



## New Committee to Focus on Innovations in Geotechnical Engineering

By Sissy Nikolaou, Ph.D., P.E., D.GE, F.ASCE, and Anand Puppala, Ph.D., P.E., D.GE, F.ASCE

**G**eo-problems are by nature unique and require innovative thinking and application of technologies to produce safe and economical design solutions. The technical committees of the G-I have been assessing and reporting on exciting innovations in their topical areas. In parallel, the Board of Governors has been following the explosive growth of the various fields of innovation since 2017. Through its interactions with the Technical Coordination Council and G-I members, the BoG identified a clear need for a new board-level committee that can introduce, inform, and engage the G-I membership to innovation.

In 2019, the BoG asked Anand Puppala to lead a Task Force — with support by two younger members, Surya Congress and Anahita Modiriasari — to create the vision for this potential committee with key G-I members. The first action was to identify the technical topics of interest and corresponding experts that were then invited to join the Task Force. Not surprisingly, many of the invited experts turned out to be younger and enthusiastic G-I members who are developing these fields in their research or practice. The topics that will be revised periodically to reflect changing technological trends and needs are:



Cameras and lidar equipment are used by NIST, in partnership with USGS and NSF-RAPID researchers, to scan and record conditions at the site of the Champlain Towers South condominium collapse in Surfside, Fla. (Photo courtesy of NIST.)

- Remote sensing and UAVs for infrastructure condition health monitoring
- Machine learning, artificial intelligence, big data/databases, and asset management
- 3D printing and additive manufacturing
- Visualization and virtual/augmented reality
- Building information modeling and geographic information systems
- Disaster reconnaissance methods/apps and data collection
- Extraterrestrial soils and new materials
- Social media and online geo-tools

The developed objectives and topics of the proposed committee were presented to TCC members and technical committee chairs during the annual TCC meeting at the 2020 Geo-Congress, and received their strong support. In 2021, the BoG approved establishing the new board-level “INN-C” committee with Anand Puppala as its chair and G-I vice-president Sissy Nikolaou as the BoG liaison, with highest priorities for initiatives to: (i) foster innovation; (ii) excite and retain younger members; and (iii) bring information to G-I

members and audiences.

The INN-C will present its progress and report on topical initiatives in future issues of this GEOSTRATA column we’ve tagged “InGEOnius Innovations.” We will also use the column as a platform to introduce our committee and recruit new and current members, young members, and industries to the G-I, and to foster an innovation mindset at large. We look forward to receiving your feedback to this and future columns to help guide us along what we envision will be a most exciting and constructive path. **BS**

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The image shows a promotional graphic for the ASCE Standard 7-22. On the left, the text reads "ASCE seven<sup>22</sup> is now available!" with the website "www.asce.org/asce7" below it. On the right, the cover of the standard is displayed. The cover is blue with a green vertical stripe on the left side. The text on the cover includes "ASCE STANDARD", "ASCE 7-22", and "Minimum Design Loads and Associated Criteria for Buildings and Other Structures". The ASCE logo and the Structural Engineering Institute (SEI) logo are also visible on the cover.