

*Special lecture on*

# Recent advances in the seismic design and performance assessment of structures

(構造物の耐震設計と性能評価における最新の研究状況)

**Prof. Reagan Chandramohan (University of Canterbury, NZ)**

Time and Date: **15:00—16:30**, May 30th (Tuesday), 2023

(2023 年 5 月 30 日 火曜日 15:00—16:30)

Place: Room2001, 20F of Building J2 (SuzukakeDai Campus)

(すずかけ台 J2 棟 20 階, 2001 研究交流室)

## Summary

In current seismic design and assessment practice, earthquake ground motions are typically characterised by just their response spectra, which are correlated to peak structural demands. Ground motion duration, on the other hand, which is related to the cumulative demands imposed on structures, is not explicitly considered. A study was conducted to quantify the influence of ground motion duration on structural response. Methods are proposed to explicitly consider the observed effect of duration in structural design and assessment.

A brief summary of other concurrent research aimed at improving the seismic design and performance assessment of structures will be provided, including the modelling of cyclic deterioration in fibre elements, the source of numerical non-convergence in the dynamic analysis of structures using implicit schemes, and the risk-targeted seismic design of buckling restrained braced frame buildings.

Contact:

Prof. Susumu Kono (河野進教授)

045-924-5384

Kono.s.ae@m.titech.ac.jp