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Society for Rock Mechanics & Engineering Geology (Singapore)

Nanyang Centre for Underground Space (NCUS)

# Underground Cavern Construction Seminar Series #2: Geotechnical solutions to the problems on hydraulic containment type underground LPG storage project in Kurashiki site of Japan

*by Kazuhiko Masumoto, Kajima Corporation*

*Auditorium @ Shaw Foundation Alumni House, 11 Kent Ridge Drive*

*Wednesday, 22 April 2015 // 6.00 pm to 8.30 pm*

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**ABSTRACT:**

In this seminar, a variety of solutions to the hydraulic problems associated with the construction of the underground LP gas storage project in Kurashiki, Okayama, Japan, will be presented. The storage has the largest capacity of LP gas (400,000tons) in the world at present (Nov.2014).

In the Kurashiki site, LP gas is stored at high pressure (0.8MPa) and normal temperature under the hydraulic containment system, which is composed of water-curtain tunnels and water injection boreholes. To keep LP gas inside of storage cavern due to groundwater inflow into the cavern, surrounding hydraulic potential should be maintained higher than the storage pressure, so the ground water management is very important not only during operation, but also throughout the cavern excavation. The seminar speech will be first focused on performance evaluation for hydraulic containment type underground storage cavern, and the importance of geological survey to identify the critical hydrogeological structures. After that, groundwater control technology with using additional water curtain and grouting technology will be highlighted.


This is the second of five high-level technical seminars on Underground Cavern Construction planned by Engineering Alumni Singapore (EAS) & Society of Rock Mechanics & Engineering Geology Singapore (SRMEG) with support from Asian Concrete Construction Institute (ACCI) & Nanyang Centre for Underground Space (NCUS) and with technical support by KAJIMA Corporation to highlight the hydraulic containment type underground LP gas storage project in Kurashiki, Japan and to showcase the many technologies that goes into the building of the underground cavern.

## AGENDA

**6.00 – 7.00pm** Buffet Dinner
*(sponsored by Kajima Corporation)*
**7.00 – 8.00pm** Seminar
**8.00 – 8.30pm** Q&A

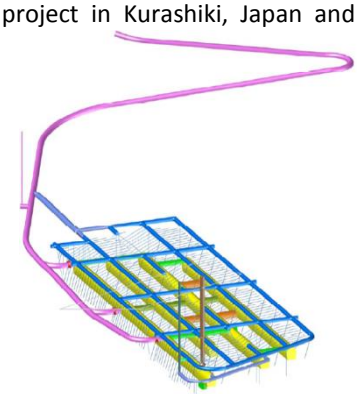
## REGISTRATION

Email to srmeg@cma.sg with the following information by **15 April 2015**:
*(limited to first 150 sign-ups)*

-**Family Name**
-**First Name**
-**Organisation**
-**Designation**
-**Contact no.**

*Free seminar*

**1 PDU / 1 STU**



**SPEAKER:**

**Kazuhiko Masumoto** is vice manager of the rock mechanics and hydro-geology group of Kajima Technical Research Institute (KaTRI). He is also in charge of research associated with engineering geology, rock-mechanics and rock engineering. He has been engaged in various technical researches and designs for underground rock caverns, bored tunnels and also plugging and sealing for geological disposal of nuclear waste. The works ranges a lot of fields, geological survey, laboratory test, field test, underground water analysis and monitoring management of caverns during construction. He graduated from the University of Tokyo in 1988, and was the member of AECL, Atomic Energy of Canada Limited from 1998 to 1999. He was also in JAEA (Japan Atomic Energy Agency) from 2002 to 2004 and was engaged in Kurashiki LPG storage project as a deputy general manager from 2005 to 2011.


**Society for Rock Mechanics and Engineering Geology (Singapore)**
c/o CMA International Consultants Pte Ltd
1 Liang Seah Street, #02-11 Liang Seah Place, Singapore 189022
Phone: +65 6336 2328 Fax: +65 6336 2583
Email: srmeg@cma.sg Website: www.srmeg.org.sg