



## Multiscale Modeling of Granular Media: Trends and Challenges

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Granular media are ubiquitous on the earth and intimately related to our daily life. Coffee powders, sugars, salts, sands and cements are typical examples we see every day. Indeed, granular materials are the second most processed materials (next to water) in the world. Granular media are typical porous, discrete media and exhibit intricate behaviors of both solids and fluids depending on the loading conditions. Understanding of the mechanics and physics of granular media is of pivotal importance to a wide range engineering and industrial sectors, yet it remains one of the most challenging scientific questions to be fully answered for the broad community of condensed matter physics. In this talk, Dr Zhao will introduce his research on granular media modelling at HKUST.



**Prof. Jidong Zhao is Associate Professor of Geomechanics in Department of Civil and Environmental Engineering at Hong Kong University of Science and Technology. He earned both his Bachelor Degree and PhD from Tsinghua University and was a postdoc fellow and university lecturer at the University of Newcastle, Australia, before joining HKUST as assistant professor in 2008. Dr. Zhao's research is focused on multi-scale, multi-physics modeling of granular media pertaining to applications in geotechnical engineering, mining, petroleum and chemical engineering, pharmaceuticals and powder technology.**

His research has been financially supported by Australia Research Council, Research Grants Council of Hong Kong, Natural Science Foundation of China and Croucher Foundation. He was a recipient of "University of Newcastle Research Fellowship" award (2007), "Computers and Geotechnics Outstanding Paper Award" (2018), "Granular Matter Top 5 Cited Article Award" (2018) and "Scott Sloan Best Paper Award" (2019). He has been appointed as Co-Editor-in-chief for Computers and Geotechnics (Elsevier, effective 1 Jan 2020), and is serving as an Editor for Granular Matter (Springer Nature), Associate Editor for Journal of Engineering Mechanics (ASCE) and is an editorial board member for Acta Geotechnica (Springer Nature), International Journal for Numerical and Analytical Methods in Geomechanics (Wiley) and Science Progress (SAGE).

