



**ISSMGE FOUNDATION  
REPORT ON CONFERENCE ATTENDANCE**

<b>Your Name:</b> Joost van der Linden	<b>Your Organization:</b> University of Melbourne	<b>Date of report:</b> 22/06/2015
<b>Conference Title:</b> Engineering Mechanics Institute Conference 2015	<b>Location of Conference:</b> Stanford University	<b>Dates of Conference:</b> June 16 - 19, 2015
<p><b>What you learned:</b></p> <p>First and foremost, I learned about the state-of-the-art research that is being conducted in my own area of expertise. The most relevant symposium, titled “Pore Morphology in Deforming Geomaterials,” contained many relevant talks. I also learned from a number of presentations in the “Dr. Masao Satake Memorial Symposium on Granular Mechanics.” Knowing what particular information I was looking for (pore properties to predict the conductivity) really helped me identify the right sessions to attend, and the right people to connect with.</p> <p>Outside of the aforementioned two relevant sessions, I sought out other (less relevant, but no less interesting) sessions that aligned with my personal interests. I learned from fascinating talks about nanotwinned materials, wind farm optimization, predicting micro-earthquakes, wave-based enhanced oil recovery, automated bridge inspection and many more.</p> <p>Lastly, I gained experience in networking at an academic conference. As the conference went by, I felt increasingly confident in talking to other researchers and exchanging ideas. I am grateful for this opportunity, because I believe it will be beneficial to have these skills in my academic career.</p>		
<p><b>People you met:</b></p> <p>Within my research focus area:</p> <ul style="list-style-type: none"> <li>- Tae-Sup Yun from Yonsei University, a collaborator on our current project</li> <li>- Adrian Russel from UNSW, expert in soil mechanics</li> <li>- Adrian Sheppard from ANU, expert in pore networks</li> <li>- Bob Behringer (and student, Jonathan) from Duke University, expert in complex networks</li> <li>- Rafi Blumenfeld (and student) from Imperial College, expert in statistical mechanics</li> </ul> <p>Outside my research focus area:</p> <ul style="list-style-type: none"> <li>- Roberto Ballarina from the University of Houston, president of EMI</li> <li>- Ronaldo Borja from Stanford University, chair of EMI 2015</li> <li>- Toby Mitchell from Skidmore, Owings &amp; Merrill LLP, engineer</li> <li>- Lauren Linderman from the University of Minnesota, expert in wireless sensing</li> <li>- Craig Foster from the University of Illinois at Chicago, expert in deformation of solid materials</li> </ul> <p>+/- 15 other PhD students and postdocs</p>		



***Main features of conference:***

- 12 parallel sessions, 55 mini-symposia, 6 plenary lectures
- 3 student paper competitions and 3 student poster competitions
- Over 700 attendants, representing over 35 countries and roughly 1/3rd of the EMI membership.
- 250 out of the 700 were student participants
- Ice breaker reception, welcome reception and awards banquet

***Your comments on the conference:***

Overall, the conference was well organized. The sessions were moderated in an orderly fashion, the presentations were (mostly) well prepared and the facilities at Stanford University were excellent. There was ample opportunity to network, during the breakfasts, coffee breaks, lunches and receptions.

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

**Engineering Mechanics Institute Conference 2015**

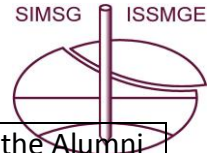
June 16 - 19, 2015

Stanford University

This year, the annual EMI conference took place from June 16 until June 19, at the recently completed Science and Engineering Quad on the Stanford University campus. With roughly one-third of the total EMI membership present at the conference, EMI 2015 was the biggest EMI conference organized to date. The participants represented over 35 countries. Nearly 700 abstracts were registered for presentation in one of the 55 mini-symposia. The conference featured two memorial symposia, in honor of Dr. Masao Satake and Dr. Helmet Krawlinker, and six plenary lectures.

After an ice breaker reception on June 16, the conference was officially opened by Ronaldo Borja, chair of EMI 2015, and Roberto Ballarini, president of EMI, on June 17. Antoinette Tordesillas introduced the first two plenary speakers. Huajian Gao presented on the "Mechanics of Hierarchical Nanotwinned Materials: Laboratory Studies and Inspirations from Nature" and James Jenkins gave a talk about the "Mechanics of Granular Materials." Following the coffee break, the parallel sessions of the mini-symposia commenced. The welcome reception took place at the Rodin Sculpture Garden next to the Cantor Arts Center. In addition to the networking, fine food and drinks, participants were able to enjoy a portion of the Stanford Museum.

In the morning of June 18, Gilles Pijaudier-Cabot introduced Mark Zoback, who spoke about the "Aseismic Deformation in Shale Gas Reservoirs and Its Effect on Hydraulic Fracturing," and Glaucio Paulino, who presented on "New Trends in Topology Optimization: From Building Design to Craniofacial Reconstructive Surgery." After the plenary lectures, I presented our work on the use of complex networks and machine learning to predict conductivity parameters in porous, granular materials during the "Pore Morphology in Deforming Geomaterials" mini-symposium. Following the general poster session in the



afternoon, the EMI Conference Awards Banquet was held in the Ford Gardens of the Alumni Center.

On the last day of the conference, George Deodatis introduced the two plenary speakers: Ruben Juanes and Pol Spanos. They presented, respectively, on “Computational Modeling of Induced Seismicity” and “Potent Joint Time-Frequency Analysis Techniques for Structural Dynamic Applications.” After another series of mini-symposia, the conference concluded on Friday afternoon.

Overall, the conference was well organized and the Stanford University campus provided for a beautiful environment and excellent facilities. I gratefully acknowledge the ISSMGE Foundation for providing the financial support to attend this conference in the early stages of my PhD.

**Photographs from Conference:** Insert here or attach to email



Stanford campus during the day



Stanford campus at night



With Dr. Adrian Russel



Lunch with Rafi Blumenfeld, Antoinette Tordesillas, Bob Behringer and Jonathan