

**Department of Structural Engineering  
University of California, San Diego  
SE 290 Seminar**



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“Assessment of Aftershock Hazard Conditioned on Mainshock Shaking”

Wednesday, May 30, 2018

12:00 pm - 12:50 pm, Center Hall, Room 214

<https://structures.ucsd.edu/seminars>

## **Abstract**

Estimation of aftershock hazard is one of the most critical issues in evaluation of the post-earthquake safety of damaged structures. Unfortunately, misvaluation of this risk has claimed many lives in the past. In this seminar, an improved probabilistic aftershock hazard analysis approach will be presented. Proposed method is aimed at achieving more reliable estimation of aftershock hazard compared to the existing approaches. This is achieved by exploiting the correlation between the ground motion intensities exhibited during the mainshock and the aftershock events. Specifically, the correlation of the epsilons registered for the pairs of mainshock and aftershock events, is utilized. The method is based on a probabilistic framework. Application of the proposed method to a set of sites affected by the 2011 Van, Turkey M7.2 earthquake sequence will be illustrated

during the talk. The performance of the method will be discussed in comparison with the conventional approaches.

## **Biography**

Ufuk Yazgan is currently a Fulbright Visiting Scholar at UC San Diego, Structural Engineering Department. In his home country, he is working as an Associate Professor at the Institute of Earthquake Engineering and Disaster Management at Istanbul Technical University (ITU), Turkey. Prior to becoming a faculty member at ITU, he worked as a catastrophe reinsurance risk modelling expert at Swiss Re, Zurich. Dr. Yazgan received his PhD in Structural Engineering from the ETH Zurich, Switzerland. He holds MSc and BS degrees from Middle East Technical University, Ankara, Turkey. He is a recipient of ETH Zurich Outstanding Dissertation Medal and TUBITAK Early Career fund. His research interests include: seismic risk assessment, post-earthquake damage evaluation, probabilistic methods in earthquake engineering and structural dynamics.

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*Sponsored by Professor John McCartney  
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