Singapore, 14 January 2005

NTU drives local R&D efforts to cap CO₂ emission for environment conservation

Nanyang Technological University (NTU) is playing an active role in global environment conservation efforts. The university has undertaken projects to develop cost-effective solutions to mitigate the effects of global warming and climate change.

One of these projects, driven by NTU’s Institute of Environmental Science and Engineering (IESE), aims to develop novel ways to reduce the amount of CO₂ being emitted into the atmosphere. IESE, which is representing Singapore, is collaborating with other member countries of the International Energy Agency (IEA)^ to develop technology for greater efficiency in the capture of CO₂.

Dr Wang Rong, Senior Research Scientist at IESE, explains, “The race is on globally for the development of cost-effective technologies to capture CO₂, which is considered the best interim solution to cap CO₂ emission. IEA invited IESE to participate in various energy-related projects because of our centre’s focus on clean energy research.”

^ For more information on the IEA, please visit www.iea.org
Current methods of capturing CO$_2$ are less efficient as they use conventional contactors such as bubble columns or packing towers. These contactors offer limited surface areas for the absorption of CO$_2$. The huge initial fixed investment is also a major barrier for companies to adopt such methods to capture CO$_2$.

Dr Wang elaborates, “We are attempting to develop hollow fibre membrane contactors. These contactors can potentially absorb 30 times more CO$_2$ than conventional contactors$^1$. They are also designed to have a longer life-span. The research is currently in the conceptual stages and once the membrane contactors are developed, we expect them to be readily adopted because they can be as much as 65% smaller$^2$, can achieve cost reduction by as much as 25%$^3$ and can be easily retrofitted to existing equipment.”

As part of NTU’s research in environment conservation, the university is organizing a public lecture by Professor (Prof) James Gustave Speth on 19 Jan 05. Prof Speth, who hails from Yale University, will deliver a lecture on climate changes and the roles that Singapore can play to bridge industrial and developing countries in the area of environment conservation. He is currently in Singapore to give a series of public lectures under the Lee Kuan Yew Distinguished Visitor Programme.

*(Please refer to the Fact Sheet for more information about the lecture at NTU, Prof Speth and the Lee Kuan Yew Distinguished Visitor Programme.)*

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About Nanyang Technological University

Nanyang Technological University was recently ranked by the Times Higher Education Supplement at the 50th place globally and 7th in Asia, in its ranking of the 200 best universities in the world.

The campus was originally developed for a Chinese language university, Nanyang University in 1955. In 1981, Nanyang Technological Institute was established on this campus to educate engineers for the rapidly developing Singapore economy. In 1991 Nanyang Technological University was inaugurated.

The university has a strong engineering school ranked among the best in the Commonwealth, a business school with one of the top 100 MBA programs in the world, an internationally acclaimed National Institute of Education, one of the best Schools of Communications and Information in Asia, and a new (2001) School of Biological Sciences playing a leading role in Singapore’s Life Sciences initiative. The Institute of Defence and Strategic Studies is an international authority on terrorism.

The university is in a major expansion from 16,000 to 22,300 undergraduate students. During this expansion three new schools are being built – the School of Humanities and Social Sciences, the School of Physical and Mathematical Sciences and the School of Art, Design and Media.

A traditional strength of the university is the high employment rate and high remuneration received by its graduates. The university is now in the process of realizing its New Undergraduate Experience initiative with a comprehensive curriculum, wide choices of options for students, vibrant campus life and international experience.

Strong international relationships and collaboration programmes is a hallmark of the university. This includes the Singapore-MIT Alliance, Singapore-Stanford Partnership, Cornell-Nanyang Institute of Hospitality Management, Singapore – University of Washington Alliance in Bioengineering, Global Immersion Programme with Peking University, Tsinghua University, Shanghai Jiaotong University, University of Washington and Georgia Institute of Technology, among many other programmes in US, China, India, Japan and Europe.

For more information, visit http://www.ntu.edu.sg