美国工程院院士Bruce Ellingwood教授学术报告

题目：THE SCIENCE BEHIND UNDERSTANDING ATTRIBUTES THAT MAKE A COMMUNITY DISASTER-RESILIENT

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报告简介：

Community resilience depends on the performance of the built environment and on supporting social, economic and public institutions which, individually and collectively, are essential for immediate response and long-term recovery within the community following a disaster. A community's social needs and objectives (including post-disaster recovery) are not reflected in the codes, standards and other regulatory documents applied to design of individual facilities. Furthermore, science-based measurement tools to evaluate performance and resilience at community scales, fully integrated supporting databases, and risk-informed decision frameworks to support optimal life-cycle technical and social policies aimed at enhancing community resilience do not exist at the present time. A new approach is required, one that reflects the complex inter-dependencies among the physical, social and economic systems on which a healthy and vibrant community depends and involves many disciplines, including engineering, social sciences, and information sciences. The Center of Excellence for Risk-Based Community Resilience Planning, headquartered at Colorado State University, was established by The National Institute of Standards and Technology in 2015 to advance the measurement science for understanding the factors that make a community resilient, to assess the likely impact of natural hazards on communities, and to develop risk-informed decision strategies that optimize planning for and recovery from disasters. This presentation summarizes the approach taken by the Center management and research teams to advance the science underlying community resilience assessment and provides an illustration of how physical, social and infrastructure models can be integrated in a risk-informed decision context.

报告人简介:

Dr. Ellingwood is Co-Director of the NIST-sponsored Center of Excellence for Risk-Based Community Resilience Planning at Colorado State University. His teaching, research and professional interests center on the application of methods of probability and statistics to structural engineering. He is internationally recognized as a leading authority on structural load modeling, reliability and risk analysis of engineered facilities and as the seminal figure in the technical development of probability based codified standards for design of structures. He directed the development of the probability-based load criteria for limit states design that appear in ASCE Standard 7 on Minimum Design Loads, the AISC Specification for Structural Steel Buildings, and ACI Standard 318 on Structural Concrete. He has authored more than 400 research papers and reports, is Editor of Structural Safety, and serves on five other editorial boards. He is recipient of numerous prizes and recognitions, and is a member of the US National Academy of Engineering, a Distinguished Member of ASCE, and an Inaugural Fellow of the Structural Engineering Institute.

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