

TC202 TRANSPORTATION GEOTECHNICS

Terms of Reference

Objective 1: Dissemination

The goal of Technical Committee 202 is to apply broad engineering to bridge the gap between Pavement/Railway Engineering and Geotechnical Engineering. The main task is to promote co-operation and exchange of information and knowledge about the geotechnical aspects in design, construction, maintenance, monitoring and upgrading of roads, railways and airfields. The task also covers the related environmental aspects. For these purposes, several main topics were identified and materialized in the main Task Forces of the Committee as follows.

Task Force 1. Promote of use of nontraditional materials in embankments and structural layers.

Leaders: M. Winter and T. Edil

Task Force 2. Reinforcement of geomaterials and its implications in pavement and rail track design.

Leaders: E. Tutumluer and S.-W. Park.

Task Force 3. Earthworks design, technology and management: To extend the previous work into intelligent compaction. Leaders: Jean-Pierre Magnan and A. Gomes Correia

Task Force 4. Rail track substructures, including transition zones. Leaders: W. Powrie, C. Lai, P. Kolisoja, B. Indraratna.

Task Force 5. Subsurface sensing for transportation infrastructure condition diagnostics among others. Leaders: S. Nazarian and C. Lai; A. Loizos

Task Force 6. 3rd International Conference on Transportation Geotechnics (ICTG), Guimarães, Portugal, September 4-7, 2016. Chairman António Gomes Correia (University of Minho, ISSMGE-TC202). Leader: A. Gomes Correia

(i) Themes: Optimized geomaterial (including hydraulically bound materials and asphalt mixtures) use, reuse and recycling; Unsaturated soil mechanics in transportation geotechnics; Earthworks design, technology and management; Slope stability, stabilization, and asset management; Mechanistic-empirical design (road, railways and airfields); Rail track substructures, including transition zones; Subsurface sensing for transportation infrastructure; Macro and Nanotechnology applied to transportation geotechnics; Effect of climate change; Sustainability in transportation geotechnics; and Case histories.

(ii) Prof. Buddhima Indraratna will deliver the Inaugural Proctor Lecture at the 3rd ICTG
Prof. Jorge Zornberg will deliver the IGS Mercer Proctor Lecture at the 3rd ICTG

- (iii) Workshops before or after the Conference. The following are planned: Geosynthetics in transportation geotechnics; Harbor geotechnics; Nondestructive technologies; and Ground improvement and soil stabilization
- (iv) Special attention will be paid to the publication of all the peer review papers that will be submitted to be indexed by Scopus and ISI Thomson Reuters Conference Proceedings Citation Index.

Task Force 7. Transportation Geotechnics; Elsevier journal of TC202. Editors-in-Chief: António Gomes Correia; Erol Tutumluer, and Yunmin Chen. First issue was published in March 2014 of this quarterly journal, which aims to publish high quality, theoretical and applied papers on all aspects of geotechnics for roads, highways, railways, airfields and waterways.

<http://www.journals.elsevier.com/transportation-geotechnics/>

Objective 2: Guidelines & Recommendations

Interactive communication between TC202 members: To maintain an international website and email network, is as important as holding several meetings, for interactive communication among the TC202 members and geotechnical affiliates to share ideas, information, and technical solutions. The current TC 202 website is: <http://www.eng.hokudai.ac.jp/labo/geomech/ISSMGE%20TC202/index.html> and [maintained by TC202](#) Secretary Tatsuya Ishikawa.

- (i) Reports for ISSMGE (Erol Tutumluer and Tatsuya Ishikawa).
- (ii) Proc. 3rd International Conference on Transportation Geotechnics.
- (iii) Identify Special Guest Editors to contribute to the new Transportation Geotechnics Elsevier journal.
- (iv) Identify members that can prepare articles to the International Journal of GeoEngineering Case Histories.
- (v) Publications with the contributions of Task Forces (Coordination: Erol Tutumluer).

To cooperate actively with other technical committees whose field of activity involves important questions related with transportation geotechnics.

Liaisons: TRB; ASCE Geo-Institute; ASTM; IGS; AIPCR; UIC, UK EPSRC, CEN TC396, TC 215 Environmental Geotechnics; TC 106 Unsaturated Soils; TC 216 Frost Geotechnics; TC 101 Laboratory Stress Strain Strength Testing of Geomaterials.

Student and Young Members Presidential Group (SYMPG) This group has the following objectives to increase the attractiveness of the ISSMGE for the next generation of geotechnical engineers, it will be considered to organize a special session for Young Transportations Geotechnics Engineers of ISSMGE in the 3rd International Conference on Transportation Geotechnics (ICTG).

Objective 3: Conference Assistance

To host and endorse international conferences, symposia and other events: Technical Committee 202 works closely with its members to organize symposia, workshops, and international exchanges dealing with all aspects of Transportation Geotechnics in both traditional and emerging areas. TC202-sponsored sessions on Geotechnics will be promoted for transportation infrastructures at ISSMGE- international, European and regional conferences on soil mechanics and geotechnical engineering, and to support special geotechnical, Geoenvironmental and unsaturated soils conferences on transportation geotechnics.

- TC 202 participated in the GeoHubei International Conference, July 20-22, 2014, Hubei, China.
- Prof. Buddhima Indraratna, our Executive Group member, delivered a keynote presentation, entitled, "Ground Improvement in Transport Geotechnics - from Theory to Practice," at the 14th IACMAG International Conference, Kyoto, Japan, September 22 - 25, 2014.
- A Special Lecture on "Intelligent Compaction: Standardization Needs from Manufactures to Users," was delivered by Prof. Antonio Gomes Correia, TC 202 Past Chairman, at University of Texas at El Paso, and also broadcast live to 48 Internet connections, at 1:00 p.m. (EST) January 8, 2015.
- An ASCE GSP is being published on the peer-reviewed papers presented at the TC 202 Transportation Geotechnics Workshop organized at the 18th IC-ISSMGE, September 5, 2013, in Paris, France.
- Nominations were received in December 2014 for the TC 202 new named lecture series in commemoration to late R.R. Proctor, to be delivered by individuals with the most distinguished achievements in Transportation Geotechnics.
- TC 202 had a Meeting at the 94th Annual Meeting of the Transportation Research Board (TRB) in Washington, DC, on Tuesday, January 13, 2015. Members were updated on the nomination and selection of Prof. Buddhima Indraratna, who will deliver the Inaugural Proctor Lecture at the 3rd International Conference of Transportation Geotechnics in Guimaraes, Portugal, on September 4-7, 2016.
- TC202 will have a meeting at the XVI ECSMGE, September 13-16, 2015, in Edinburgh, UK. The conference organizer Mike Winter is an Executive Group Member of TC 202. A TC 202 sponsored Workshop on Railroad Geotechnics will be organized at the XVI ECSMGE on Sunday, September 13, 2015. In addition, Prof. Antonio Gomes Correia, TC 202 Past Chairman, will deliver a keynote presentation on "Geotechnical Engineering for Sustainable Transportation Infrastructure."
- TC 202 will participate in the 2nd International Symposium on Transportation Soil Engineering in Cold Regions, to be held in Novosibirsk, Russia, on September 24-26, 2015.
- TC 202 will have a Special Session, approved by VP (Asia), Prof. Ikuo Towhata, to discuss important issues in further developments of transportation geotechnics at the Asian Regional Conference (ARC) on Soil Mechanics and Geotechnical Engineering, Fukuoka, November 9-13, 2015 (<http://www.15arc.org/index.html>).

- TC 202 will have a Meeting and two sponsored Sessions at the XV PCSMGE to be held in Buenos Aires, Argentina, November 15-18, 2015. Professor Tutumluer will present in invited Panel Presentation on “Thinking Outside the Box: Emerging Geotechnical Engineering Theories and their Contribution to Transportation Systems.”
- TC 202 will participate and have a Transportation Geotechnics Session at the 4th GeoChina International Conference, Shandong, China, July 25-27, 2016.
- TC 202 Main Conference Event will be the 3rd International Conference of Transportation Geotechnics (ICTG) in Guimaraes, Portugal, on September 4-7, 2016. Thanks to the dedicated efforts of Prof. Gomes Correia, TC202 has created a new named lecture series in commemoration to late R.R. Proctor to be delivered by the world's most distinguished achievements in Transportation Geotechnics. The inaugural Proctor Lecture will be delivered at the 3rd International Conference of Transportation Geotechnics in Guimaraes, Portugal, on September 4-7, 2016.

Objective 4: Industry links

To cooperate actively with other industry affiliate whose field of activity involves important questions related with transportation geotechnics. Liaisons include TRB; ASCE Geo-Institute; ASTM; IGS; UIC, CEN. To elaborate documental descriptions of special projects where Transportation Geotechnics projects were conducted for design purposes or other interventions, that can be included in the ISSMGE bulletin, or others; complementary or alternatively, to organize webinars on such topics.