



UNIVERSITÀ
DEGLI STUDI
DELL'AQUILA



Dipartimento di
Ingegneria Civile,
Edile-Architettura
e Ambientale

DIPARTIMENTO
DI ECCELLENZA
— MUR —
2023-2027

Ph.D.ICEAA

**Ph.D. Program in Civil, Building Construction and
Environmental Engineering**

Coordinator: Prof. Federico De Matteis

Tues, March 25, 2025

11:30 to 13:30 am (GMT+2)

Room B0.4 - Online seminar:

<https://tinyurl.com/2zm3cyp>

**Liquefaction in alluvial gravelly
soils - insights from field and
laboratory observations**

Prof Gabriele Chiaro

University of Canterbury, New Zealand

Visiting Professor, University of L'Aquila

Gravelly soils are a common feature of New Zealand (NZ)'s geological setting. From a geotechnical viewpoint, they are difficult to characterise, and their liquefaction potential is largely unknown. Following recent major earthquakes in NZ that triggered liquefaction in alluvial gravelly soils, Prof. Chiaro and his research group at the University of Canterbury, NZ, have carried out detailed field investigations involving the use of the Chinese cone penetration test (DPT) and laboratory tests on gravelly sand specimens prepared by water sedimentation. In this research seminar, key findings from such an ongoing study will be presented and discussed. It will be shown that the effects of crucial factors such as relative density, gravel content, and soil fabric/structure can be significant. Furthermore, it will be demonstrated that such effects cannot be considered individually but need to be considered together.



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About the Speaker



Gabriele Chiaro is Full Professor at the University of Canterbury, Christchurch, New Zealand.

BEng, MEng – University of Cassino, Italy

PhD – University of Tokyo, Japan

Post-Doc - Wollongong University, Australia

JSPS Fellow – University of Tokyo, Japan

His research focuses on "Geotechnical Engineering for Resilience and Sustainability" with special interests on geotechnical earthquake engineering, geo-disaster risk assessment and mitigation, and reuse of granular waste materials as geomaterials. His research career involves 17 years of work in the academy across Japan, Australia and New Zealand. His research has been sponsored through competitive grant awards and, to date, he has secured over NZ\$ 3 million in external research funds as primary investigator. He has authored or co-authored over 170 technical publications, and has received many honours, including the JGS Best Paper Award (2022), IABSE Outstanding Paper Award (2021), NZSEE Otto Glogau Award (2020). He served as the Team Leader of the 2016 NZSEE "Learning from Earthquake" Mission in Kumamoto, Japan, and Team Co-Leader of the 2015 JGS/JSCE "Learning from Earthquake" Mission in Nepal. Currently, he is representing the New Zealand Geotechnical Society in the ISSMGE AsRTC1 "Geotechnical Mitigation and Adaptation to Climate Change-induced Geo-disasters in Asia-Pacific Regions".