

Niels-Peter Høj

Education

Diploma in (M.Sc.) in Structural Engineering from the Institute of Structural Engineering at Aalborg University, Denmark. Thesis: "Estimation of Failure Probability for Frame Structures", 1983

Prizes

Recipient of the 1999 annual IABSE Prize given in recognition of an outstanding contribution in the field of structural engineering. Niels Peter Høj was awarded the prize in recognition of his "outstanding efforts with introduction and application of modern probabilistic ways of thinking in professional practical engineering activities, in particular related to methods for risk analysis, structural reliability and decision making"

Key Qualifications

Mr. N. P. Høj has a broad experience and special knowledge of design for safety, risk analysis, management, structural engineering, structural reliability and decision support.

The special expertise on safety and risk analyses applied as an integrated part of the decision support has been applied in practice to support decision within design and operation of major infrastructure projects and as part of feasibility studies. Mr. Høj has contributed with his experience and developed new methods for safety design by participation in research projects.

Analysis of concrete structures, and particularly tunnels, subjected to fire is part of Mr N. P. Høj's expertise.

Furthermore, Mr N. P. Høj has a broad experience in design of tunnels, bridges and other structures, structural analysis, preparation of tender documents, and general supervision.

Current position

Independent consultant and owner of HOJ Consulting GmbH (since 2003)

Position held at ETH Zurich

PST, Deputy Head of Chair of Safety Technology, 1999-2000

Publications

- Niels Peter Høj: "Hazards in tunnels, Structural Integrity" presented at the 1st International Symposium "Safe & Reliable Tunnels, Innovative European Achievements" (Proceedings). Prague, Czech Republic, 4 - 6 February 2004.
- Niels Peter Høj: "Guidelines for fire safe design. Compared fire safety features for road tunnels" presented at the 1st International Symposium "Safe & Reliable Tunnels, Innovative European Achievements" (Proceedings). Prague, Czech Republic, 4 - 6 February 2004.
- Steen Rostam & Niels Peter Høj: "Integrated tunnel design from cradle-to-grave enhancing structural performance and owner confidence". Proceedings of 1st International Symposium "Safe & Reliable Tunnels, Innovative European Achievements" Prague, Czech Republic, 4 - 6 February 2004.
- Niels Peter Høj & Inger Kroon: "How to decide on restrictions to transport of dangerous goods"

- Proceedings of the ITA World Tunneling Congress (Re)claiming the Underground Space, Amsterdam, the Netherlands, 12 - 17 April 2003,
- Niels Peter Høj, Steen Rostam & Carola Edvardsen: "Optimisation of decisions in the process of creating and operating tunnels" Proceedings of the ITA World Tunneling Congress (Re)claiming the Underground Space, Amsterdam, the Netherlands, 12 - 17 April 2003.
 - Gabriel Houry, Niels Peter Høj et al. "Fire Design of Concrete, - materials, structures and modelling" Keynote paper W451, First fib Congress in Osaka, Japan, October, 14 - 18, 2002.
 - Niels Peter Høj & Wolfgang Kröger: "Risk Analyses of Transportation on Road and Railway" Safety Science, volume 40, issues 1-4, 2001.
 - Niels Peter Høj: "Risk and Safety Considerations at different Project Phases" presented as a keynote lecture at the International Conference "Safety, Risk and Reliability - Trends in Engineering", Malta, March 21-23, 2001
 - Niels Peter Høj & Inger Kroon: "Application of Risk Aversion for Engineering Decision Making" presented at the International Conference "Safety, Risk and Reliability - Trends in Engineering", Malta, March 21-23, 2001
 - Niels Peter Høj: Lecture notes "Risk and Reliability in Civil Engineering", Module 4: "Application in Civil Engineering", Short Course in connection with International Conference "Safety, Risk and Reliability - Trends in Engineering", Malta, March 21-23, 2001.
 - Adrian V. Gheorghe, Niels Peter Høj, Dan Vamanu & Wolfgang Kröger: "Decision Tool for Risk Assessment of Transportation of Dangerous Goods integrating Tunnel Fire Assessment and Simulation" presented at PSAM 5 "International Conference on Probabilistic Safety Assessment and Management", Osaka, November 2000.
 - Niels Peter Høj & Wolfgang Kröger: "Risk Analyses of Transportation on Road and Railway" presented at the ESRA / EC-JRC International Workshop "Promotion of Technical Harmonisation on Risk Based Decision Making", Stresa / Ispra, Italy, May 22 - 24, 2000.
 - Wolfgang Kröger, Ralf Mock, Niels Peter Høj & Dirk Kogelschatz: "Risiko und Sicherheit" Manuskript zur Vorlesung Sommersemester 2000. Professur für Sicherheitstechnik (in German Language), ETH, Zürich, March, 2000.
 - Niels Peter Høj & Steen Rostam: "Optimisation of Concrete for both Durability and Accident Resistance" presented at the IABSE symposium "Structures for the Future - The Search for Quality" Rio de Janeiro, Brazil, August 25-27, 1999.
 - Niels Peter Høj & Chris Tait: "Great Belt tunnel, repairs and refurbishment" Published in Tunnel Management International / Tunnel Safety International, Issue Nine, July/August 1999.
 - Niels Peter Høj & Lars Pedersen: "Full Scale Fire Tests as part of Risk Analyses" presented at the IABSE Colloquium "Tunnels" in Stockholm, Sweden, June 4-5, 1998
 - Niels Peter Høj & Lars Pedersen: "Full Scale Tests for Assessment of Fire Risk" presented at the 3rd International Conference on "Safety in Road and Rail Tunnels", Nice, France, March 9-11, 1998.
 - Niels Peter Høj & J. C. Tait: "Great Belt tunnel, repairs and refurbishment following a fire" presented at the 2nd International Conference on Tunnel Management, Operation and Maintenance, Seminar on Tunnel Fires, Hong Kong, China, February 16-18, 1998.
 - Niels Peter Høj & J.C. Tait: "Storebælt Eastern Railway Tunnel: Dania Tunnel Boring Machine Fire-Analysis and Recovery ". Published in Proceedings of the Institution of Civil Engineers, Vol. 114, special issue 1, 1996. Presented at ICE colloquium, London, UK, 29 Oct 1996.
 - Niels Peter Høj & K. Bennick G.: "Fire and Explosion Safety in Designs of Railway Tunnel under the Great Belt" presented at "2nd International Conference on Safety in Road and Rail Tunnels", Granada, Spain, April 2-6, 1995

