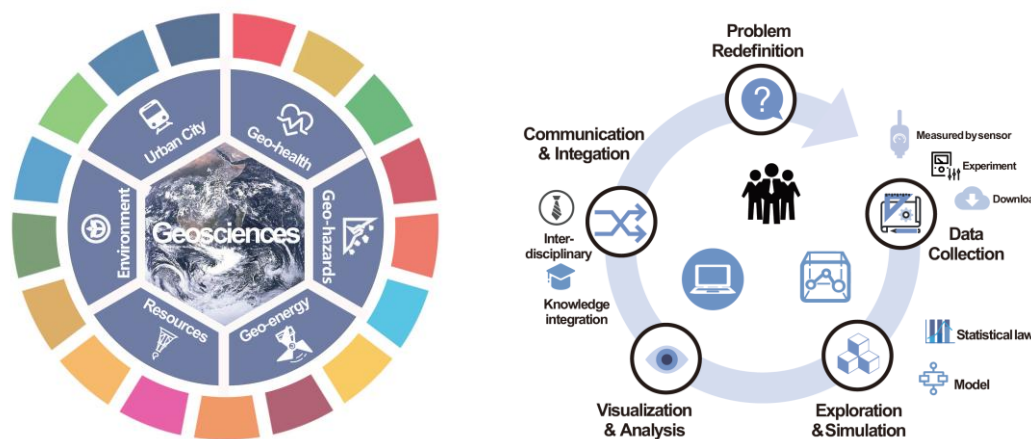


New article introducing IUGS initiative for facilitating data-driven Earth science transformation

A [new article](#) co-authored by IUGS President Qiuming Cheng and IUGS Past President Roland Oberhaensli is published by the Geological Society of London (GSL) as a special paper in a volume of RFG2018, which contains papers based on the materials presented at the RFG2018 session on “Changing Roles of Geological Surveys”.

This session was attended by about 20 Geological Survey Organizations (GSOs) with focuses on frontiers of Earth sciences and roles of GSOs for supporting UN 2030 SDGs.

The article by Cheng et al. introduces the principle and evolution of the IUGS new initiative of the big science program. It demonstrates the necessity of the new program and international collaboration for facilitating frontier of Earth sciences in response to digital revolutionary. It elaborates on the main opportunities and benefits of utilizing data-driven approaches in geosciences and the challenges in facilitating data-driven earth science transformation. It encourages geoscience community to work collectively to support the [Deep-time Digital Earth \(DDE\)](#), the first IUGS big science program. DDE aims for facilitating transformation of Earth science research from human learning to integration of human learning and AI, including machine learning (ML), as well as from known questions seeking answers to formulating as-yet unknown questions with unknown answers.



Cheng Q. et al., 2020, A new international initiative for facilitating data-driven Earth science transformation. In HILL, P. R., LEBEL, D., HITZMAN, M., SMELROR, M. & THORLEIFSON, H. (eds) The Changing Role of Geological Surveys. Geological Society, London, Special Publications, 499, <https://doi.org/10.1144/SP499-2019-158>.