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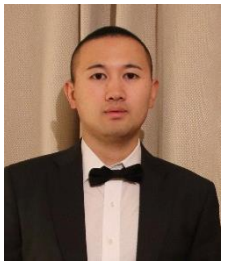
Civil Engineering Research Group

Invitation to Seminar

- **Creep testing of soil-geocomposite interfaces during drying-wetting cycle**

In order to study the creeping behavior of soil-geocomposite drain interfaces during drying-wetting cycle, a stress-controlled direct shear apparatus that can conduct creep tests on soil-geosynthetics interfaces during drying-wetting cycle is developed. The shear creeping deformation of Mercia Mud-geocomposite drain interfaces during repeated drying-wetting cycle under different shear stress levels was measured by adopting the developed direct shear apparatus. The experimental results indicate that, the developed stress-controlled direct shear apparatus can conduct creep tests on soil-geosynthetics interfaces during drying-wetting cycle. The interfaces under 90% and 80% shear stress levels fail during the first drying cycle, while for the interfaces under 70%, 60% and 50% shear stress, they do not fail during the repeated drying-wetting cycle. The impacts of drying cycle on the horizontal displacement is significantly larger than that of wetting cycle. More specifically, the first drying cycle has the largest impacts on the horizontal displacement than those of the following drying cycles. Additionally, the impact of drying cycle on the horizontal displacement of the interfaces under higher shear stress level is larger than that of the interfaces under lower shear stress level.

Patrick Chao PhD student, Civil Engineering, University of Warwick



Patrick obtained his Bachelor and Master degrees from Shenyang Jianzhu University and Hohai University, respectively. He is currently a third year Ph.D student in School of Engineering of the University of Warwick (start 2017). His research project, on geosynthetics and soil-geosynthetics interface interactions, is supervised by Dr Gary Fowmes.

- **Damage detection on Fiber Reinforced Polymer (FRP) structures using machine and deep learning methodologies**

Ahmed is currently conducting research within the Structural Health Monitoring (SHM) field, where he is currently investigating methodologies for damage prediction in civil structures focusing on bridges, using Machine and Deep Learning algorithms. The main objective of his research is to identify an ideal methodology that can provide an accurate level of damage prediction from unsupervised data; this will constitute the main framework of his talk in this session.

Ahmed S.Khaled PhD student, Civil Engineering, University of Warwick

Ahmed has worked within SHM of energy structures under the supervision of Professor Feargal Brennan (Director of Cranfield - Oxford Renewable Energy Marine Structure research center) with research scope related to crack detection in both ferrous and non-ferrous materials. Ahmed holds a BEng (Hons) degree from University of Glasgow and an MSc from Cranfield University. He started his PhD at Warwick in 2018 and his project is supervised by Dr Irwanda Laory.

Wednesday 22 April 2020, 2.00pm-2.50pm

Room A401 Engineering Building

The seminar is open to all.
For more information, contact Dr Rezania (m.rezania@warwick.ac.uk).