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The 4th International Young Geotechnical Engineers Conference (4iYGEC) was held at the Hotel El Mahrousa on the sea front in Alexandria on the 3 and 4 October 2009. The organizing committee was chaired by Prof. Fatma Baligh. The event gathered 89 papers, and 83 of the authors – representing 42 countries on five continents - travelled to Alexandria to present their papers. Eleven participants came from Africa, 7 from the Americas, 21 from Asia, 2 from Australia and 42 from Europe. The conference began with an opening ceremony where Prof. Fatma Baligh, Prof. Mamdouh Hamza, Prof. Neil Taylor and Prof. Pedro Seco e Pinto welcomed the participants.

Following the opening ceremony, a plenary lecture presented by Prof. Ahmed Elgamal (University of California, San Diego, USA) preceded the technical sessions that addressed these themes:

- Soil Behaviour and Properties, New Concepts and Correlations
- Ground Improvement: Chemical, Mechanical and Reinforcement
- Seepage Flow, Contaminated Soil Treatment and Response
- Landslide and Slope Stability, Case Studies
- Deep Foundation Design and Practice
- Performance of Different Types of Earth Retaining Structures
- Soil Structure Interaction, Risk Management
- Underground Construction

At the end of each session, a symbolic prize was awarded for the best presentation.

As the 4iYGEC is held within the framework of the 17th International Conference on Soil Mechanics and Geotechnical Engineering (17th ICSMGE), all of the young participants of 4iYGEC were invited to attend the 17th ICSMGE held in the Library of Alexandria (Bibliotheca Alexandrina). During the two first days of the 17th ICSMGE (5-6 October 2009) the participants attended five State-of-The-Art lectures, a Heritage Lecture and two lectures on Great Projects. On 6 October in the session "Thoughts and Observations," the 4iYGEC conference chairperson and three chosen participants presented a briefing of what had taken place at the 4iYGEC. An optional Technical Visit to the San-Stefano Hotel Harbour was also scheduled this day.

A Cultural Evening of Egyptian Folk Dancing was held around the swimming pool at El-Mahrousa Hotel where traditional oriental food and beverages were served to the 4iYGEC participants.

The 4iYGEC was a great contribution to the sharing of scientific knowledge in the field of soil mechanics and geotechnical engineering.



Delegates and organizing committee of the 4th International Young Geotechnical Engineering Conference.

Reported by Prof. Fatma Baligh

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Summary of the 4th International Young Geotechnical Engineering Conference – A Collective View of Geotechnical Engineering Through the Eyes of Young Geotechnical Engineers

The International Young Geotechnical Engineering Conference aims to bring together young students, professors, and practitioners to report on and discuss the current state of geotechnical engineering. This conference is aligned with the International Conference on Soil Mechanics and Geotechnical Engineering, such that young engineers can participate with the global geotechnical community and become active members in the International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE).

Reverberating through the eight technical sessions were state-of-the-art laboratory techniques, increased focus on soil-structure interactions, and use of numerical models to solve geotechnical problems. The ubiquitous use of numerical models in research and practice exhibits the current interest and capabilities of the young geotechnical engineer. Overall, the conference succeeded in bringing together young engineers from around world and creating a comfortable atmosphere to foster exchange of technology, ideas, research methodologies, and culture. The 4iYGEC, and all young engineering conferences, provide a unique platform that promotes networking and collaboration to advance professional and personal relationships.

Delegates of the 4iYGEC were asked by the ISSMGE to prepare a presentation for the 17th International Conference on Soil Mechanics and Geotechnical Engineering (XVII ICSMGE). The presentation was to provide a synopsis of the current state-of-practice of young geotechnical engineering, the collective vision of the young engineers, and recommendations for the progression of the ISSMGE. The following summarizes that presentation and the views of the young delegates.

The delegates of the 4iYGEC see a number of problems facing the geotechnical engineering community in the future. First and foremost are geotechnical problems arising from the increasing global population. The current population growth rate is forcing engineers to increasingly work in poor soil areas, with many of these areas stricken by geological and environmental hazards. Solving or mitigating these problems is further complicated by the desire for sustainable solutions. While young engineers fully support sustainable engineering solutions to geotechnical problems, some of the fundamental engineering judgment required to solve these problems is perhaps being lost. The delegates believe that current geotechnical education needs an increased focus on engineering fundamentals and soil behavior. Students will benefit from understanding the problem-solving progression of real-world projects, i.e., site assessment → data collection → data analysis → report writing and recommendations. While young engineers embrace and acknowledge the benefits of modern technology in geotechnical engineering, a healthy balance between engineering fundamentals and computing capabilities will aid in developing sustainable solutions to the most difficult geotechnical problems of the future.



Delegates and organizing committee of the 4th International Young Geotechnical Engineering Conference.

A major theme of the XVII ICSMGE was bridging the gap between academia and industry. Nowhere is this gap more prevalent than in undergraduate engineering education. Hands-on experience through internships, work co-ops, field trips, volunteer efforts, and other ways to get young engineers involved in real-world problems will enhance engineering education. Many young engineers already participate in these outreach activities; however, university curricula would benefit from requiring students to engage in some form of practice prior to graduating. These experiences will advance a student's comprehension of engineering application, and perhaps act as a stepping-stone for their transition from academia to industry.

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Summary of the 4th International Young Geotechnical Engineering Conference – A Collective View of Geotechnical Engineering Through the Eyes of Young Geotechnical Engineers (continued)

The gap between academia and industry, and the gap between junior and senior level engineers, can be narrowed by promoting the involvement of young engineers in the ISSMGE. For example, technical committees should reach out to incorporate young engineers in order to transfer knowledge and gain diverse perspectives. Enhancing the ISSMGE website by incorporating connection portals for participating ISSMGE members, young geotechnical engineering newsletters, and archives for masters and doctoral theses will also aid in drawing the attention of more young engineers. Lastly, the ISSMGE would benefit from increasing global collaborations that bring engineers together to work on geotechnical problems. While conferences provide an important service in global networking, they are often limited to short discussions on research and practice. Making grants available for students and young engineers interested in global collaborative research and education will further stimulate global networking. Young engineers from all over the world should feel welcome and safe to collaborate on geotechnical problems in any nation.

During the XVII ICSMGE a common request heard throughout the state-of-the-art lectures was the need for more detailed site characterizations and case studies, a sentiment echoed by the 4iYGEC delegates. By promoting the availability of data on well characterized soil sites and case studies (e.g., International Journal of Geoengineering Case Histories and Characterization and Engineering Properties of Natural Soils), young researchers who do not otherwise have the ability to gather their own data, can supplement their modeling efforts with trial-and-error test runs on sites and studies familiar to the geotechnical community.

The 4iYGEC was a unique and beneficial opportunity for all participating delegates. The visions and requests presented herein are largely in accordance with the manifesto prepared by delegates of the 3iYGEC in Osaka, Japan. While the 4iYGEC delegates recognize that some of the aforementioned points are currently available or in progress through the ISSMGE, the general consensus amongst all delegates was that unless engaged in a setting such as the iYGEC few young engineers are aware of the ongoing efforts by the ISSMGE. In closing, delegates of the 4iYGEC would like to emphasize two points that overlap with the visions of newly elected ISSMGE President Jean-Louis Briaud of Texas A&M University. First, the idea of stimulating academic and practice collaboration through publishing case studies in The International Journal of Geoengineering Case Histories. Young professors and graduate students eager to publish can network with practitioners who have large compilations of available data. Secondly, creating an ISSMGE student board would help bridge the gap between the active ISSMGE members and future members. The student board would also promote the ISSMGE in young engineering communities, stimulating students' interest and their desire to join.

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