parts of Europe, including most of Italy, causing an outbreak in Ravenna, Italy in 2007 that affected nearly 250 people.

9. In Southeast Asia, which is endemic to vector-borne diseases like malaria and dengue, heightened surveillance measures and vector control measures have also been implemented, following the aftermath of the tsunami disaster in Southeast Asia and the World Health Organisation's warning in 2005 that there could be increased risk of these diseases across the tsunami-hit areas. In Singapore, several outbreaks of dengue, malaria, and chikungunya have occurred in the past 10 years. Without available commercial vaccines for these diseases, Singapore is still expending significant resources in the fight against them.

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Notes to the Editor

About SEA-EU-NET

SEA-EU-NET, an international co-operation network or 'INCO-NET,' is a 4 year project funded by the EC to foster S&T co-operation between Europe and South East Asia. The project was launched in January 2008 and currently involves 17 partners located in Europe and South East Asia. SEA-EU-NET plans to expand and bring on board new partners.

SEA-EU-NET adopts an evidence-based approach to increase the quality, quantity, profile and impact of Science and Technology cooperation between the Member- and Associated States of the European Union (EU) and the countries of South East Asia.

The project has enjoyed several achievements to date including:

- 4 scientific workshops (infectious diseases, food safety and security; biofuels, distributed energy and microgrids);
- increased networks of researchers in SEA and Europe;
- 2 publications; and
- the establishment and training of a National Contact Point or NCP network in SEA (A National Contact Point is a person who is trained to provide information on participating on a European project free of charge.)

SEA-EU-NET funding runs through to the end of 2011 although the outcomes will be designed so they are sustained beyond this point. The project will identify, promote and deliver a wide range of measures to increase mutually beneficial SEA-EU cooperation amongst academic, industrial and government stakeholders.

About the UK-Singapore Partners in Science initiative

The UK-Singapore Partners in Science programme is celebrating its 5th year in 2009 and continues to significantly deepen ties between the UK, Singapore and the wider South East Asia region. The programme started as a year-long campaign in November 2004 to celebrate the excellence of UK Science and highlight collaborative opportunities with Singapore. The campaign was launched by HRH Prince Andrew, Duke of York, and run by the British High Commission, Singapore. The campaign was such a success in delivering real benefits to the UK-Singapore science relationship that in July 2005, then British Prime Minister Tony Blair and Singaporean Prime Minister Lee Hsien Loong decided to convert the campaign into a long-term strategic programme. Since the programme began, over 40 workshops have been held across a range of disciplines. Over 155 collaborative development awards have also been made to scientists in Singapore, Thailand, Malaysia, Vietnam and the Philippines and more than 65 collaborations have resulted from these funded trips.

The UK-Singapore partners programme was also instrumental in establishing the A*STAR - MRC Collaborative Research Fund. S\$6 million has been set aside to fund research on infectious diseases jointly carried out by researchers in the UK and Singapore. The first call for proposals closed in June this year but we hope there will be further opportunities in the future.

About the Singapore Immunology Network (SIgN)

SIgN, officially inaugurated on 15 January 2008, is a research consortium under A*STAR's Biomedical Research Council. It is aimed at building on the strengths of the existing immunology research groups at A*STAR, as well as expanding and strengthening the immunology research expertise in Singapore. SIgN's objectives include coordinating basic, translational and clinical research needed to establish immunology as a core capability in Singapore. The major focus areas of research at SIgN are Infection and Inflammation, in which SIgN researchers investigate immune responses and regulation in disease-specific contexts. Through this, SIgN aims to build up a strong platform in basic human immunology research for better translation of research findings into clinical applications. SIgN also sets out to establish productive links with local initiatives within Biopolis and across Singapore, as well as to obtain international recognition as a leading immunology research hub while establishing relationships with the best institutions in the world.

For more information about SIgN, please visit www.sign.a-star.edu.sg.

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

The Agency for Science, Technology and Research (A*STAR) is the 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, and Physical Sciences and Engineering, and supports Singapore's key economic clusters by providing intellectual, human and industrial capital to our partners in industry and the healthcare sector. It oversees 23 research institutes, consortia and centres located in Biopolis and Fusionopolis, and the area in their vicinity, and supports extramural research in the universities, hospitals, research centres, and with other local and international partners. For more information about A*STAR, please visit www.a-star.edu.sg.

ANNEX

EU – South East Asia Expert Meeting on Vector Borne Diseases: Identifying opportunities for Collaboration

*@Matrix, Breakthrough Theatre
Symposium Programme*

Monday, 27th July 2009

<i>Time</i>	<i>Details</i>
8.00 – 8.30am	Registration
8.30 – 8.35am	Welcome Laurent RÉNIA <i>Singapore Immunology Network, A*STAR</i>
8.35 – 8.45am	Opening Address (I) LIM Chuan Poh <i>Chairman, A*STAR, Singapore</i>
8.45 – 8.55am	Opening Address (II) Amanda BROOKS <i>Deputy High Commissioner, British High Commission, Singapore</i>
9.00 – 9.40am	O01 - Keynote Lecture 1 : Emerging diseases and neglected endemic infections – management and control Sir Roy ANDERSON <i>Imperial College, London, United Kingdom</i>
Session: Consortium Projects Chairperson: Rod HOFF, Regional Emerging Diseases Intervention (REDI) Centre, Singapore	
9.40 – 10.00am	O02 - FP7 funding opportunities in health research Claudia EGGERT <i>FP7 National Contact Point, Health, PT-DLR, Germany</i>
10.00 – 10.30am	O03 - Vector-borne diseases as global health and economic problems: prospects for the future Duane GUBLER, EDEN advisor <i>Program Director, DUKE-NUS, Singapore</i>
10.30 – 10.50am	Morning Tea
10.50 – 11.10am	O04 - Dengue and Chikungunya: a major shift in approach to contain these diseases is desperately needed Sazaly ABUBAKAR <i>Professor, University of Malaya, Malaysia</i>
11.10 – 11.40am	O05 - A network approach to vector-borne diseases: the impact of DENFRAME and the International Network of Pasteur Institutes Roberto BRUZZONE <i>CEO, HKU-Pasteur Research Centre, Hong Kong SAR</i>
11.40 – 12.00pm	O06 - Experiences in conducting biomedical research on dengue hemorrhagic fever in Thailand Prida MALASIT <i>Professor, Mahidol University, Bangkok, Thailand</i>

<i>Time</i>	<i>Details</i>
12.00 – 12.30pm	O07 - An ecological perspective for determining risk of vector-borne disease to the UK Lisa JAMESON <i>Scientist, Health Protection Agency, United Kingdom</i>
12.30 – 2.00pm	Lunch
Session: Re-emerging Infectious Diseases Chairperson: Raymond LIN, National Public Health Laboratory, Ministry of Health, Singapore	
2.00 – 2.30pm	O08 - West Nile Fever Virus - update on the biology and epidemiology Anne BUSCHMANN <i>Deputy Director, Institute for Novel and Emerging Infectious Diseases, Friedrich-Loeffler Institute, Germany</i>
2.30 – 2.50pm	O09 - Use of the single cocktail polymerase chain reaction to identify members of Anopheles minimus group belonging to the Myzomyia Series in Vietnam NGO Giang Lien <i>Associate Professor, Hanoi University of Science, Hanoi, Vietnam</i>
2.50 – 3.10pm	O10 - Biochemical, biological, and antigenic properties of Japanese encephalitis virus Vincent DEUBEL <i>Director-General Institut Pasteur of Shanghai, Chinese Academy of Sciences, PR China</i>
3.10 – 3.30pm	O11 - Flavivirus capsid protein: beyond viral assembly Mary NG Mah-Lee <i>Professor, Department of Microbiology, National University of Singapore</i>
3.30 – 3.50pm	O12 - Alphaviruses, latent infection and chronic pathologies Philippe GASQUE <i>Program Director, Université de La Reunion, Reunion Island</i>
3.50 – 4.10pm	Afternoon Tea
4.10 – 4.30pm	O13 - Dengue virus-infected dendritic cells trigger vascular leakage via metalloproteinase activities Francisco VEAS <i>Research Director, Faculty of Pharmacy, University of Montpellier, France</i>
4.30 – 4.50pm	O14 - Arbovirus encephalitis from the mosquito to the brain John FAZAKERLEY <i>Professor, University of Edinburgh, United Kingdom</i>
4.50 – 5.20pm	O15 - Simple tools for vector control & future threats Steve LINDSAY <i>Professor, London School for Tropical Medicine and Hygiene, London, United Kingdom</i>
5.20 – 5.30pm	Wrap Up Discussions Raymond LIN, National Public Health Laboratory, Singapore

**EU – South East Asia Expert Meeting on Vector Borne Diseases:
Identifying opportunities for Collaboration**

*@Matrix, Breakthrough Theatre
Symposium Programme*

Tuesday, 28th July 2009

<i>Time</i>	<i>Details</i>
8.30 – 8.45am	Registration
8.45 – 8.50am	Welcome Lisa F.P. NG <i>Singapore Immunology Network, A*STAR</i>
8.50 – 9.30am	O16 - Keynote Lecture 2: Threats and opportunities from vector-borne diseases for Southeast Asia Yongyuth YUTHAVONG <i>Professor, National Center for Genetic Engineering and Biotechnology (BIOTEC), Bangkok, Thailand</i>
Session: Vector Biology and Control Strategies Chairperson: Laurent RÉNIA, SgN, Singapore	
9.30 – 10.00am	O17 - Global warming and malaria re-emergence in Portugal – EDEN European consortium Virgílio Estólio do ROSÁRIO <i>Director, Instituto de Higiene e Medicina Tropical, Universidade Nova de Lisboa, Portugal</i>
10.00 – 10.20am	O18 - Community participation and vector control Sustriayu NALIM <i>Consultant, Vector Control Research Unit, Salatiga, Indonesia</i>
10.20 – 10.40am	Morning Tea
10.40 – 11.10am	O19 - Complexity of the vector system in South-East Asia: How to implement effective vector control? Sylvie MANGUIN <i>Research Director, Institute of Research for Development (IRD), Montpellier, France</i>
11.10 – 11.40am	O20 - Dengue and Chikungunya in Singapore Lee-Ching NG <i>Head, Environmental Health Institute, National Environment Agency, Singapore</i>
11.40 – 12.00pm	O21 - Short-term cross-protection to dengue serotypes at the expense of long-term protection? Katja FINK <i>Principal Investigator, Singapore Immunology Network, Singapore</i>
12.00 – 12.20pm	O22 - The early host response in Dengue Martin HIBBERD <i>Associate Director, Genome Institute of Singapore, Singapore</i>

<i>Time</i>	<i>Details</i>
12.20 – 12.40pm	O23 - Impact of Human genetics on susceptibility to and transmission of vector-borne diseases in South-East Asia Richard PAUL <i>Staff Scientist, Institut Pasteur, Paris, France</i>
12.40 – 1.30pm	Lunch
FP7 Session: PANEL: Claudia Eggert, Virgílio Estólio do Rosário, Anne Buschmann, Tin-Wee Tan, Roberto Bruzzone, Sazaly AbuBakar and Laurent Rénia (leader of committee)	
1.30 – 3.00pm	<i>The panelists to gather and compare the topics presented and stimulate discussions on those who are keen to foster collaborations.</i>
3.00pm	Meeting Close