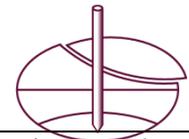


**ISSMGE FOUNDATION
REPORT ON CONFERENCE ATTENDANCE**

Name: Saurabh Singh	Organization: Indian Institute of Science, Bangalore	Date of report: 27 January, 2017
Conference Title: Advances in Laboratory Testing and Modelling Of Soils And Shales	Location of Conference: Villars sur Ollon, Ollon, Canton of Vaud, Switzerland	Dates of Conference: 17-20 January, 2017
What I learned: The workshop included six keynotes and six feature lectures spanning from coupled thermo-hydro-mechanical experimental and numerical modelling of shales to contaminant control with barrier application in clayey soils. Main focus of the workshop was on thermo-hydro-mechanical modelling (both physical and numerical) of partially or fully saturated clays, shales. The work presented in these areas included design of new experimental setup to modelling through multiscale approaches starting from nano-scale and averaging till macro scale along with the new constitutive models which have capability to capture the nonlinear and anisotropic behaviour of geomaterials. In these studies with the apt use of imaging techniques and acoustic measurements, information was extracted to support the claims from molecular dynamics simulations. From these studies, I got to know about the area of coupled mechanics and particularly unsaturated behaviour of soils. This workshop gave me an exposure to the recent advancement in the field of Geomechanics. In my opinion, it is more important to know the approaches towards the research than being aware of the current state of knowledge. This workshop has certainly elevated my confidence and motivated me to bring out good work from my research which could be ultimately applied to solve real world problems.		
People I met: Prof. Xiaohui Cheng – Tsinghua University, Beijing, China Dr. Luca Bonzanigo – Consultant in geology, Switzerland Prof. Mahdia Hattab – University of Lorraine, France Prof. Darga Nandyala Kumar – Fiji National University, Fiji Ms. Sparsha Nagula – PhD student, Hamburg University of Technology, Germany Mr. Seyed Mohsen Seyedi Viand – PhD student, Istanbul Technical University, Turkey Mr. Dimitrios Terzi – PhD student, EPFL, Switzerland Dr. Arroyo Chávez Hiram – Post doctoral fellow, EPFL, Switzerland		
Main features of the conference: The workshop had total twelve sessions (with two parallel sessions) dedicated to different themes. The themes were mainly on unsaturated behaviour of soils and shales, soil-structure interaction, advanced laboratory testing, constitutive and numerical modelling of soils and shales. Before the start of the parallel sessions there were one keynote and one feature lecture delivered by distinguished researchers and practitioners in the area of Geomechanics from around the world. The third Bishop lecture was also delivered by Prof. Herve Di Benedetto		



titled “Advanced testing and modelling of granular materials with and without viscous glue: Research and practical implication” on the first day of the workshop. Additionally there were interactions with representatives from different companies associated with manufacturing of advance laboratory equipment.

On the last day of conference ‘Gala dinner’ was organized at Col de Bretaye which was followed by a surprise party. The surprise party was really great which helped in further making friends and talking to new people.

Comments on the conference:

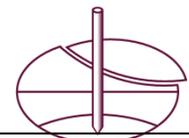
The conference was really good in every sense from the topic discussed to time allotted for presentations and discussions. The studies presented were really high quality and fairly novel in their contribution. Every participant followed and respected the time allotted for their presentation which in turn made all events possible on time. There were coffee and tea breaks which were appropriately placed in the schedule to make interaction and refreshment possible. The location or venue of the workshop was really peaceful which further helped. Overall the workshop was really good and I must thank the organizers for giving me opportunity to present my work and attend wonderful talks.

I would like to extend my **thanks** to **ISSMGE foundation** for providing me funding without which this experience was not possible.

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

The workshop started with a welcome speech by Prof. Lyesse Laloui who told us about how ATMSS started and what are objectives of the workshop. This welcome speech was followed by lecture by vice-president of ISSMGE-Europe Prof. Antonio Gens then representatives from supportive organisations such as technical committees of ISSMGE (TC-101, TC-106, TC-308) introduced their respective committees and events organized by them in near future. A keynote lecture by Prof. Mario Manassero and a feature lecture by Charles Shackelford followed next. The intrinsic and state parameter approach explained by Prof. Mario Manassero was quite enlightening.

The parallel sessions on unsaturated behaviour of soils and shales and soil-structure interactions were next. I attended the soil-structure interaction session. In this session, I enjoyed the talks on thermo-mechanical behaviour of energy piles and shearing behaviour between granular soil and artificial rough surfaces. Predominantly, the talks were on consideration of thermo-hydro-mechanical coupling in soil-structure interaction. The event resumed after a refreshing break with a keynote lecture by Prof. Charles Wang Wai Ng. The talk was delivered on cyclic thermo-mechanical behaviour of unsaturated fine-grained soils with effect of cyclic loading on mechanical behaviour of clay and silt with controlling suction and temperature. Next a feature lecture on effect of free gas on hydro-mechanical behaviour of peat was delivered by Prof. Cristina Jommi. This study was an attempt towards solution of existing field problems. The parallel sessions on unsaturated behaviour of soils and shales and advanced laboratory testing were the next. The talks in this session (session on advanced laboratory testing) were quite



good and were concerned with either development of new device or on subtleties of specimen preparation method. This was followed by Bishop lecture delivered by Prof. Herve Di Benedetto on advance testing and modelling of granular materials with and without glue. The study was concerned with small strain deformation for different boundary conditions further treated in hypoplastic model formulations.

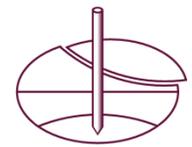
The other two days of workshop followed similar pattern of keynote lectures, feature lectures and parallel sessions. The main focus of talks was on unsaturated behaviour of soils and rocks with their thermo-hydro-mechanical modelling. The keynote and feature lectures were delivered by Prof. Russel Ewy, Prof. Antonio Gens, Prof. Bernardo Caicedo, Prof. Richard Wan and Prof. Zhang Feng, Prof. Mahdia Hattab, Prof. Frank Wuttke, Prof. Matthieu Vandamme, respectively.

Overall the workshop was really enlightening, informative and very well organized. The workshop was motivating for me and I will recommend this workshop for my fellow geotechnical researchers and practitioners to attend it in 2018 which will be organised under the Alpine Geo-mechanics forum.

Photographs from Conference:



Group photograph of attendees of the workshop (Venue: Eurotel Victoria Hotel, Villars sur Ollon)



Presenting my paper titled “Mechanics and modelling of cohesive frictional granular materials”