

Venue

The seminar will take place at the Kyoto International Conference Centre. The Conference Centre is situated close to the beautiful city of Kyoto, Japan's ancient capital. Kyoto boasts 2000 temples, shrines and other precious historical sites including 17 Unesco World Heritage listed sites.

Transportation

The Kyoto International Conference Centre is conveniently located 20 minutes from the Kyoto station on the subway line.

Accommodation

Kyoto offers a selection of 20,000 hotel rooms, ranging from the luxury facilities to more modest accommodations and traditional Japanese style inns. The Kyoto International Conference Centre also offers accommodation.

There are many hotels located along the subway line connecting Kyoto station to the Conference Centre.

It is strongly recommended that participants book their accommodation as early as possible as May is a very popular time in Kyoto.

More information

Contact Mr Robert Rowland at Robert.Rowland@csiro.au

Your co-hosts

The Commonwealth Scientific and Industrial Research Organisation (CSIRO)

The CSIRO is Australia's national science agency and one of the largest and most diverse research agencies in the world. It serves governments, industries, business and communities across the nation.

CSIRO carries out research and development in fields of economic, social and environmental importance. These include agriculture; the environment; information and communication technologies; health; advanced materials and manufacturing; minerals and energy; services and transport; and infrastructure.

Research Institute of Innovative Technology for the Earth (RITE)

RITE's objective is to contribute to the preservation of the global environment and the development of the world economy through the progress of industrial technologies. RITE is working in collaboration with research institutions from around the world to achieve this objective.

To develop the technologies that work towards the preservation of the global environment RITE is carrying out fundamental research that includes scenario-making for global warming mitigation; CO₂ separation, capture and storage; and CO₂ fixation by plants and its effective use.



Science & Technology Seminar Amines for post combustion capture

Co-hosted by

The Commonwealth Scientific
and Industrial Research Organisation

Research Institute of Innovative Technology for the Earth



PRELIMINARY PROGRAM

26th May 2009

Sponsored by

**Asia Pacific Partnership on Clean Development and Climate
(Australian Federal Government)**

PRELIMINARY PROGRAM

Tuesday 26 May

Introductions

- 10:00 **Opening remarks** Yoichi Kaya – RITE Director General
 10:05 **Introduction to post combustion CO₂ capture at CSIRO Australia**
 Moetaz Attalla – CSIRO PCC Solvent Development Leader
 10:20 **Introduction to post combustion CO₂ capture at RITE Japan**
 Yuichi Fujioka – Chief Researcher - Chemical Research Group

Session 1: Fundamental Amine Science

Chairman: Hallvard Svendsen – NTNU, Norway

- 10:35 **Fundamentals, process concepts and evaluation of amine based CO₂ capture processes**
 Gary Rochelle – The University of Texas, USA
 11:15 **Theoretical approach to amine reaction with molecular orbital method and molecular dynamics**
 Akira Miyamoto – Tohoku University, Japan
 12:00 **Lunch**

Session 2: Novel Amine Development

Chairman: Gary Rochelle – The University of Texas, USA

- 13:00 **Advanced amine properties**
 Hallvard Svendsen – NTNU, Norway
 13:45 **Towards new amine based chemical absorbents for the post combustion capture of CO₂**
 Graeme Puxty – CSIRO Australia
 14:15 **Results from the CCOS project: low energy chemical absorbents**
 Dr Goto - RITE Japan
 15:15 **Coffee break**

Session 3: Pilot Scale Amine Performance

Chairman: Yuichi Fujioka - RITE

- 15:40 **Pilot plant experience at the University of Regina**
 Paitoon Tontiwachwuthikul – University of Regina, Canada
 16:30 **Experience and solvent testing in Australian pilot plant**
 Aaron Cottrell and Paul Feron - CSIRO
 17:00 **Pilot plant results from China**
 To be confirmed

Closing Address

- 17:30 Honjo Tajkashi Senior Director of RITE

Objectives

Global reductions in greenhouse gas emissions are recognised as a priority for combating climate change. Since fossil fuels are likely to remain the largest sources of carbon dioxide (CO₂) emissions for the foreseeable future, carbon capture and storage (CCS) is crucial technology if target emission reductions are to be achieved.

Major projects are currently underway globally to adapt and improve gas separation technologies for CO₂ post combustion capture (PCC) applications. The most mature technology for PCC is amine solvent-based chemical absorption/release of CO₂. This technology is currently being applied at pilot scale and is likely to be the first technology successfully demonstrated and thereby, reach commercial scale application.

In recent years laboratory and pilot scale research activities have focussed on developing a better fundamental understanding of CO₂-amine chemistry. Such fundamental understanding has been lacking in the past, considering the potential utility and application of CO₂ capture. This seminar is designed to highlight recent advances in CO₂-amine chemistry and performance at pilot plants and provide a forum to discuss future research direction with the aim to inform the search for amines that deliver better CO₂ capture performance.

Organising Chairmen

Moetaz Attalla, CSIRO Australia
 Yuichi Fujioka, RITE Japan

Registration

Attendance for this seminar is limited to 200 people so early registration is encouraged to avoid disappointment. Registration is free and includes lunch on Tuesday 26 May, coffee-breaks, and a disc with the presentations, program and a list of participants.

You must register and receive confirmation of registration prior to attending. People attending without prior registration and confirmation will not be allowed to enter the meeting.

Registration Secretariat

Mr Robert Rowland
 Email contact: Robert.Rowland@csiro.au

Cancellation

To assist us in providing a world class program we request that you notify the secretariat no later than Friday 1 May 2009 if you decide to cancel your registration.