

**ISSMGE FOUNDATION
REPORT ON CONFERENCE ATTENDANCE**

Your Name: Jithin Santhosh Kumar	Your Organization: IIT Madras	Date of report: 12 th September 2023
Conference Title: IS-Porto 2023	Location of Conference: FEUP, Porto, Portugal	Dates of Conference: 03 rd to 6 th September 2023

What you learned:

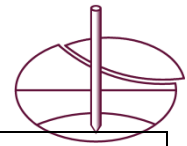
My participation in IS-Porto 2023, as a PhD student researching fluid-induced deformations in porous media, proved to be extremely insightful. The conference was a dedicated platform for exploring deformation characteristics in geomaterials. It featured a diverse array of presentations on both small and large deformations, employing a blend of experimental and numerical methods, prominently utilizing the Discrete Element Method (DEM). The lectures delivered at the conference were visionary, providing unique perspectives on understanding these intricate phenomena. Experts from various fields came together, offering multifaceted insights into the subject. A standout feature was the extensive use of DEM, demonstrating its prowess in deciphering deformations in geomaterials. These studies not only advanced theoretical knowledge but also unveiled innovative solutions for geotechnical engineering challenges. The invaluable contributions of industrial experts added a practical dimension, connecting theory with real-world issues related to geomaterials. IS-Porto 2023 left an enduring impression, fostering a deeper understanding of geomaterial deformations and igniting a passion for future research in this dynamic field.

People you met:

I had the privilege of meeting numerous enthusiastic and distinguished researchers at the IS-Porto 2023 conference. Among them were:

1. Dr. Matthew Richard Coop from University College London, UK.
2. Dr. Satoshi Nishimura from Hokkaido University, Japan.
3. Dr. Yukio Nakata from Yamaguchi University, Japan.
4. Dr. Giulia Viggiani from the University of Cambridge, UK.
5. Dr. Alejandro Martinez from the University of California Davis, USA.
6. Dr. Catherine O'Sullivan from Imperial College, London, UK.
7. Dr. Mahdi Taiebat from The University of British Columbia, Canada.
8. Mr. Sudhanshu Rathore from IISc Bangalore, India.
9. Mr. Jose Salomon from Imperial College, London, UK.

These researchers added immense value to the conference with their contributions and insights.



Main features of conference:

The conference's notable highlights comprised several key features:

Opening Ceremony: The conference commenced with an enchanting opening ceremony, featuring a delightful musical performance featuring the Portuguese guitar and piano, setting a harmonious tone for the event.

Bishop Lecture: The 7th Bishop Lecture, delivered by Dr. Matthew Richard Coop, delved into the intricacies of "The mechanics of coarse-grained geometries at meso- and micro-scales," offering profound insights into this specialized field.

Laboratory Visit: Attendees had the unique opportunity to visit the Geotechnical Laboratory at FEUP, Portugal, gaining firsthand exposure to cutting-edge research facilities and methodologies.

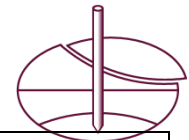
Keynote Address: Pierre Delage and Bernardo Caicedo delivered a captivating keynote lecture on the conference's inaugural day, shedding light on the intriguing topic of "Investigating the Martian soil at the Insight landing site," bridging the realms of geotechnical engineering and space exploration.

DEM Significance: The conference emphasized the critical importance of the Discrete Element Method (DEM) and elemental experimental tests in enhancing our understanding of geotechnical challenges, including liquefaction.

3D Printing's Futuristic Scope: Attendees explored the futuristic potential of 3D printing in geotechnical engineering, uncovering innovative possibilities for the field's advancement.

Your comments on the conference:

IS-Porto 2023 is a highly specialized forum for academics and industry professionals to converge and share significant discoveries related to deformations in geomaterials. Participating and presenting my research at this prestigious conference proved to be an enlightening experience. The invited lectures spanned diverse areas, captivating and inspiring in equal measure. The depth and intricacy of the topics covered, particularly within the realms of experimental and numerical research, enriched my understanding of this field. It was a valuable platform for fruitful exchange and collaboration among researchers.



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

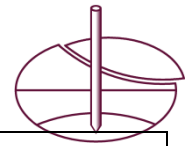
The IS-Porto 2023 conference, focused on the deformation characteristics of geomaterials, proved to be an intellectually stimulating and enriching experience. Held in Porto, Portugal, this specialized event brought together researchers, academics, and industry experts across the globe. Personally, the conference highlights were the captivating lectures, a visit to the Geotechnical Laboratory at FEUP, and the opportunity to connect with distinguished researchers. One of the conference's standout features was the opening ceremony, which set the stage for a harmonious and engaging event with a delightful musical performance featuring the Portuguese guitar and piano. This artistic touch added a unique flavour to the conference, fostering a sense of unity and cultural appreciation among attendees. The 7th Bishop lecture, delivered by Dr. Matthew Richard Coop from University College London, delved into the mechanics of coarse-grained geometries at meso- and micro-scales. Dr. Coop's insights into this intricate subject matter provided attendees with a deeper understanding of deformation mechanisms, especially at smaller scales. It was a thought-provoking presentation that left a lasting impression.

A key highlight of the conference was the visit to the Geotechnical Laboratory at FEUP, Portugal. This opportunity allowed attendees to witness cutting-edge research facilities and methodologies in action. It provided a tangible connection to the practical aspects of geotechnical engineering, enriching our knowledge and appreciation of the field.

Pierre Delage and Bernardo Caicedo's keynote lecture on "Investigating the Martian soil at the Insight landing site" bridged the realms of geotechnical engineering and space exploration. Their captivating presentation showcased the interdisciplinary nature of the field, highlighting its potential to contribute to groundbreaking research beyond Earth.

The conference emphasized the critical role of the Discrete Element Method (DEM) and elemental experiments in enhancing our understanding of geotechnical challenges, particularly in the context of liquefaction. These insights were invaluable for attendees, providing them with a comprehensive view of the tools and methodologies driving contemporary research in the field. Moreover, the conference explored the futuristic potential of 3D printing in geotechnical engineering. This emerging technology promises innovative solutions to longstanding challenges, paving the way for novel approaches in the field.

The IS-Porto 2023 conference brought together distinguished researchers from various corners of the globe, enriching the event with their expertise. Notable researchers like Dr. Matthew Richard Coop, Dr. Satoshi Nishimura, Dr. Giulia Viggiani, and others contributed significantly to the discussions, creating an atmosphere ripe for collaboration. Interacting with fellow researchers has brought about a fresh perspective in my approach to tackling issues concerning granular materials and has also opened up new avenues for potential career opportunities. This conference was a resounding success, deepening our understanding of deformations in geomaterials and inspiring future research endeavours in geotechnical engineering. It underscored the importance of merging theory with practical applications and showcased the immense potential of emerging technologies. Attending this conference has not only boosted my professional growth but also enriched my personal life by enhancing my presentation skills and broadening my exposure. IS-Porto 2023 was a milestone event that left a lasting impact on the field, promising innovative solutions and a brighter future for geotechnical engineering. I wholeheartedly thank the ISSMGE foundation for supporting me in attending this conference.



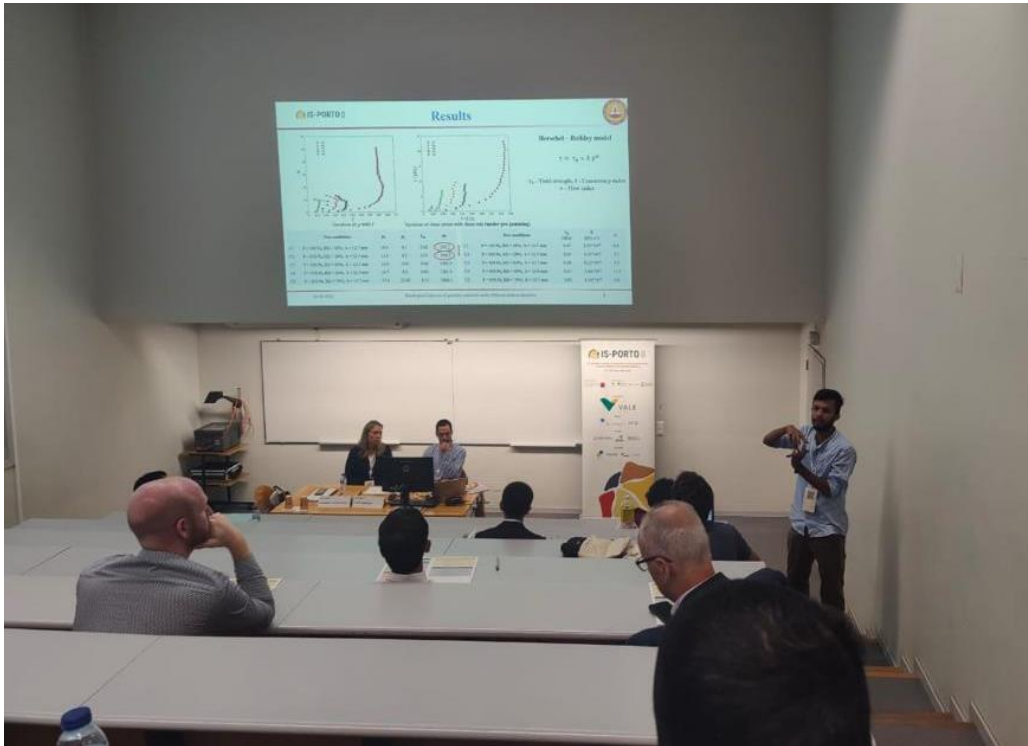
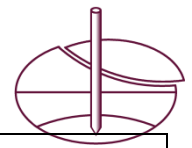
Photographs from Conference:



A photo with Dr. Matthew Richard Coop (Bishop lecturer)



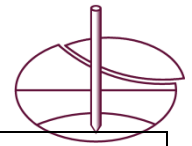
Dr. Pierre Delage and Dr. Bernardo Caicedo's keynote lecture on "Investigating the Martian soil at the InSight landing site" (Day 1)



My presentation on the topic “Rheological behavior of granular materials under different relative densities” (Day 2)



Laboratory visit at FEUP (Day 2)



Presentation from Jotheeshwar Velayudham, University of Sydney, Australia (Day 3)



A photo with Dr. Satoshi Nishimura from Hokkaido University, Japan



A photo with Dr. Giulia Viggiani from the University of Cambridge at the famous Chapel of Souls, Porto