

## ISSMGE FOUNDATION REPORT ON CONFERENCE ATTENDANCE

Your Name:	Your Organization:	Date of report:
Derrick Ayebazibwe	University of Calgary, Alberta, CANADA	July 22, 2022
Conference Title: 10 <sup>th</sup> International Conference on Gas Hydrates (ICGH10)	Location of Conference: Suntec Singapore International Convention & Exhibition Centre, 1 Raffles Blvd, Singapore	July 09 to July 14, 2023

### What you learned:

The International Conference on Gas Hydrates (ICGH) is a conference held every 3 years (triennially) with the aim to bring together the entire Gas Hydrates community, to review developments over the previous three years, and to attempt to extrapolate for the near-term future. Every variety of topic regarding hydrates including, but not limited to gas hydrate fundamentals, exploration of natural gas hydrates, applied flow assurance, energy recovery from natural hydrates, climate change, and gas hydrate-related geohazards is deliberated upon through presentations delivered orally in either slide presentations or hanged posters.

My research topic is related to the geomechanics of gas hydrate bearing soils. At the conference, many of the oral presentations were describing the behaviour of gas hydrates during formation especially in different conditions which helped me to understand or shaped my understanding of the similar behaviour I have observed in my own laboratory research.

In one of the poster presentations, a colleague was show-cased a similar behaviour as what I have been observing in my laboratory tests. Although this colleague was not concerned with the geotechnical/strength aspect of the gas hydrate -soil mixture, his results helped confirm my findings.

Additionally, the presentations from the key-note speakers were very eye-opening as to the direction that the gas hydrates research is taking. I think there is a whole wide area of untapped research potential on carbon sequestration in gas hydrates that I hope could be an area of focus for me going forward into post-doctoral research.

I am extremely grateful to ISSMGE Foundation for facilitating my attendance of this conference in-person.

#### People you met:

Although this conference had been re-scheduled several times, because of the COVID-19 related quarantine and lock-down measures implemented by many countries, a number of wonderful renowned researchers, professors and accomplished scientists in the field of gas hydrates research were able to attend some of whom are:

- Prof. Dendy Sloan Jr. [Colorado School of Mines]
- Prof. George Moridis [Texas A.M. University]
- Dr. Timothy S Collett [U. S. Geological Survey]



- Prof. Praveen Linga [National University of Singapore]
- Prof. Karimi [National University of Singapore]
- Prof. Rajnish Kumar [IIT Madras & National Research Council. CANADA]
- Dr. Koji Yamamoto [Vice President Japan Organisation for Metals and Energy Security (JOGMEC), in charge of Technology]
- Prof. Judith M. Schicks [University of Potsdam]
- Prof. Ann Cook [Ohio State University]
- Dr. Shun Uchida [Rensselaer Polytechnic Institute (RPI)]
- Dr. Jun Yoneda [National Institute of Advanced Industrial Science and Technology]
- Carlos Arenas [GEOMAR Helmholtz]
- Valentin Czamler [Université Grenoble Alpes]

### Main features of conference:

The plenary address was delivered on 9<sup>th</sup> July by Prof. George Moridis where he spoke about hydrates as an energy resource for the past, present and future in the face of decarbonization. Keynote speeches were then delivered the following day, 10<sup>th</sup> July by Dr. Julie Morgan, Dr. Koji Yamamoto, Dr. Nengyou Wu and Dr. Rajnish Kumar.

These were followed by Oral sessions subdivided into 4 main topics in 4 conference rooms. These topics were; Flow Assurance, Fundamentals, Technologies, and Energy. My academic supervisor delivered a presentation on the impact of THF hydrate veins on the consolidation behaviour of fine-grained sediments, in the Fundamentals room. At 1600 hours, Posters were presented in the poster session after a tea break. This was the program for all the days of the conference except the final day 14<sup>th</sup> July.

I delivered my oral presentation on; The Impact of Partial Hydrate Dissociation on the Strength and Stiffness of Hydrate Bearing Sands at 1405 hours on 12<sup>th</sup> July (Wednesday). I was lucky to have in the audience; Prof. Dendy Sloan Jr., Prof. Ann Cook, Prof. George Moridis and Dr. Timothy S. Collett

On 12<sup>th</sup> July, after the poster presentations at 1800 hours local time, there was a banquet dinner and awards ceremony where awards were delivered mainly to the Professors and Researcher who have been involved in gas hydrates related research for a long time and those who have attended the most ICGH conferences.

On 13<sup>th</sup> July, after the poster presentations at 1800 hours local time, the organizing committee prepared transportation to a nearby sight-seeing venue called the Gardens by the Bay – near Marina Sands Bay Hotel in Singapore to crown the evening.

On the last day, 14<sup>th</sup> July, after the final oral presentations and tea-break, at 1630 hours, the best poster presenters were awarded in the Poster awards announcement and Closing Session.

#### Your comments on the conference:

Every effort was made to enhance the delegates' experience at the ICGH10 Conference. This included implementing a comprehensive screening protocol and selecting a suitable venue that allowed for ample physical distancing. The dining area was kept clean, and chairs were appropriately spaced. The sessions were meticulously planned and scheduled, with well-timed breaks in between. The presentations were thoughtfully grouped into various themes, and the technical sessions featured relevant research and presentations. Attendees found the presentations in each session to be cohesive and informative, leading to a great learning experience. The event also saw active participation from friendly exhibitors and sponsors. The conference was very well-organised and hit the goals for organizing it. Overall, the writer extends their gratitude to the organizers of the ICGH10 Conference for delivering a wonderful and memorable experience.



# Please attach short report (maximum 400 words) suitable for publication in the ISSMGE Bulletin:

The 10<sup>th</sup> International Conference on Gas Hydrates (ICGH10) 9<sup>th</sup> July 2023 to 14<sup>th</sup> July 2023 Singapore

The International Conference on Gas Hydrate Conference is a triennial conference series focusing on research and development in wide variety of fields relevant to gas hydrates. The 10th edition was all set to take place in 2020 and hosted in Singapore – the lion city, a globally accessible island nation and hub for technical advancement.

The goal of ICGH10 was to provide the platform to bring together the entire Gas Hydrates community, to review research developments on gas hydrates over the past six years, to foster synergistic collaboration and professional networking and to extrapolate for future near-term and long-term research prospects. Topics regarding gas hydrates including, but not limited to gas hydrate fundamentals, gas hydrate technologies, natural gas hydrates (exploration and recovery), flow assurance and the environmental impacts (climate, geohazard etc) were deliberated upon by a host of several researchers in the gas hydrates community. The conference officially opened on 9<sup>th</sup> July 2023 with welcome remarks from Prof. Praveen Linga and Prof. I. A. Karimi and followed by a plenary address from Prof. George Moridis. Other keynote speakers were Dr. Julie Morgan, Dr. Koji Yamamoto, Dr. Nengyou Wu and Dr. Rajnish Kumar. Several key names in gas hydrates research were present at the conference such as; Prof. Dendy Sloan Jr. Prof. Judith M. Schicks, Prof. George Moridis and Dr. Timothy S. Collett as well as researchers involved primarily with the geomechanical behaviour of hydrate bearing soils such as; Prof. Jeffrey Priest (the author's supervisor), Prof. Ann Cook, Prof. Evgeny Chuvilin, Dr. Koji Yamamoto, Dr. Shun Uchida, Dr. Tsumitomo Uchida, Dr. Jun Yoneda and many more. I was privileged to present my research work in a slide presentation at this conference, to these key names in the gas hydrates research community. Conference oral presentations and poster sessions were meticulously planned and scheduled, with well-timed tea and lunch breaks in between.

Awards were presented at a banquet dinner. These awards were presented to researchers who have had a tremendous impact on gas hydrates research over the years among the notable recipients is Prof. Dendy Sloan Jr., Prof. George Moridis and Dr. Timothy S. Collett. After the awards ceremony, the host for the next ICGH 11 Conference was announced as Lyon France and the mantle was handed over to Dr. Baptiste Chabot.

Conference delegates were also treated to a social tour of the popular touristic area of Singapore the Gardens by the Bay.



Photographs from Conference:



Photo plate 1: Plenary address from Prof. George Moridis



Photo plate 2: Sharing a light moment with Prof. Sloan and other conference delegates.

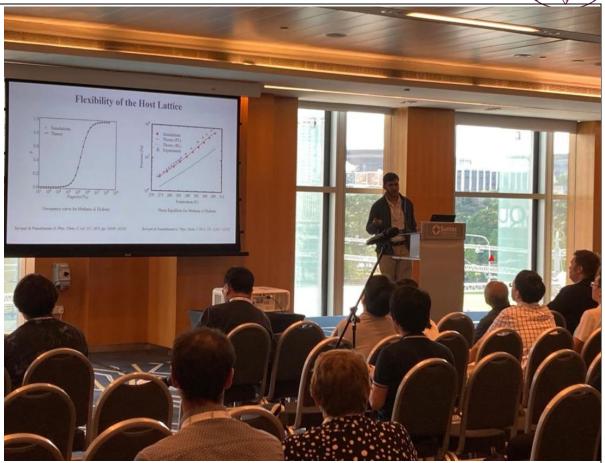


Photo plate 3: Presentations from other colleagues – PhD Student at the Indian Institute of Science (IISc) - Chaitanya Jitendra

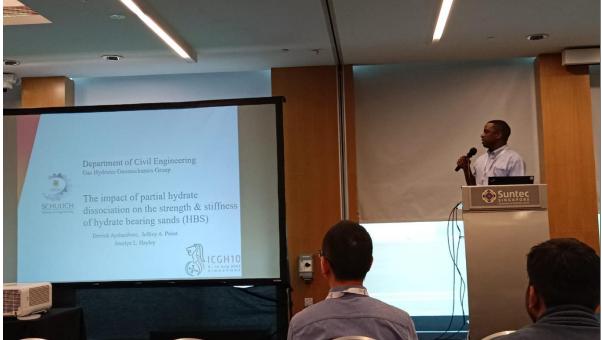


Photo plate 4: The author during the presentation of his research to the audience





Photo plate 5: Sightseeing activity in Singapore