



# LSGI RESEARCH SEMINAR

## Multi-proxy approaches toward a long view of past coastal disasters

 **20 JUNE 2024 (THU)**

 **10:30 - 11:30 AM**

 **Z414, POLYU**

 **ENGLISH**

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### ABSTRACT


Risk assessments for coastal hazards are often based on short-term instrumental records that in many cases fail to reflect the full range or magnitude of possible events. The global growth of human populations in many hazard-prone coastal areas mean accurately assessing natural hazard risk is increasingly important globally. To date, most risk assessments do not incorporate long-term and/or prehistoric records of extreme events and coastal development continues to rely on short historical records as a reflection of the long-term behaviour of a hazard. However, for much of the world, the historical archives rarely stretch beyond World War II. Clearly, such short records are inadequate for determining the natural variability of a hazard at multi-decadal timescales and for the extrapolation of extreme events. Without integrated long-term records, we cannot make realistic assessments of coastal vulnerability and exposure. Long-term records present the only option for uncovering the frequency and spatial variability of natural hazards over time. It is well known that historical records are usually fragmented, incomplete and limited in spatial balance. However, despite these limitations, historical records provide a key link between instrumental datasets and the prehistoric records for detailed reconstruction of past events. I will highlight some past work on known events and examine the potential for new techniques and proxies, also conclude with some statements on future research directions for coastal hazard studies with the aim of preparing coastal populations for future events.

### BIOGRAPHY

Professor Adam Switzer is a broadly trained coastal geoscientist. The overarching driver of his research is to apply interdisciplinary geoscience to contribute to solving contemporary coastal problems. At Nanyang Technological University he currently holds concurrent positions as Professor of Coastal Science at the Asian School of the Environment; Assistant Dean (Development) at the College of Science; Director of Undergraduate Research Experience on Campus (URECA), Director CIFAL Singapore, and Principal Investigator at the Earth Observatory of Singapore (EOS). After obtaining a BSc and PhD in Geosciences from the University of Wollongong, Australia, he accepted an Endeavour Australia Cheung Kong fellowship to study at The University of Hong Kong where he held positions as a Post-Doctoral Fellow and a Research Assistant Professor. Adam is passionate about science communication and has appeared in documentaries for Mediacorp (Singapore), Curiosity Channel (Discovery) and BBC (UK) and delivered invited talks at numerous international venues including the World Economic Forum.

**Moderator: Dr Dongju PENG, Research Assistant Professor, LSGI**

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