



---

## Preconference Course

### GEOSYNTHETICS FOR SOIL REINFORCING:

#### Embankments on soft foundations, steep slopes, and very steep slopes (“walls”)

The International Geosynthetic Society Argentinian Chapter invites to attend to the preconference course at the XV Panamerican Conference on Soil Mechanics and Geotechnical Engineering next November, 15th, 2015 at Hilton Hotel, Puerto Madero (Buenos Aires, Argentina).

#### Short Course Overview:

The use of geosynthetics for reinforcing soils enables civil engineers to design and construct embankments and other structures more economically and with increased safety than is possible with traditional design and construction. Because geosynthetics are relatively new and nontraditional civil engineering materials, the course begins with a brief description of their types and manufacture, and the properties and tests required for the design, selection, and specification of reinforcing geosynthetics.

The remainder of the course focuses in detail on the three main applications of geosynthetics for soil reinforcement: (1) embankments on soft foundations, (2) steep reinforced slopes, and (3) very steep reinforced soil slopes, aka retaining walls and abutments. For each application, case histories are used to illustrate important design and construction principles. Emphasis is on the materials properties of the geosynthetics required for economical design and construction. Specifications, construction details, inspection, and suggestions for avoiding failures of each application are also mentioned.

Course materials for each application, as well as copies of the slides used in the presentations, will be made available to attendees. The schedule will allow ample time for questions and discussion.

#### Who should attend?:

- Geotechnical and construction engineers and engineering geologists, advanced students of civil engineering
- Consulting engineers, manufactures technical representatives, and academics
- Earthwork and other specialty contractors involved in civil construction
- Government agencies in charge of the project and development of road and associated works.

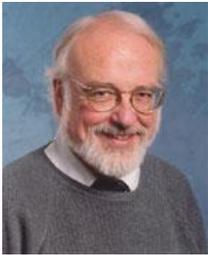
## Topic outline and schedule (Course taught in English language):

8:00 – 8:15	I. Introduction to course
8:15 – 9:30	II. Geosynthetics for soil reinforcing <ul style="list-style-type: none"> <li>A. Historical development</li> <li>B. Types and manufacture</li> <li>C. Properties and tests required for design</li> <li>D. Selection and specifications for geosynthetic reinforcing</li> </ul>
9:30 – 9:45	Coffee break
9:45 – 11:45	III. Reinforced embankments on soft ground <ul style="list-style-type: none"> <li>A. Soft foundations and conventional solutions</li> <li>B. Case histories and lessons learned</li> <li>C. Design steps</li> <li>D. Soil and geosynthetics properties</li> <li>E. Drainage issues</li> <li>F. Specifications and inspection</li> <li>F. Construction</li> </ul>
11:45 – 12:45	Lunch
12:45 – 14:00	IV. Reinforced steep slopes <ul style="list-style-type: none"> <li>A. Introduction and case histories</li> <li>B. Design steps</li> <li>C. Soil and geosynthetics properties</li> <li>D. Drainage issues</li> <li>E. Specifications and inspection</li> <li>F. Construction</li> <li>G. Seismic issues</li> </ul>
14:00-14:15	Coffee Break
14:15 – 16:30	V. Reinforced very steep slopes (aka “walls”) <ul style="list-style-type: none"> <li>A. Introduction and case histories</li> <li>B. Design steps</li> <li>C. Soil and geosynthetics properties</li> <li>D. Drainage issues</li> <li>E. Specifications and inspection</li> <li>F. Construction</li> <li>G. Seismic issues</li> </ul>
16:30 – 17:00	Questions and open discussion

---

## Instructor and Collaborators

**Bob Holtz, PhD, PE, D.GE**, Professor Emeritus of Civil Engineering at the University of Washington in Seattle, has also taught at Purdue (1973-88) and Cal State-Sacramento (1964-66). He has degrees from Minnesota and Northwestern, and he attended the Special Program in Soil Mechanics at Harvard under Prof. A. Casagrande. He has worked for the California Dept. of Water Resources, Swedish Geotechnical Institute, NRC-Canada, and as a consulting engineer in Chicago, Paris, and Milano. His research, sponsored by several federal and state agencies as well as private companies, has mostly been on geosynthetics, foundations, soil improvement, and soil properties. Bob is author, co-author, or editor of 26 books and book chapters, including Introduction to Geotechnical Engineering, 2nd Edition (with W. D. Kovacs and T.C. Sheahan, 2011). He is also author or co-author of nearly 300 technical papers, discussions, reviews, and major reports. Bob is a Fellow, Life, and Distinguished Member of ASCE. He was on the first Board of Governors of the Geo-Institute, was President in 2000-01, and currently is the G-I International Secretary. He has also been active with the ISSMGE, TRB, ASTM, and NAGS-IGS, and has had an active consulting practice throughout his academic career. Bob has taught many short courses and given numerous lectures, both in the US and abroad, including the 46th Karl Terzaghi Lecture in 2010.



**Jorge G. Zornberg PhD, PE**: Is Professor and William J. Murray, Jr. Fellow in the Geotechnical Engineering program at the University of Texas at Austin. He earned his B.S. from the National University of Cordoba (Argentina), his M.S. from the PUC of Rio de Janeiro (Brazil), and his Ph.D. from the University of California at Berkeley.

As part of his professional consulting experience, Prof. Zornberg participated in the analysis, design and forensic evaluation of retaining walls, reinforced soil structures, transportation systems as well as mining and waste containment facilities. Prof. Zornberg conducts research on soil reinforcement, geosynthetics, earth retaining structures, waste containment and mining facilities, unsaturated soils, and numerical and physical (centrifuge) modeling of geotechnical and geoenvironmental systems. He has offered numerous short courses, and teaches graduate courses at the University of Texas at Austin on Earth Retaining Structures and on Geoenvironmental Engineering.

Prof. Zornberg received the Presidential Early Career Award for Scientists and Engineers (PECASE) in 2002. He also received the J. James R. Croes Medal from the American Society of Civil Engineers (ASCE, 2012), several Best Paper Awards from different Journals, and excellence awards from different technical and scientific organizations such as IGS, NAGS, ASCE and NSF.

Dr. Zornberg currently serves as Immediate Past-President of the International Geosynthetics Society (IGS), having served as IGS President for the period 2010 – 2014 and IGS Vicepresident for the period 2006 – 2010. Prof. Zornberg has authored over 330 technical publications. He is the editor of several ASCE Geotechnical Special Publications and the author of several book chapters. Prof. Zornberg has been awarded three patents.



**Ennio Marques Palmeira, MSc., PhD:** is Professor of Civil Engineering at the University of Brasília, Brazil. He obtained his B.S. in Civil Engineering from the Federal University of Rio de Janeiro, his Master of Sciences degree from COPPE/UFRJ and his Ph. D. from the University of Oxford (UK). His research interests are focused in Geotechnical Engineering with emphasis in the employment of geosynthetic materials and modern and alternative materials in geotechnical and geoenvironmental projects. Prof. Palmeira participated in the creation and was the first chair of the Geotechnical Graduate program of the University of Brasilia. He also served as Chair of Civil and Environmental Engineering Department. Prof. Palmeira was visiting professor of University of British Columbia (Canada) in 1995. He is a Member of the Brazilian Academy of Sciences since 2007 and Honorary Member of the International Geosynthetics Society (IGS, 2012). Prof. Palmeira received the IGS Award in two occasions from the International Geosynthetics Society, the Scientific Merit Award from the Brazilian Presidency and the Terzaghi Award from the Brazilian Geotechnical Society (ABMS). He was Mercer Lecturer (IGS/ISSMGE) in 2006-2008. He served as editor of the journal Soils and Rocks (2004-2011), is Associate Editor of the Canadian Geotechnical Journal and of the Environmental Geotechnics Journal and member of the Editorial Boards of the journals Geotextiles and Geomembranes, Geosynthetics International and the International Journal of Geosynthetics and Ground Engineering, besides being reviewer of papers submitted to several international journals. Prof. Palmeira has served as member of organizing and advisory committees of several international conferences. He has over 320 publications in peer-reviewed international journals, conference proceedings and book chapters, received 32 international and national awards and delivered or organized training courses on geosynthetics in several parts of the world.



## Fees

	Non Members	Members	Estudants
Regular registration (deadline 30/10/2015)	U\$S 350	U\$S 300	U\$S 150
On site	U\$S 400	U\$S 350	U\$S 180

## Questions & Information:

<http://conferencesba2015.com.ar/>

[www.igsargentina.com.ar](http://www.igsargentina.com.ar)

[registracionargentina@mci-group.com](mailto:registracionargentina@mci-group.com)

[secretario@igsargentina.com.ar](mailto:secretario@igsargentina.com.ar)