

# From the CAGS team

Dear CAGS partners, associates, and interested readers,

### Welcome to the fifth issue of the CAGS newsletter.

The CAGS newsletter is released periodically to update you on project news, activities and upcoming events. The newsletter will be available on our website, or you can subscribe to receive it by email.

For the overview of the project, please visit our website, <u>www.cagsinfo.net</u>.

To contact us directly with any comments or queries, please email us at info@cagsinfo.net.

Sincerely,

The CAGS Project Team

# Headlines

- Technical Workshop 3: *CO*<sub>2</sub> *Storage and EOR*, was held in Changchun, China, 11 – 15 July 2011. Presentations are now available from the CAGS website. www.cagsinfo.net.
- The second CCS School on Geological Storage of CO<sub>2</sub> will be held in Sanva, China, 21-25 August 2011. Presentations will be made available from the CAGS website www.cagsinfo.net.
- Two visiting researchers have completed their projects and two others started in August 2011.



Changchun, China

# **Project Updates**

The focus for the CAGS team in the past several months has been on finalising the visiting program for Chinese researchers and students to Australia, planning and organising the second CCS school, and organising the third and final technical workshop for the current phase of this project. Please read below for more details on these activities.

## **Technical Workshop 3: CO<sub>2</sub> Storage and EOR**

The third and final CAGS technical workshop was held in Changchun from the 11<sup>th</sup> to the 15<sup>th</sup> of July 2011. The workshop was organised by the China University of Petroleum (Beijing) and the Department of Science and Technology in Jilin Province and jointly hosted by the Department of Social Development, Ministry of Science and Technology; the Administrative Centre for China's Agenda 21; and Geoscience Australia. The two previous workshops have focused almost exclusively on geological storage of CO<sub>2</sub> in saline aquifers. In contrast, this workshop focused on the use and storage of CO<sub>2</sub> through Enhanced Oil Recovery (EOR). 60 delegates from more than 40 Chinese and Australian organisations including academia, government and industry participated in this event, presenting and sharing knowledge about the latest progress and trends in this area.



Workshop 3 participants, June 2011

The workshop was divided into five sessions covering aspects of storage of CO<sub>2</sub> and EOR including:

- Overview of CCS: Challenges and Opportunities;
- CO<sub>2</sub> storage potential, site characterisation and selection; •
- CO<sub>2</sub> storage in Oil Reservoirs and Enhanced Oil Recovery; •
- Risk assessment and monitoring technology; •
- Demonstration projects, and legal and regulatory issues. •

Feedback from participants was very positive. Many were impressed with the program, the organisation and the range of the speakers.

The workshop program and presentations are available for download from the CAGS website, at http://www.cagsinfo.net/workshop3.htm.

## **CCS School 2**

The second CAGS CCS School will be held in Sanya, China from 21-25 August 2011. The school targets graduate students and early career professionals working in geological storage of CO<sub>2</sub>. We will focus on various aspects of geological storage including:



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- Climate change background and challenges for • CCS;
- CCS technology overview:
- Overview of offshore sedimentary basins; •
- Site investigation and characterisation of CO<sub>2</sub> for offshore geological storage;
- Simulation, analysis and storage capability assessment;
- Risk assessment and monitoring; •
- Non-technical issues:
- Project implementation flow and typical examples.



Sanya, China

Presentations will be made available from CAGS website following the school.

### **Researcher and Student Visits**

We are past the half-way mark with the researcher visiting program, with six of the nine visiting scholars having begun or completed their visits already.

The first visit by Li Jia from the Administrative Centre for China's Agenda 21 (ACCA21) was completed in December 2010.

The second visit by Shu Luo, a PHD student from Tsinghua University commenced in March with Geoscience Australia and will finish in September.

Our third Chinese visitor, Dr Eryong Zhang, from China Geological Survey, completed his visit in August. Dr Zhang came to Australia in early May this year. He worked with the CO2CRC research team at the University of Adelaide on theoretical and applied hydrogeological investigations into the geological and hydrogeological characterisation of the subsurface at the CO2CRC Otway Project demonstration site and the sedimentary basin beyond. He also looked into the classification and simulation of the behaviour of stored CO<sub>2</sub> in saline aquifer systems through the study of natural analogues.

Our fourth visitor, Dr Zhiming Fang, from the Institute of Rock and Soil Mechanics (IRSM), China Academy of Science, has completed his 6 weeks visit. He worked at the University of Oueensland (UQ) and received training on the experimental and numerical techniques associated with CO<sub>2</sub>storage and CO<sub>2</sub>-enhanced coalbed methane (CO<sub>2</sub>-ECBM) recovery. During his visit, Dr Fang also met and shared knowledge with some other institutes at the University of Queensland. The visit has enhanced the relationship between IRMS and the University of Queensland and provided opportunities for future collaboration between the two organisations.

Our fifth and sixth visitors arrived in Australia in August. Dr Zhendong Cui, a researcher from the Institute of Geology and Geophysics, Chinese Academy of Sciences, will be working with the CO2CRC research team at University of Adelaide and investigating rock fracture mechanics and the cap-rock stability of CO<sub>2</sub>. Mr Bo Tian, a postgraduate student from China University of Petroleum, will be working with the research team at the Commonwealth Scientific and Industrial Research

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Organisation (CSIRO) in Perth and conducting a series of experiments to investigate the effect of CO<sub>2</sub> injection on the reservoir rocks. The work will specifically examine the effects of supercritical CO<sub>2</sub> and CO<sub>2</sub> saturated water on the alteration of certain minerals, pore structures and permeability of the reservoir rocks.



Eryong Zhang, Zhiming Fang, Shu Luo with Australia colleagues at GA, July 2011



Eryong Zhang visiting Otway storage site. June 2011

At least three other researchers and PHD students will be arriving in Australia this year to work with the Cooperative Research Centre for Greenhouse Gas Technologies (CO2CRC), the Commonwealth Scientific and Industrial Research Organisation (CSIRO), the University of Adelaide and Geoscience Australia.

### **Research Projects**

CAGS supports three research projects in China on aspects of geological storage of carbon dioxide. All projects are on track. A mid-term project review meeting was held in China in April and the projects will conclude by December 2011.

Research Project 1: Site Selection Methodology and Criteria for CO2 Geological Storage

Research Project 2: Selection Criteria for Oil/Gas Reservoirs for CO2 EOR and Storage

Research Project 3: Environmental Impact and Risk Management of CO2 Storage

# **Upcoming Events**

21-25 August 2011

Second CCS school, China

Late 2011

Study Tour to Australia for Chinese policy makers, Australia



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Cags China Australia Geological Storage of CO2 中澳二氧化碳地质封存

Early 2012

**Final Symposium** 

To find out more about CAGS events, or to apply for CAGS support for conferences, please contact us at info@cagsinfo.net and check the website regularly.

## **Contact Information**

CAGS Team (GA and ACCA21) Email: info@cagsinfo.net

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