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Administrative report of TC31 – Education in geotechnical engineering

Compte rendu technique de la No. CT 31 – Formation en géotechnique

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1 INTRODUCTION

Technical Committee 31 of the ISSGE was first established in 1994, following recommendations from a Task force on Education created in 1990. These two structures coexisted during the period from 1994 to 1997. Some information on the work done during this period can be found in the reports listed below.

Task Force on Education of the ISSMFE

1989-1994 Chairman: H.G. Poulos

1994-1997 Chairman: W.F. Van Impe

Technical Committee TC 31

1994-1997 Chairman: H.G. Poulos

Host society : Australian Geomechanics Society

12 member countries

Previous reports :

1993 : 13th ISSMFE New Delhi - Proceedings

a. Minutes of the Council meeting in Florence, Italy in 1991. Board Task Forces – Reports by the President. c) Education. Sections 53-57, vol. 6, p. 248.

b. Minutes of the Council Meeting held in New Delhi in 1994. Sections 26-28 : Education TF, by H.G. Poulos, assisted by all vice-presidents.

c. Minutes of the Council Meeting held in New Delhi in 1994. Appendix 5 : Report by Task Force on Education in Geotechnics. vol. 6, pp. 283-284.

1994 : 14th ISSMFE Hambourg – Proceedings

a. Theme lecture by H.G. Poulos “Geotechnical Education towards 2000”, vol. 4, pp. 2565-2572. French Translation published in “La lettre de la géotechnique”, N°12 (Sept. 1998) & N°13 (Dec. 1998).

b. Report on ISSMFE TC31+Task force on Education by W.F. Van Impe. ISSMFE Minutes of the council Meeting held in Hambourg in 1994, Appendix 3, vol. 4, pp. 2687-2688.

c. Minutes of the Council meeting held in Cairo, Egypt in 1995, Section 30 – Education, vol. 4, p. 2655.

d. Minutes of the Council meeting held in Cairo, Egypt in 1995, Appendix 6. Report by W.F. Van Impe “ISSMFE and Geotechnical Engineering Education”, p. 2670.

The activities of Committee TC 31 during the period from September 1997 to August 2001 are described hereafter.

2 TERMS OF REFERENCE

The terms of reference of TC 31 were finalised during the Committee meeting held in Sinaia (Romania) in 2000.

Promote the place and quality of education and training in geotechnical engineering :

1. by organising or supporting conferences, symposia and workshops,
2. by facilitating exchange of experience between teachers, in particular by using Internet,

3. by analysing the links between geotechnical engineering practice and the need for continuing education,
4. by offering support to national societies willing to improve the education of geotechnical engineers or workers in their countries,
5. by discussing the means of promoting geotechnical engineering among the youth and, more generally, among the world's population (museums, TV programs, ...).

Establish links with the Committees on Education of the International Association of Engineering Geology and the Environment and the International Society for Rock Mechanics.

3 COMMITTEE MEMBERSHIP

The Committee is hosted by France (Comité Français de Mécanique des sols et de géotechnique – CFMS). 23 member countries participate in this TC.

Australia	Prof. Harry G. Poulos
	Prof. Mark Jaksa
Brazil	Mr. Francis Bogossian
	Prof. Ennio Marques Palmeira
	Prof. Ramon Verdugo
Chile	Prof. Bernardo Caicedo
Colombia	Prof. Vlasta Szavits-Nossan
Croatia	Dr. Jan Bohac
Czech Republic	Prof. Jorgen S. Steenfelt (Co-chairman)
Denmark	Prof. Jean-Pierre Magnan (Chairman)
France	Prof. Richard Kastner
	Prof. Ulvi Arslan
Germany	Prof. Andrea Anagnostopoulos
Greece	Dr. S.K. Gulhati
India	Prof. A. Aziz Djajaputra
Indonesia	Prof. Hideki Ohta
Japan	Prof. Kim Myoung Mo
Korea (South)	Prof. Vincelas Stragys
Lithuania	Prof. Oscar R. Couttolenc-Etcheverria
Mexico	Dr. Laurie Wesley
New Zealand	Prof. Wojciech Wolski
Poland	Prof. Manuel A. De Matos Fernandes
Portugal	Prof. Iacint Manoliu
Romania	Prof. J. Kuzma
Slovakia	Prof. Göran Sällfors
Sweden	Prof. Thomas F. Zimmie
USA	Prof. Robert D. Holtz

4 ACTIVITIES INITIATED BY THE COMMITTEE

After an initial period mainly devoted to organising the technical committee, with a new host country, new members and new chairman and co-chairman, TC 31 was mainly engaged in organising and sponsoring conferences on Education in Geotechnical Engineering: an international conference in Sinaia (Romania)

and a Panamerican conference in Mexico. During the 4 year period 1997-2001, two other events directly concerned the Committee: the session devoted to Geotechnical Education at Geo-Ing2000 Conference (Melbourne, November 2000), with a lecture given by TC 31 Co-chairman J.S. Steenfelt, and the workshop on Geotechnical Education of the International Conference in Istanbul (August 2001).

The **first International Conference on Geotechnical Engineering Education and Training (1stIGEET)** was held in Sinaia (Romania) on June 12-14, 2000. 114 persons from 29 countries participated in the Conference. It was organised by Prof. I. Manoliu and his colleagues from the Technical University of Civil Engineering of Bucharest.

The program of the Conference was the following.

Monday 12 June 2000

Keynote lectures

- Prof. H. Brandl, Vice-President for Europe of ISSMGE
"The Geotechnical Engineering in Society – Ethical aspects and future prospects"
- Prof. J. Burland
"The Soil Mechanics Triangle revisited"

Session 1 – Place, role and content of Geotechnical Engineering in Civil, Environmental and Earthquake Engineering curricula, at undergraduate and post-graduate level

Theme lectures

- Prof. I. Manoliu
"Trends in Engineering Education worldwide and their relevance for Geotechnical Engineering Education"
- Prof. M. Manassero
"Basic aspects of Environmental Geotechnical Education"
- Prof. P. Seco e Pinto
"Education in Earthquake Geotechnical Engineering : Practice and needs".

Presentation of papers. Discussions

Tuesday 13 June 2000

Session 2 – Teaching, learning and assessment in Geotechnical Engineering Education, including the use of Information and Communication Technology

Theme lectures

- Prof. S. Sharma
"Recent developments in On line Geotechnical Education"

Presentation of papers. Discussions

Session 3 – Case studies in Geotechnical Engineering Education

Presentation of papers. Discussions

Wednesday 14 June 2000

Session 4 – Lifelong Learning in Geotechnical Engineering

Theme lectures

- Prof. J.P. Magnan
"Continuing Education in Geotechnical Engineering"
- Prof. S. Prakash
"Teaching Geotechnical Engineering 1950 – 2000"

Presentation of papers. Discussions

Besides the two key-note lectures and six theme lectures, 26 authors presented their papers in the three sessions.

In addition, the Conference hosted a Workshop on "Master and Doctoral Programmes in Geotechnical Engineering in Europe", under the auspices of the Thematic Network Project EUCEET (European Civil Engineering Education and Training) initiated by the Technical University of Civil Engineering Bucharest in the frame of the SOCRATES-Erasmus programme of the European Union. In the workshop were presented 15 contributions, highlighting relevant experience of 15 European universities in the field of postgraduate education in Geotechnical Engineering.

The proceedings of the 1st IGEET were published by A.A.Balkema, Rotterdam, under the title: "Geotechnical engineering education and training", edited by I. Manoliu, I. Antonescu & A. Radulescu (524pages, 2000, ISBN 90 5809 1546).

This volume contains :

- Six invited papers
- 19 National reports on geotechnical engineering education

- 56 papers grouped in six sections : 1. Place, role and content of geotechnical engineering in civil, environmental and earthquake engineering curricula, at undergraduate and post-graduate level. 2. Teaching, learning and assessment in geotechnical engineering education. 3. The use of information and communication technology – ICT in geotechnical engineering education. 4. Case studies in geotechnical engineering education. 5. History, lifelong learning and international co-operation in geotechnical engineering education.

On 13th June 2000 took place in Sinaia the first meeting of the TC 31 in its new constituency, under the chairmanship of Prof. J.-P. Magnan (France). The meeting was attended by 11 members and by 15 observers, representing 24 countries.

The **first Panamerican conference on the process of teaching-learning geotechnical engineering** was held in Oaxaca (Mexico) by the Mexican Society for Soil Mechanics (Sociedad Mexicana de Mecanica de Suelos), under the auspices of TC 31.

The proceedings of the Conference include 4 special lectures and 42 papers from nine countries (Mexico, Ecuador, Uruguay, Brazil, Chile; Argentina, Peru, USA and Canada). The lectures were presented by M.A. Yadarola "Profesores de ingeniería para el siglo XXI – Enseñanza-Aprendizaje", by J.K. Mitchell "Graduate education in geotechnical engineering to meet the challenges of the 21st Century", by J.T. Christian "Accreditation of geotechnical engineering programs" and by J. Graham "Importance of academic staff in the development of undergraduate programs".

The papers concern the conference themes: curricula, teaching methods, academic personal, teaching and research, postgraduate education, and special subjects.

The languages of the conference were English, Spanish and Portuguese (Sociedad Mexicana de Mecanica de Suelos, 306 pages, ISBN 968-5350-03-5).

Members of TC 31 were involved in the **GeoEng2000 Conference in Melbourne** (19-24 November 2000), with a Theme on Geoengineering education, including a keynote lecture by J.S. Steenfelt on "Teaching for the millenium or for the students?" (GeoEng2000, Conference Proceedings, CDROM) and eight papers. The keynote lecture describes the demands put on teachers, the influence on geo-engineering education from the different sub-disciplines, the curricula, the teaching language and methods and the challenges from Society and students in the new millenium. A translation into French will be published in "La lettre de la Géotechnique".

The themes chosen for the **Workshop on Education of the 15th International Conference on Soil Mechanics and Geotechnical Engineering** (Istanbul, August 2001) are the use of Internet to develop open learning activities in geotechnical engineering education and continuing education in geotechnical engineering.

Besides, the GEO-Institute of ASCE organised in Denver, Colorado a Conference "Geo-Denver 2000", which included a session on Educational issues in geotechnical engineering. Eight papers were published as ASCE-Geo-Institute Geotechnical Special Publication N°109 (N.D. Dennis, editor).

5 PERSPECTIVES

Preliminary contacts were taken in order to:

- establish links with the parallel committees of ISMR and IAEGE;
- create a website offering information on geotechnical education;
- create a virtual museum of geotechnical engineering;
- promote geotechnical engineering among the population;
- create mirror committees in ISSMFE member countries;
- offer help to national societies wishing to develop geotechnical education in their countries.