ISSMGE FOUNDATION
REPORT ON CONFERENCE ATTENDANCE

Your Name: Aditi Rana	***Your Organization:*** University of Portsmouth, UK	***Date of report:*** 20 Sept. 2024
Conference Title: European Conference on Soil Mechanics and Geotechnical Engineering, 2024	***Location of Conference:*** Lisbon, Portugal	***Dates of Conference:*** 26th August 2024 to 30th August 2024

What you learned: Attending ECSMGE 2024 allowed me to gain valuable insights into sustainable engineering practices in transportation geotechnics, particularly in limiting the impact of weather-driven deterioration on lime-stabilized expansive soils. I learned about methods to enhance soil resilience, critical to my research focus on cyclic and climatic loading. The hydromechanical behaviour of coarse-fine soil mixtures, especially in aging railway infrastructure, was also highly relevant. These insights will help refine my understanding of how to maintain soil stability and performance under dynamic environmental conditions, aligning with my work on geo-infrastructure resilience.

People you met:
Prof. Pedro Simão Sêco e Pinto
Prof. Y.J. Cui
Prof. Yoichi Watabe
Dr Mandy Korff (Deltares)
Astha Sharma (Deltares)
Joao Machado (Geotechnical Engineer at Geocomp.)

Main features of conference:
At ECSMGE 2024, plenary sessions by leading experts provided key insights into cutting-edge geotechnical developments. Prof. L. Laloui discussed innovative soil reinforcement techniques based on bio-geo-chemical processes, highlighting sustainable solutions for soil stability. Dr. G. Katsigiannis presented advancements in high-speed rail earthworks design, focusing on new materials and technologies to enhance durability and performance under dynamic loads. Other sessions covered emerging trends in geotechnics, including climate impact mitigation and innovative construction approaches, providing a comprehensive view of the future of geo-infrastructure.

Your comments on the conference: The ECSMGE 2024 conference was an outstanding opportunity to engage with cutting-edge research in geotechnical engineering. It featured insightful plenary sessions, such as Prof. L. Laloui's talk on bio-geo-chemical processes for sustainable soil reinforcement and Dr. G. Katsigiannis' presentation on high-speed rail earthworks design and innovative materials. With a focus on both theoretical advancements and practical applications, the conference provided a holistic view of current challenges and solutions in geo-infrastructure. Engaging with industry leaders like Keller and Deltares further enriched the experience, offering real-world perspectives.

Please attach short report (maximum 400 words) suitable for publication in the ISSMGE Bulletin: The 2024 European Conference on Soil Mechanics and Geotechnical Engineering (ECSMGE), held in Lisbon, provided a platform for the exchange of innovative ideas and practices in the field of geotechnical engineering. This year's theme, focused on addressing both current and emerging societal needs, emphasized sustainability, climate resilience, and advanced engineering solutions for geo-infrastructure.

One of the highlights was the plenary session by Prof. L. Laloui on soil reinforcement through bio-geo-chemical processes. His talk introduced sustainable techniques to improve soil stability, which could play a transformative role in future infrastructure projects.

Another significant session by Dr. G. Katsigiannis covered the latest developments in high-speed rail earthworks design, focusing on innovative materials and technologies designed to meet the demands of high-speed rail projects under dynamic environmental conditions.

Field monitoring in geomechanics was another key topic, offering insights into how real-world data is utilized to monitor soil behavior and infrastructure performance. Booths from industry leaders such as Keller, Teros and Deltares showcased their advancements in geotechnical solutions, offering a close look at the latest technologies and practices in the industry.

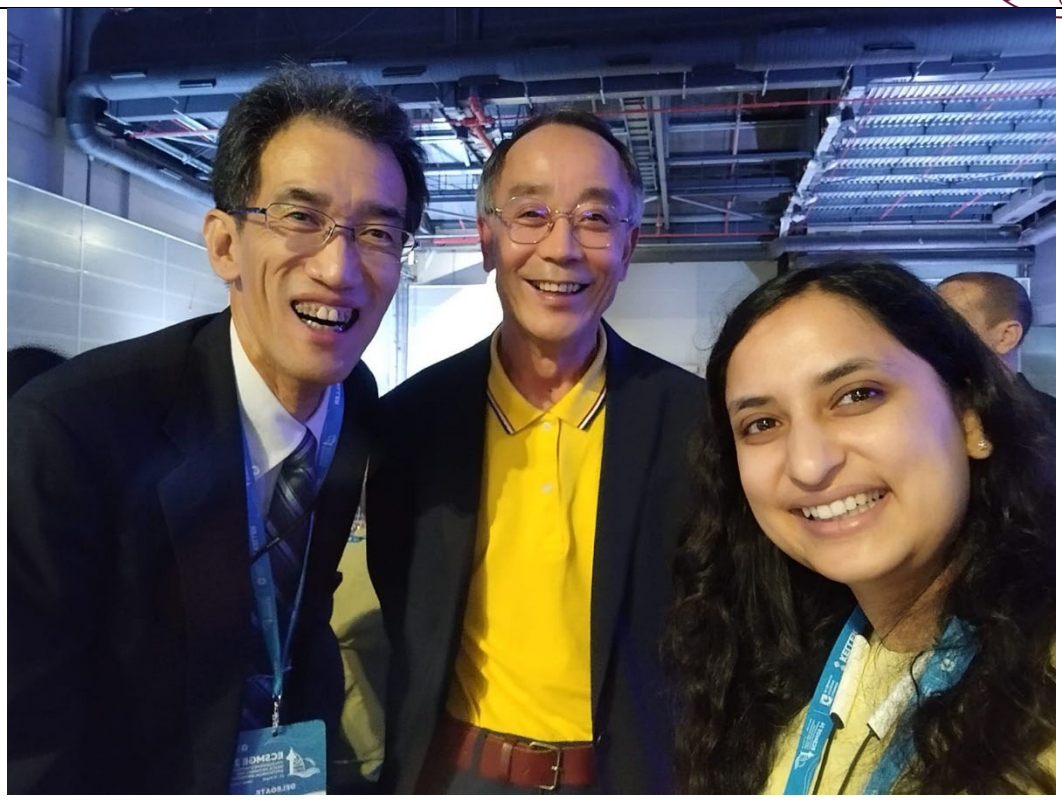
A particularly meaningful aspect of the conference for my research was the opportunity to meet with Prof. Yu Jun Cui. His expertise in unsaturated soil mechanics and his insights on the effects of cyclic and climatic loading on soil performance were highly relevant to my work on the combined effects of these forces on geo-infrastructure. Our discussions provided valuable direction and helped refine my research on soil behavior under different environmental stresses.

Overall, ECSMGE 2024 successfully blended academic research with industry innovation, promoting dialogue on how to address key challenges in geotechnics. The conference highlighted the importance of interdisciplinary collaboration, not only through technical sessions but also by fostering networking opportunities for researchers and professionals. The knowledge gained from attending the event has not only expanded my understanding of current geotechnical challenges but also provided me with practical insights that will directly benefit my ongoing PhD research.

Attending this conference was a pivotal experience that will significantly influence my research and professional development in geotechnical engineering.

Photographs from Conference:

Picture with Prof. Pedro Simão Sêco e Pinto



Picture with Prof. Watabe and Prof. Cui