The Japanese Geotechnical Society

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November 15, 2016

Nomination of Professor Ikuo Towhata for President of the ISSMGE 2017-2021 Term

Dear Colleagues,

It is with great pleasure that the Japanese Geotechnical Society (JGS) nominates Professor Ikuo Towhata as a candidate for President of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE) for the upcoming 2017-2021 term. This is in recognition of his outstanding contribution to the geotechnical community over the past several decades, and in anticipation of the great success his presidency would bring to the ISSMGE.

The Japanese Geotechnical Society believes that Professor Ikuo Towhata's candidacy is strongly supported by the following facts:

- Professor Towhata has left an indisputable legacy in geotechnical research, particularly in earthquake geotechnical engineering, as demonstrated by his widely respected textbook, "Earthquake Geotechnical Engineering" (published by Springer), which is viewed as a standard by many throughout the geotechnical community. However, his contributions have not been limited to academia; rather, he has shown decades of commitment to infrastructure development and disaster mitigation around the world. He has been extremely active in visiting disaster-affected regions in every corner of the world, where he has provided insightful, fundamental, and practical solutions based on his extensive experience. A prime example of his dedication to rigorous, first-hand investigation is evident in his presentations, which are often drawn exclusively from his own on-site photographs.

- Professor Towhata has also maintained a lifelong dedication to education, as is evidenced by his many years as a professor at the University of Tokyo, as well as time spent at the Asian Institute of Technology. He has taught and supervised numerous students (30 doctorate, 30 master, and 8 post-doctorate with far more domestic students) from developed and developing countries alike; including students from 30 countries in Asia, Europe, and Africa, as well as North, Central and South America. His former students are prospering in every sector around the world, with many now playing key roles in the ISSMGE as respected researchers and engineers in their own right. We believe this inspiration and equipping of succeeding generations of students to be invaluable, and perhaps one of his greatest contributions to the international geotechnical community. It is certainly a strong and credible indicator of his abilities as a successful leader, which is vital to the role of President of the ISSMGE.

- Further, Professor Towhata's strong leadership qualities were clearly demonstrated when he stewarded the 8,000-strong JGS through a time of hardship and turbulent changes in Japan, and in the world. He worked tirelessly with the JGS over a period of six years; initially as a Board Member, then, as Vice-President, and finally, as its President. His slogan," Geotechnical engineering for the people and with the people", inspired the JGS membership to unite under his vision of what geotechnical engineering must and can do for human society; emphasizing as well, the responsibility engineers must bear for their work. During this time, he made every effort to bring the value of geotechnical engineering to the fore, working to establish in the public eye an understanding of, and respect for, what we geotechnical engineers truly do for the safety of society.

- Among many other accomplishments, the following events and activities stand out as specific examples of his leadership.
  - In 2013, under Professor Towhata's strong direction, the JGS worked jointly with two other societies, to launch the Japanese Association for Geotechnical Evaluation (JAGE). Their goal was the creation of an association which could certify qualified geotechnical engineers (the Professional Engineers for Geotechnical Evaluation or PEGE) specifically capable of assisting smaller, individual clients, notably home buyers, in building projects. This undertaking was precipitated by the lessons learned from the 2011 Great East Japan earthquake disaster, which exposed the fragility latent in many private land developments. As President of the JAGE from 2014 to2016, Professor Towhata strove to secure the engineer's place in society as an expert advisor to individual lay stakeholders, many of whom would normally have very little clue or say in the geotechnical aspect of their assets.
  - Professor Towhata reacted swiftly to the 2011 earthquake in Japan, and since that time has continued to be closely involved in the restoration work in liquefied river levees and residential land; contributing his geotechnical expertise. In particular, he is Chair of a large government-funded project whose aim is the safe decommission of Fukushima Daiichi Nuclear Power Plant.
  - He has also shown strong leadership by boosting the presence of the Japanese geotechnical engineering community on the international stage by strategically improving and promoting English-language geotechnical publications, and using them as a platform to exchange information on engineering practices beyond Japan. As part of that initiative, the first of three sections of the JGS Standards have now been translated into English, and consequently, are widely available. The JGS's flagship journal, *Soils and Foundations*, went through a drastic overhaul, which resulted in increasing its impact factor to 1.238, as well as facilitating a more responsive publication schedule, all the while maintaining the journal's reputation for technical rigor and quality.

  We submit that this record of success while leading the large JGS community should be considered as one among the many important accomplishments that have prepared Professor Towhata for a larger role in the international geotechnical engineering community.

- Furthermore, Professor Towhata's dedication to the ISSMGE itself, has been outstanding. He attended 9thICSMFE in Tokyo, in 1977, as a student, and has been in attendance at the ISSMGE's International and Asian Regional Conferences continuously since 1987; consistently contributing through positions such as Chairman, and invited Lecturer (e.g. Heritage Lecturer, Osaka, 2005). All the while, he has always been attentive to younger generations of engineers. As an example, he has made invaluable contributions to the Third International Young Geotechnical Engineers' Conference in Osaka in 2005, held the position of Organizing Chairman. Additionally, he has promoted many other gatherings that were equally fruitful.

- Currently, he acts as Vice President of ISSMGE for the Asian Region for the 2013-2017 term. He has recognized the geographical spread and diversity of the area, as well as the unprecedented rate of social and environmental changes that characterize the region. Above all, he is keenly aware of the geotechnical challenges imposed by these conditions, and in response, he proposed a unique way of fostering geotechnical engineering in the region by promoting low-cost conferences ("LCC") that facilitated the attendance of a broader base of participants. Much of the success of the 15th Asian Regional Conference is owed to his efforts.

Professor Towhata's personality also merits a special mention. Professionally, he holds a deep-rooted respect and compassion toward any area beyond his own country; and even more particularly toward developing regions, where many communities, despite their cultural richness, are located in a hostile environment where they remain vulnerable to various natural disasters. As to his private side, we are always impressed and touched by his hospitality, generosity and openness. Overseas guests,

professors, and students, alike, are invited to his home as often as his schedule allows.

Beyond geotechnics, Professor Towhata is a great admirer of foreign languages and cultures. He has incorporated this interest into his preparation for each of his frequent trips out of the country, making it a habit to read several books on the local language and culture before traveling to a site. A first reader of his “Earthquake Geotechnical Engineering” may be puzzled by the seemingly irrelevant pictures of cultural icons under each chapter heading in his book, only to realize later their true significance. The images serve to visually reinforce Professor Towhata’s core value; that unquestionably and fundamentally, engineering must serve the good of any and all people.

We, at the JGS, believe that his deep respect for cultural diversity, and dedication to learning, are qualities necessary to someone worthy of heading any significant learned society. Most importantly, we admire Professor Towhata for his power and will; his has demonstrated an undeniable ability to motivate and guide us, employing a combination of positive attitude and judicious foresight in the face of both difficulties and opportunities. His personality charms us, his insight inspires us, and his determination strengthens us. It is through these attributes that he consistently garners loyal support for his projects and goals, thereby bringing them to fruition.

Additionally, Professor Towhata’s current employment situation provides an advantage to the ISSMGE. He works as a Director of an architectural design firm, an Advisor for a geotechnical consulting firm, and as a visiting Professor at Kanto Gakuin University. These commitments, significant as they may be, occupy a much smaller part of his time and labor than the full professorship did before his retirement from the University of Tokyo. This will allow him to allocate a significant percentage of his time and resources to the ISSMGE, if elected.

Finally, the JGS, as one of the largest and most active geotechnical societies in the world, has demonstrated many times over its commitment to technical, organizational and administrative excellence, as well as a dedication to the geotechnical community at large. Our membership pledges its continuous and unwavering support for Professor Towhata, and we are proud to nominate him for the office of President of ISSMGE. We have every confidence that the qualities he has displayed as a Professor, an engineer, the President of the JGS, Vice-President of the Asian Region of the ISSMGE, and throughout literally every one of his personal and professional endeavors, make him an incredible asset to the ISSMGE, and profoundly qualified for the office of President. It is our sincere hope that you share our conviction that Professor Ikuo Towhata would make a dedicated, innovative, and productive President of ISSMGE; a President whose leadership would richly benefit the wellbeing of the international geotechnical community.

We would greatly appreciate your advising us of your mutual support for our nomination of Professor Towhata. Please contact me at murakami.akira.5u@kyoto-u.ac.jp or contact the JGS secretary, Prof. Takeshi Katsumi, at katsumi.takeshi.6v@kyoto-u.ac.jp if you have any comments or questions regarding this nomination.

Again, thank you very much for your thoughtful consideration of our nominee.

With kind regards,



Prof. Dr. Akira Murakami
President of the Japanese Geotechnical Society

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CURRICULA VITAE (Short version)

Name: Ikuo Towhata
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Education: Bachelor of Engineering
Department of Civil Engineering, University of Tokyo, March, 1977
Master of Engineering
Department of Civil Engineering, University of Tokyo, March, 1979
Doctor of Engineering
Department of Civil Engineering, University of Tokyo, March, 1982

Academic Experiences

1982.4.1 - 1982.9.30	Research Associate, University of Tokyo.
1982.10.1 - 1983.10.31	Post-Doctoral Fellow, University of British Columbia.
1983.11.16 - 1985.4.22	Lecturer, University of Tokyo.
1985.4.23 - 1987.4.22	Assistant Professor, Asian Institute of Technology, Bangkok.
1986 -	Associated Faculty of Chulalongkorn University, Bangkok.
1987.4.23 - 1987.7.31	Lecturer, University of Tokyo.
1987.8.1 - 1994.7.15	Associate Professor, University of Tokyo.
1989 -	Associated research fellow at the Public Works Research Institute, Ministry of Construction.
1994.7.16 - 2015.3.31	Professor, University of Tokyo
2016.6	Professor Emeritus, University of Tokyo
2015.4.1 - Present	Visiting professor, Kanto Gakuin University, Yokohama, Japan
2016.7.25 - 12.19	Distinguished visiting professor, Indian Institute of Technology, Bombay

Technical advisors for three private sectors: Tohata and Associates (architectural office), Seirin-sha Company (real estate management) and Chuo Kaihatsu (geotechnical consultant)

Affiliations:

Member of the Japanese Geotechnical Society
Life member of the Southeast Asian Geotechnical Society
Member of the International Society of Soil Mechanics and Geotechnical Engineering
Fellow member of the Japan Society of Civil Engineers
Member of the Japan Association for Earthquake Engineering
Member of the Japan Landslide Society
Honorary member of the Nepal Geotechnical Society
Associate Member of Science Council Japan (2014-2020)
Fellow of the Indian Geotechnical Society

2009-2012	Vice President, Japan Association for Earthquake Engineering
2013-2017	Vice President for Asia, International Society for Soil Mechanics and Geotechnical Engineering
2014-2016	President, Japanese Geotechnical Society

Awards

1985	Japanese Society of Soil Mechanics and Foundation Engineering, Award for the Best Paper by Young Authors
1985	Awarded by the Minister of Education for the best performance in education by correspondence (in the field of electric engineering).
1997	Japanese Geotechnical Society, Award for the Best Paper of the Year 1996
1998-1999	Shamsher Prakash Research Award, USA, of Soil Dynamics.
2000	Japanese Geotechnical Society, Award for Distinguished Research Products
2000	One of the best twelve papers out of 600 at GeoEng2000 Conference at Melbourne; not included in best three.
2004	Japanese Geotechnical Society, Award for the Best Paper of the Year 2003
2009	29th Japan Society of Civil Engineers; Best book publication award
2015	Japanese Geotechnical Society; Technological development award
2016	Seelye Fellowship, University of Auckland, New Zealand

Fields of Major Interest:

1. Deformation characteristics of cohesionless soils.
2. Dynamic analysis of earth structures during earthquakes.
3. Permanent displacement of ground caused by seismic liquefaction.
4. Soil improvement by densification and grouting
5. Microscopic Observation of Granular Behavior of Sand Subjected to Shear
6. Dynamics of landslide and debris flow.
7. Mechanical Properties of Municipal Waste Ground
8. Seismic performance-based design of geotechnical structures
9. Mitigation of rainfall-induced slope instability

Recent activities

Recovery and retrofitting for future of infrastructures (residential islands, river levees and Fukushima No.1 nuclear power plant) that were damaged by the 2011 Tohoku gigantic earthquake.

More than 400 English papers in international journals and conferences, including a comprehensive book on geotechnical earthquake engineering:

Ikuo Towhata (2008): Geotechnical Earthquake Engineering, ISBN 978-3-540-35782-7, Springer Verlag - Berlin Heidelberg.