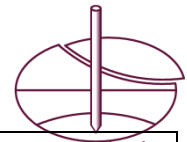


**ISSMGE FOUNDATION
REPORT ON CONFERENCE ATTENDANCE**

Your Name: Yashay Narainsamy	Your Organization: University of Pretoria	Date of report: 21 May 2023
Conference Title: 8 th International Conference on Unsaturated Soils (UNSAT 2023)	Location of Conference: Milos, Greece	Dates of Conference: 2-5 May 2023
What you learned: <p>During the course of the conference I attended many presentations and special lectures covering a wide variety of topics related to unsaturated soil mechanics. In terms of constitutive modelling of unsaturated soil mechanics, I learnt that particular focus should be placed on volume change of soil as this is what drives the change in engineering behaviour of unsaturated soils. In terms of soil sensors and laboratory testing equipment, I learnt that there are many commercially available options for almost all types of engineering applications but that it is important to understand the working principles and limitations of certain sensors before using these in the laboratory or in the field.</p> <p>I also learnt that although the field of unsaturated soil mechanics is quite old, it is in the process of rapidly expanding, with researchers and practicing engineers in all parts of the world collaborating to reduce the current uncertainties we face. I hope to contribute to this effort one day.</p>		
People you met: <p>I met many world-renowned researchers and practising engineers at UNSAT 2023. However, of particular importance for me was meeting the President of the Hellenic Society of Soil Mechanics and Geotechnical Engineering, Dr Michael Bardanis. Dr Bardanis was the chair of the conference and presented many exciting and interesting lectures. In addition, Dr Bardanis accompanied us on the field trip and provided excellent technical commentary on the local geology of Milos Island. Dr Bardanis is a leader in the field of unsaturated soil mechanics, and it was a privilege to attend his lectures and engage with him at UNSAT 2023.</p> <p>I was also fortunate enough to meet two Professors from leading Universities around the world. I met Professor Sandra Houston from Arizona State University, who is an expert of soil constitutive modelling. I also met Professor Cristina Jommi from TU Delft who is an expert in dykes and embankments. Meeting these world-renown experts was something I will never forget, and I hope to cultivate the relationships I built at UNSAT 2023 to improve my research contribution.</p>		
Main features of conference: <p>UNSAT 2023 included a comprehensive programme with five days of events. On the first day there was a pre-conference workshop on the long-term monitoring of suctions in the field and its modelling. This was followed by a short course on an introduction to unsaturated soil</p>		



mechanics and its importance in geotechnical practice. I found this short course particularly useful as it was open to non-UNSAT 2023 attendees and was specifically presented in a way to make unsaturated soil mechanics accessible to everyone, even people who are not familiar with the concepts. I thought this was a fantastic way to kick-off the conference and I hope more specialised conferences take this approach.

The second day was the start of the oral presentations. There were two halls with parallel sessions ongoing which provided more people with opportunities to present their work. The highlight of the day for me was the themed lecture by Professor Sandra Houston where she presented on the work she is busy with regarding numerical modelling of unsaturated soils, with a specific focus on capturing volume change.

The highlight for me of the third day was without a doubt the 3rd Blight Lecture. This lecture was delivered by Professor Eduardo Alonso, and it was very special to be able to be in the hall and listen to Professor Alonso deliver the lecture in person. Professor Alonso spoke about his decades-long experience with the investigations of the settlement of the containment building at the Asco II nuclear power plant. Of particular interest was how an initial error in his interpretation of his monitoring data led to wonderful new insights into the behaviour of the specific soil encountered in that region.

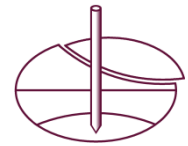
The fourth day was the final day of the oral presentations. For me the highlight was the themed lecture by Professor Anthony Leung. Professor Leung presented results from his multi-year investigations on how plant roots influence the engineering behaviour of unsaturated soils. There were many, many other excellent presentations and the papers for all of these presentations are available online as open-access files.

The fifth day was for the site visits and two options were offered: a cultural tour to visit the Ancient Theatre and Catacombs, or a field trip to visit some geological sites and the Aggeria Bentonite Mine. I chose the field trip and thoroughly enjoyed it. The Aggeria Mine is the second largest Bentonite Mine in Europe and we were taken to the open pit viewing site and had an opportunity to speak to the Mine Manager and Lead Geotechnical Engineer at the Mine. For me, this was the highlight of the conference!

The organising committee should be commended for including so many interesting and exciting activities into one conference.

Your comments on the conference:

UNSAT 2023 was an extraordinary experience. The conference location was excellent, the Island of Milos is stunning in terms of natural beauty and its people are very hospitable. I felt very welcome on the island. The technical content of the course was excellent. What I also enjoyed was the deliberate link between Technical Committee 106 on unsaturated soils and the other Technical Committees within the ISSMGE. The inclusion of the site visit to the Aggeria Bentonite Mine made the conference even more special. I look forward to attending UNSAT 2027!



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

In May 2023, I attended the 8th International Conference on Unsaturated Soils (UNSAT 2023) by means of an ISSMGE Foundation Grant. UNSAT 2023 was held in Milos, Greece over a period of five days. The conference agenda included a pre-conference workshop, three days of oral presentations, followed by an exciting field trip on the final day. Milos is a truly spectacular island with abundant natural beauty and many unique geological features which greatly interested me.

The conference organisation was excellent, but it was the technical content and the opportunity to network and engage with leading experts that made UNSAT 2023 really special. There were over 200 attendees and over the five-day period, almost 200 presentations were delivered.

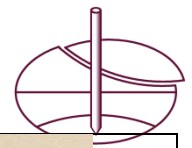
The highlight of the conference for me was being able to listen to Professor Eduardo Alonso deliver the 3rd Blight Lecture in person. Prof Alonso described the fascinating journey he and his colleagues took during their investigations of the settlement of the containment building at the Asco II nuclear power plant. Of particular interest was how an initial error in the interpretation of the monitoring data led to wonderful new insights into the behaviour of the soil in that region. Even more impressive was how these insights have had a much broader impact in the field of unsaturated soil mechanics since then.

My contribution to the conference was a technical paper and oral presentation on aspects of the research I am currently conducting as part of the PhD studies. I presented on the performance of three sensor types for the long-term monitoring of suction in gold tailings. It was a great opportunity to share my research and engage with other researchers, especially emerging researchers, in a conducive environment.

The site visit to the Aggeria Bentonite Mine was truly spectacular and was especially interesting to me with my background in mine tailings. On the way back home, I spent some time in Athens and was fortunate to visit the Stoa of Attalos where I was able to see recreations of some amazing ancient marble sculpting and appreciate some of the cultural heritage of Greece.

Thank you to the ISSMGE Foundation for financial support to attend this conference. It was a wonderful experience and I truly benefitted in terms of expanding my professional network. I look forward to implementing my learnings from UNSAT 2023 in my research.

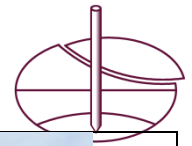
Photographs from Conference: Insert here or attach to email



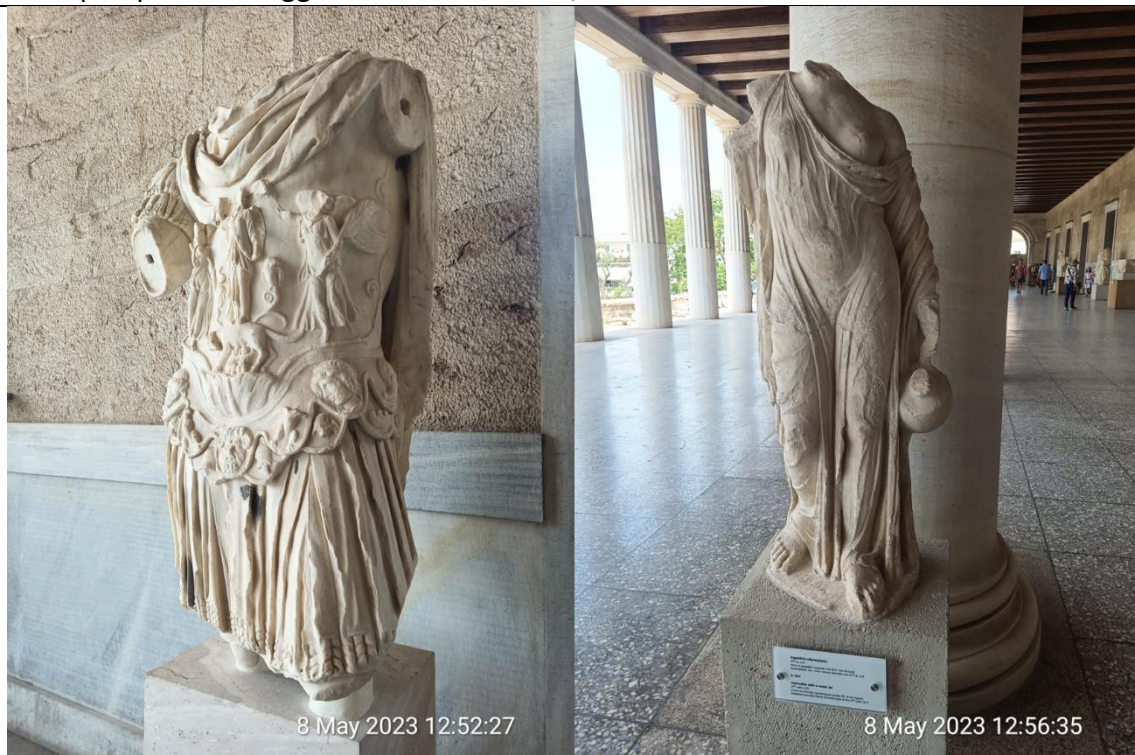
Me at the Conference Venue, outside the Parallel Hall



Myself (far right) and colleagues from South Africa at the Conference



The open pit at the Aggeria Bentonite Mine, Milos



Replicas of marble statues at the Stoa of Attalos, Athens