

## 2023 ARMA East Asia Geomechanics Workshop

### 1. Basic Information

#### a. Title of workshop

2023 ARMA East Asia Geomechanics Workshop

b. **Theme:** Geomechanics and geophysics for sustainable energy development

c. **Date:** 11-12 Aug. 2023 (Friday and Saturday)

d. **Venue:** The Hong Kong Polytechnic University (PolyU) - N001

e. **Mode:** In-person (with online streaming)

### 2. Description

#### a. Workshop purpose

- This workshop is intended to be a small-scale and high-quality event organized by the ARMA East Asia Blue Ribbon Group.
- The long-term goal of the workshop is to connect ARMA and the geomechanics community in East Asia countries and regions and establish a platform for discussing frontier research and networking.
- This is the first workshop we organize. This event could be held annually or bi-annually, and the host institute could be rotating among universities and research institutes in East Asia countries/regions.
- Create an education platform for students to showcase their research work with posters and get to know each other.

#### b. Workshop topics

The topics of the workshop cover research areas of geomechanics, rock mechanics, and geophysics, focusing on the sustainable development of society. Interdisciplinary research that transcends traditional disciplinary boundaries and brings new insights into geomechanics/geophysics/rock mechanics fields are welcome. The topics of the workshop may include, but are not limited to, the following:

- Unconventional oil/gas
- Geothermal energy
- Advanced numerical approaches
- Big data and artificial intelligence
- Geo-hazard assessment and mitigation
- CCUS and hydrogen energy

**2023 ARMA East Asia Geomechanics Workshop Committee****ORGANIZING COMMITTEE**

**Honorary Chair:** Dr. Gang Han – American Rock Mechanics Association

**Chair:** Dr. Qi Zhao – The Hong Kong Polytechnic University

**Co-Chairs:** Prof Mao Sheng – China University of Petroleum-Beijing

Prof Ki-Bok Min – Seoul National University

Prof Kenji Furui – Waseda University

**Members** (In alphabetical order by last name)

<b>Name</b>	<b>Affiliation</b>
Yuedu Chen	Taiyuan University of Technology
Zhaowei Chen	PetroChina
Yongcun Feng	China University of Petroleum-Beijing
Bing Hou	China University of Petroleum-Beijing
Hyung-Mok Kim	Sejong University
Kiyoshi Kishida	Kyoto University
Fiona Kwok	The University of Hong Kong
Dae-Sung Lee	Dong-A University
Xiaorong Li	China University of Petroleum-Beijing
Tianshou Ma	Southwest Petroleum University
Xiaodong Ma	Chinese Academy of Sciences
Keh-Jian Shou	National Chung-Hsing University
Xianzhi Song	China University of Petroleum-Beijing
Jihoon Wang	Hanyang University
Bisheng Wu	Tsinghua University
Hui Wu	Peking University
Fengshou Zhang	Tongji University
Haiyan Zhu	Chengdu University of Technology



### Organizing Committee Honorary Chair

**Dr. Gang Han**

**Immediate Past President, American Rock Mechanics Association  
Founder and Chair, ARMA Hydraulic Fracturing Community**

Dr. Gang Han is the immediate past president of the American Rock Mechanics Association (ARMA). With 20-plus years of experience in Petroleum Engineering, he focuses on geomechanical technologies related to reservoir performance, well productivity, hydraulic fracturing, well planning, drilling, completion, sand control and management, and wellbore stability. He has over 50 technical publications and is a leading author of a multi-industry book *Drilling in Extreme Environments - Penetration and Sampling on Earth and Other Planets*. He has a Ph.D. in chemical engineering from the University of Waterloo, an M.Sc. in reservoir engineering from the Research Institute of Petroleum E&D, and a BSc in petroleum engineering from China University of Petroleum (East China).



### Organizing Committee Chair

**Dr. Qi Zhao**

**Assistant Professor, The Hong Kong Polytechnic University**

Dr. Qi Zhao is an Assistant Professor at the Hong Kong Polytechnic University (PolyU) in the Department of Civil and Environmental Engineering. He obtained his Ph.D. degree at the University of Toronto and his Ph.D. dissertation was awarded the Leopold Müller Award by the Austrian Society for Geomechanics and the Dr. N.G.W. Cook Ph.D. Dissertation Award by the American Rock Mechanics Association (ARMA). He is an ARMA Future leader (class 2021). His research interests cover several aspects of geomechanics and geophysics, including in situ 4D rock physics experiments under X-ray micro-CT; the application of machine learning to rock mechanics and geophysics problems; and the shear behavior of rock discontinuities.



### Organizing Committee Co-Chair

**Dr. Mao Sheng**

**Professor, China University of Petroleum-Beijing**

Dr. Mao Sheng is a professor at the China University of Petroleum-Beijing (CUPB). He was selected as the National Distinguished Young Scholar of China and the Future Leader of America Rock Mechanics Association in 2021 and 2020. He obtained his Ph.D. degree from CUPB in 2014 and was a visiting scholar at the University of Oklahoma from 2011 to 2012. His research interests involve unconventional oil and gas well completion and AI application in hydraulic fracturing. He has published 36 first/corresponding-authored papers, authorized 6 registered patents, and received 2 R&D awards in this field.

**Organizing Committee Co-Chair****Dr. Ki-Bok Min****Professor, Seoul National University**

Dr. Ki-Bok Min is currently a Professor at the department of energy resources engineering at Seoul National University (SNU). He obtained his BSc in Mineral & Petroleum Engineering and MSc in Rock Mechanics at SNU and his PhD in Engineering Geology at the Royal Institute of Technology in Sweden. His primary area of research is anisotropic rock mechanics and coupled processes in fractured rock with main applications in geological repository of nuclear waste and enhanced geothermal systems (EGS). His research focus on coupled processes includes stress-dependent permeability in fractured rock, thermally induced fracture shearing (thermoshearing) both at near- and far-field repository, and understanding the key mechanism of hydraulic stimulation in EGS in terms of role of hydraulic shearing and hydraulic jacking. He is a recipient of American Rock Mechanics Association (ARMA) applied rock mechanics research award (2009) and case history award (2010). He was a guest scientist at German Research Center for Geosciences (GFZ) and Lawrence Berkeley National Laboratory in 2015 and 2022, respectively. He is also serving as an associate editor of the International Journal of Rock Mechanics and Mining Sciences.

**Organizing Committee Co-Chair****Dr. Kenji Furui****Professor, Waseda University**

Dr. Kenji Furui is professor in the department of resources and environmental engineering at Waseda University, Tokyo, Japan. Furui is a subject matter expert in geomechanics, well stimulation, and well performance analysis. Prior to joining Waseda University, he worked as a completion engineer in Global Completion Engineering team in ConocoPhillips based in Houston, Texas. Also, Dr. Furui worked as applications engineer for Baker Oil Tools' Cased-Hole Completion Systems in Houston. He holds a BS degree in mineral resources and environmental engineering from Waseda University in Japan (1999) and MS and PhD degrees in petroleum engineering from the University of Texas at Austin in 2001 and 2004, respectively. He was the recipient of the SPE Young Engineer of the Year Awards in Gulf Coast Section in 2012 and also received Cedric K. Ferguson Medal in 2013. Furui has authored and co-authored more than fifty technical papers on geomechanics, drilling and completion related topics.

# 2023 ARMA East Asia Geomechanics Workshop

11<sup>th</sup>-12<sup>th</sup> August 2023

Hong Kong, China

## Workshop Programme

### Geomechanics and Geophysics for Sustainable Energy Development



THE HONG KONG  
POLYTECHNIC UNIVERSITY  
香港理工大學



DEPARTMENT OF  
CIVIL AND ENVIRONMENTAL ENGINEERING  
土木及環境工程學系

