

2016 April 25-28

13:30 ▶ 17:30

Venue E2-605

地點：臺灣科技大學 工程二館

可靠度分析於 公共工程之應用

Application of Reliability-Based Design on Infrastructure Systems

課程概述 Course Description

此4天密集課程內容包括可靠度理論的基礎知識，著重於以高階矩為基礎的可靠度分析與設計於建築物和基礎設施的實用性。在實際的可靠度分析過程中，由於機率密度函數(PDF)通常未知，此時運用隨機變數其他的參數(如平均值和方差等)便成為另一個可行的方案。

The 4-day short course will review the basics of reliability theory and introduce the available practical methods for reliability analysis and reliability-based design of buildings and infrastructure systems, with emphasis on the moment methods for these purposes. In practice, because complete probability information, such as probability density functions (PDF), are seldom available; in this regard, the alternative is to use the moments (such as means and variances, etc) of the relevant random variables in the response analysis and design of engineering systems.

聯絡人 Contact Us

國立臺灣科技大學 臺灣建築科技中心
Taiwan Building Technology Center, Taiwan Tech

吳孟娟 小姐 Ms. Iris Wu //

(02)2737-6295

m.chuan1982@mail.ntust.edu.tw

課程時間 Course Schedule (13:30-17:30 / Break Time:15:20-15:40)

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| April 25 MON | 1a | 結構可靠度理論與高階矩法的回顧 Review of structural reliability theory and the introduction to moment method. |
| | 1b | 性能方程式各個階(Moment)的計算 Determination of moments of performance function. |
| April 26 TUE | 2a | 直接階法分析結構可靠度 Direct moment methods for structural reliability |
| | 2b | 一/二階近似法 Moment methods based on First/Second order approximation of performance function |
| April 27 WED | 3a | 在缺乏統計參數下的可靠度分析 Reliability analysis with inclusion of random variables with unknown distribution |
| | 3b | 高階矩法在可靠度結構設計的應用(例如LRFD) Moment method for reliability based structural design (LRFD base on moment methods) |
| April 28 THU | 4a | 高階矩法系統可靠度分析 Moment methods for system reliability |
| | 4b | 考慮參數不確定性下之高階矩法時變可靠度分析 Moment methods for time-variant reliability Considering parameter Uncertainties |

線上報名

<http://goo.gl/forms/kLd5HtwVk1>



免報名費
額滿為止



講者介紹 Instructor

Yan-Gang Zhao

Professor, Dept. of Architecture, Faculty of Engineering
Chair, Dept. of Architecture and Building Engineering, Graduate school of Engineering
Kanagawa University, Japan

趙衍剛教授為神奈川大學建築學系結構工程教授，趙教授同時受聘為中南大學傑出教授及同濟大學光華特聘教授。他的研究興趣主要是隨機動態結構分析和結構可靠度理論，特別是利用高階矩在系統可靠度分析、動態可靠度評估和結構可靠度分析。趙教授參與三本學術書籍的撰寫，並在各種技術期刊與國際研討會發表200餘篇論文。他先後主持和參與20多個研究項目，包括由中國科技部和日本教育與科學部所支持的計畫案。趙教授為許多風險和可靠度分析相關的國際委員會和學會之成員。他於1997年獲得日本建築研究所東海研究獎，於2003年獲得日本、韓國和中國建築學院JAABE最佳論文獎，係自1937年來第一位獲得日本建築學會研究獎的外國人。

Yan-Gang Zhao is a professor of Structural Engineering in Dept. of Architecture, Kanagawa University. He is also a pluralistic distinguished professor of Central South University and Kuanghua chair professor of Tongji University. His research interests are mainly on stochastic dynamic structural analysis and structural reliability theory, especially on system reliability analysis, dynamic reliability evaluation and structural reliability analyses based on methods of high order moments. Prof. Zhao is the author or co-author of three books and more than 200 articles in various technical journals, conference proceedings, such as ASCE journal of Structural Engineering, ASCE journal of Engineering Mechanics, Earthquake Engineering and Engineering Dynamics. He has chaired and participated more than 20 research projects including Key projects of the Natural Science Foundation of China, projects of Grant-in-aid from Ministry of Science and Education of Japan. Prof. Zhao and is a member of a number of national and international committees and associations that focus on risk and reliability analysis. He received the Tokai Research Award of the Architecture Institute of Japan in 1997 and the JAABE best paper award by the Architecture Institutes of Japan, Korea and China in 2003. In 2008, he received the Research Prize of Architecture Institute of Japan, as the first and only foreigner winner since the foundation of this award in 1937.