Education and Training in Geo-Engineering Sciences

Soil Mechanics, Geotechnical Engineering, Engineering Geology and Rock Mechanics

Edited by

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Introduction

On 12-14 June 2000, the Romanian Society for Soil Mechanics and Foundation Engineering organized in Sinaia the First International Conference on Geotechnical Engineering education and Training which knew a great success, being attended by teachers and professionals from 37 countries and 6 continents. The Proceedings of the Conference were published by A.A. Balkema.

Eight years after the Sinaia Conference, another event of this kind, with a wider scope, is organized in Constantza, on 2-4 June 2008, by the Romanian Society for Soil Mechanics and Geotechnical Engineering, addressing this time not only Soil Mechanics and Geotechnical Engineering but also other geo-engineering sciences: Engineering Geology and Rock Mechanics.

Put under the auspices of the International Society for Soil Mechanics and Geotechnical Engineering – ISSMGE, the Conference was endorsed immediately by the Joint Technical Committee on Education and Training of the three "Sister Societies": ISSMGE, the International Association for Engineering Geology and Environment – IAEG, and the International Society for Rock Mechanics – ISRM, which met for the first time in September 2006 in Nottingham. A European Technical Committee on Education and Training of ISSMGE, founded at the beginning of 2007, was also involved in the organization of the Conference.

Since the initiation of the Conference and the date when this Introduction is written (March 12th, 2008) an important development took place. Following the favourable votes, expressed in September 2006 by the Council of IAEG, in November 2006 by the Council of ISRM and in October 2007 by the Council of ISSMGE, a Cooperation Agreement was concluded between the three Sister Societies, leading to the foundation of a Federation of International Geo-engineering Societies (FIGS). One major aim of Federation is to coordinate scientific and technical activities in areas with overlapping interest between the Members. Since education and training is, obviously, such an area, the Conference in Constantza can be rightfully considered as an event supporting FIGS in carrying out its functions for the international geo-engineering community.

Papers submitted for publication for the Conference in Constantza cover a broad range of topics, such as curricular matters in geo-engineering education, teaching, learning and assessment in geo-engineering education, challenges in geotechnical engineering education, issues in education and training in Engineering Geology, the link university – professional world in geo-engineering, topics to whom distinct parts of this volume are devoted. A significant number of papers were prepared by distinguished representatives of the three Sister Societies, who kindly answered to the invitation of the organizers to share their most valuable experience and to provide sources of inspiration for teachers of geo-engineering subjects around the world.

The volume includes also a number of reports on education and training in geo-engineering sciences in 23 countries. Some of them have the character of national reports covering all or part of the geo-engineering sciences. Others provide an insight on the present status of geo-engineering sciences in the respective country. There are also several cases in which two such reports, which complement each other, were received from the same country.
the viability of a consulting-university collaboration:

It is further proposed that this need be addressed by collaborating teams of consultants and faculty members. A suitable team will include a faculty member, whose role will be to make sure that the produced instructional material is "teachable", a junior consultant intimately involved with the case, who will compile the needed information, and a senior consultant, who will devote only some minimal time, providing his/her knowledge of the "big picture" of the project.

To make the proposal tangible, the authors presented in this paper some representative results of a pilot consulting-university collaboration which produced instructional material for a reinforced earth wall.

All the information included in the completed template and a PowerPoint presentation, available on the internet (www.pangaea.gr and users.ntu.edu.gr/impanta). It should be noted that the authors chose a modest-scale project within a high-profile project, i.e., the Egnatia Highway, bypassing on purpose the majestic bridges and the long tunnels of Egnatia, for a project that involved some calculations most students would follow in an undergraduate course on soil improvement.

In order to encourage similar collaborations, the authors finally discuss measures necessary to ensure the viability of a consulting-university collaboration: streamlining the production of the instructional material, providing visibility ideally through a national geotechnical society and instituting a system of incentives on both sides.

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