Jonathan T. H. Wu Memorial Issue

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Dr. Jonathan T.H. Wu founded Transportation Infrastructure Geotechnology (TRIG), which was launched in January 2014. I had the great honor to work with him as co-editor-in-chief. I enjoyed the very best working relationship with Dr. Wu. We have established the annual Fumio Tatsuoka Best Paper Award associated with this journal. In 2016, TRIG was accepted for inclusion in Scopus, which is one of the main citation databases used for academic evaluation and promotion. With an increasing number of submissions and published papers every year, the journal is obviously in an upward trajectory.

On the morning of March 8, 2020, a beautiful Sunday in the midst of the coronavirus pandemic, I received a phone call from Ivan Wu who introduced himself as the son of Jonathan Wu. I recognized the familiar voice and my immediate response was something might have gone wrong, else Ivan would not have called me. He brought the sad news informing me that his dad passed away on March 6 due to a heart attack. The tragedy was totally unexpected because Dr. Wu was healthy and he was still very active in research. Just 2 months before this, he shared with me a few photos of Ivan’s family, very proudly introducing me to his grandchildren.

How did I get to know Dr. Wu? Our connection dates back to 1989 when Dr. Wu took a sabbatical leave at the University of Tokyo, hosted by my advisor, Prof. Fumio Tatsuoka. In addition to passing his geotechnical knowledge to the students, Prof. Tatsuoka also brought his visitors/guests and students to become very close friends. I had an opportunity to work with Dr. Wu on the wide-width testing of geotextiles under soil confinements. During his first month in Tokyo, he stayed in my apartment, and thus, we had endless conversation days (on research) and nights (on various social issues). We commuted together on the subway. He later moved to the International House after his family arrived. But, he let his family carry for him a heavy PC because we did not have a universal DOS between Japan and US at that time. Thus, we had to take a cab from Narita International Airport to Roppongi, costing over 20,000 yen. Dr. Wu became good friends with every one of us in the lab. We all addressed him as Wu Sensei.

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I have a few nice memories about Wu Sensei during his stay in Tokyo. In the lab, I noticed that he had been very interested in observing our testings using different kinds of equipment as well as the bearing capacity model tests. At that time, Prof. Dov Leshchinsky made his first trip to Japan. There was a Seminar at Seiken (Institute of Industrial Science), and we all had a very nice traditional dinner after that. On another occasion, Prof. Tatsuoka arranged for Wu Sensei to give a seminar at the Japanese Geotechnical Society, and I acted as his interpreter. Wu Sensei had also conducted research on pipe deflection; thus, he was keen on meeting with the late Prof. Masami Fukuoka, who has done field pipe testing. Prof. Fukuoka arranged for us to visit his lab at the Science University of Tokyo. Interestingly, we were also able to see his study on the leakage of geomembrane liners. I must also mention that Wu Sensei introduced to me the CANDE code, which I modified and used for reinforced soil structure analysis on a PC for many years.

In 1991, I made my first trip to the USA to attend the Geosynthetics Conference in Atlanta. I shared a room with Wu Sensei. He introduced me to gyros, which is still one of my favorite foods. I was able to meet a few of his students, including Nelson Chou (Nelson became a good friend, and he arranged for my visit to Taiwan after the 1999 Chi Chi earthquake). After the conference, I flew with them to Denver for a few days. I saw his lab and his preparation for the 1992 Prediction Symposium on the Denver Walls. I also saw the centrifuge facilities and true triaxial testing device at Boulder. Wu Sensei showed me around the very nice geological view. I revisited Denver in 1997 when Wu Sensei organized a symposium on mechanically stabilized backfill walls. What I would like to emphasize is that we kept in regular contact throughout the past three decades.

To honor his research achievements and contributions to TRIG, this Memorial Issue is dedicated to Wu Sensei. With the help of Christina Ma, I put down his research accomplishment with a list of major publications in the pages that follow.

Last but not least, I would like to express my sincere thanks to all the authors, co-authors, and friends who have contributed to this Memorial Issue. We truly missed Wu Sensei!
Dr. Jonathan T. H. Wu, Professor of Civil Engineering, University of Colorado Denver (CU Denver), Director of Reinforced Soil Research Center, and Editor-in-Chief of the Journal of Transportation Infrastructure Geotechnology, has been teaching and conducting research after earning his Ph.D. in Civil Engineering from Purdue University.

Dr. Wu’s research interest is in the use of innovative physical and numerical modeling techniques to develop design methods and construction guidelines of sustainable earthwork systems, and to solve problems associated with earth structures. Since being awarded a Research Initiation Grant on “Pullout Failure Mechanism of Geosynthetic Reinforced Earth Structures” by the National Science Foundation at the beginning of his academic career, he has devoted a vast majority of his research effort in the development and applications of Geosynthetic Reinforced Soil (GRS) earthwork system. CU Denver is known by many as a leading research institute in reinforced soil, especially in the area of GRS. His research effort has made strong impacts and lead to many original contributions to the development and applications of GRS. It has been estimated that the GRS technology, when fully implemented, would save the nation over $1 billion annually.

Professor Wu loves to challenge his students to become independent thinkers and be innovative. His homework problems have been known by many as “challenges of mind.” In his own words: “Teaching adds great joy to my life and expands my mind. I especially enjoy teaching courses such as advanced soil engineering, groundwater and seepage, and design and construction of GRS, courses that are fundamental in nature or have heavy dosages of innovative applications...”.

Books and Book Chapters

– GEOSYNTHETIC REINFORCED (GRS) WALLS, Wiley, 2017.
– MECHANICALLY STABILIZED BACKFILL, Editor, A. A. Balkema Publishers, Rotterdam, The Netherlands, 1997, 463 p.
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