

# 学术讲座

**题目:** 性能化结构设计——减振、抗风、抗震

**报告人:** 段小廿 博士

**主持人:** 邓露 教授

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**报告地点:** 土木学院楼 B210

**主讲人简介:**



**Dr. Xiaonian Duan** 段小廿，清华大学工学学士、工学硕士，英国伦敦大学博士，英国注册工程师，2011年加入英国福斯特及合伙人建筑设计事务所担任合伙人至今。主要从事结构减振、抗风与性能化抗震设计等性能化结构设计方面的工作，参与了2008年版《高层建筑抗震设计指南》(Recommendations for the Seismic Design of High-Rise Buildings)、中国《工业建筑抗震设计标准》的起草工作，也是2017年版《高层建筑性能化抗震设计指南》(Performance-Based Seismic Design for Tall Buildings)的审稿人。领导和主持了多个世界各地地标性高层和超高层建筑的结构抗震设计，包括中央电视台新总部大楼、鸟巢体育场、巴拿马国际机场新航站楼、匈牙利首都布达佩斯的首个高层建筑 MOL 总部大楼等，目前主要主持深圳招商银行全球总部项目(345m、44.3万方)的结构设计工作。

**讲座摘要:**

As a result of urban development and the increase in urban population density, more and more urban facilities are under construction, the pace of economic life has been accelerating, and the economic losses caused by wind damages and earthquakes have increased rapidly. Under the circumstance, the kind of single fortification standard with the sole goal of life safety doesn't have comprehensive applicability. Therefore, it's necessary to adopt a kind of performance-based design method which performs better than (or not worse than) the former method with basic defensive target. Generally speaking, performance-based structure design is to make the structure have a clear performance level for different levels of load in the design and use reference period, and to minimize the total cost in the whole life cycle of the structure. Traditionally, it's hard to improve the safety of structures by increasing the stiffness of structures, while the method of reducing vibration has achieved a good effect in engineering application. The report will introduce the performance-based structural design with the consideration of vibration reduction, wind resistance and earthquake resistance, and will be combined with engineering case analysis.

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