CURRICULUM VITAE

Dr. Kazuyoshi Nishijima

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PERSONAL INFORMATION

Name	NISHIJIMA, Kazuyoshi
Office	Brovej, Building 118, DK-2800, Kgs. Lyngby, Denmark Department of Civil Engineering, Byg Technical University of Denmark, DTU
Telephone	+45 45 25 17 14
E-mail	kazn@byg.dtu.dk
Homepage	http://www.byg.dtu.dk/
Nationality	Japan
Date of birth	13 August 1978

WORK EXPERIENCE

Occupation/position	Associate Professor of Engineering Decision Analysis
Employer	Technical University of Denmark
Dates	Since 01.2011
Type of sector	University
Main activities and responsibilities	Research, supervision of PhD students, and teaching

Occupation/position	Senior research associate (Oberassistent)
Employer	Institute of Structural Engineering, ETH Zurich
Dates	04.2009 – 12.2010
Type of sector	University
Main activities and responsibilities	Research and teaching

Occupation/position	Scientific research assistant / PhD
Employer	Institute of Structural Engineering, ETH Zurich
Dates	12.2004 – 03.2009
Type of sector	University
Main activities and responsibilities	Research and teaching assistant

WORK EXPERIENCE

Occupation/position	Consulting engineer, director
Employer	Matrisk GmbH, Zurich, Switzerland
Dates	Since 2007
Type of sector	Company
Main activities and responsibilities	Consulting

Occupation/position	Working student
Employer	Munich Re, Munich, Germany
Dates	09.2004 - 11.2004
Type of sector	Company
Main activities and responsibilities	Business assistance

EDUCATION

Title of qualification	Doctor of Sciences (Dr. sc. ETH Zurich)
Dates	12.2004 – 03.2009
Organization	Institute of Structural Engineering, ETH Zurich
Principal subjects	Civil engineering, sustainability

Position	PhD student
Dates	04.2003 – 11.2004
Organization	Graduate School of Frontier Sciences, University of Tokyo
Principal subjects	Civil engineering

Title of qualification	Master of Environmental Studies
Dates	04.2001 – 03.2003
Organization	Graduate School of Frontier Sciences, University of Tokyo
Principal subjects	Civil engineering, natural hazards

PERSONAL SKILLS

Mother tongue	Japanese
Other languages	English (Excellent) German (Good)

AWARDS AND GRANTS

Award	Wind Engineering Award (shourei-sho)
Date	2005
Organization	Japan Association for Wind Engineering (JAWE)

AWARDS AND GRANTS

Award	Award for excellent master thesis
Date	2003
Organization	University of Tokyo
Grant	Research fellowship for young scientists, DC1
Dates	04.2003 – 08.2004
Organization	Japan Society for the Promotion of Science (JSPS)
Grant	Scholarship student
Dates	04.1997 – 03.2001
Organization	Kinoshita scholarship foundation

RESEARCH PROJECTS

Title	Projection of the change in future weather extremes using super-high-resolution atmospheric models
Dates	Project member since 04.2010 (ongoing)
Fund organization	Kakushin program, Ministry of Education, Culture, Sports, Science & Technology, Japan
Responsibilities	Research
Title	Real time decision support in the face of evolving natural hazards
Dates	Since 08.2009 (ongoing)
Fund organization	Swiss National Science Foundation (SNF), Switzerland
Responsibilities	Project management, supervision of a PhD student, and research
Title	Development of stochastic typhoon model in Northwest Pacific region and its application to portfolio loss estimation
Dates	01.2007 – 09.2009
Fund organization	AON Benfield, Japan
Responsibilities	Project management, supervision of a PhD student, and research
Title	Decision theoretical framework for sustainable decision making in civil engineering
Dates	10.2006 – 09.2009
Fund organization	Swiss National Science Foundation (SNF), Switzerland
Responsibilities	Research

INDUSTRIAL PROJECTS

Title	PEGASOS refinement project
Task	External review on the treatment of uncertainty in the project
Date	2008 – 2010
Client	Swisselectric
Responsibility	External consultant

Title	Development of framework for inspection and maintenance of FPSOs
Task	Modeling of FPSOs using Bayesian probabilistic networks
Date	2007-2009
Client	Bureau Veritas
Responsibility	Consultant

TEACHING ACTIVITIES

Course title	Consequence modeling (Master of Advanced Studies in Natural Hazards Management)
Level and place	Master of Advanced Studies, ETH Zurich
Dates	2010

Course title	Risk assessment (Master of Advanced Studies in Natural Hazards Management)
Level and place	Master of Advanced Studies, ETH Zurich
Dates	2010

Course title	PhD seminar: Bayesian networks and Bayesian hierarchical analysis in engineering
Level and place	PhD level, Institute of Structural Engineering, ETH Zurich
Dates	2009

Course title	PhD seminar: Probabilistic approach to natural hazards assessment
Level and place	PhD level, Institute of Structural Engineering, ETH Zurich
Dates	2008

Course title	Method of finite elements II (exercises)
Place	Institute of Structural Engineering, ETH Zurich
Dates	2008

TEACHING ACTIVITIES

Course title	PhD seminar: The probabilistic analysis of systems in engineering
Level and place	Master level, Institute of Structural Engineering, ETH Zurich
Dates	2007
Course title	Statistics and probability theory (exercises)
Level and place	Second semester level, Institute of Structural Engineering, ETH Zurich
Dates	2005-2007

PHD STUDENT SUPERVISION

Name, period	Rocco Custer, since 2011
Topic	Development of a natural hazard risk model framework with application to flood risk
Institute	Technical University of Denmark
Name, period	Shuoyun Zhang, since 2010 (co-supervisor)
Topic	Decision strategy on infrastructure under climate change
Institute	ETH Zurich
Name, period	Annett Anders, since 2009
Topic	Real-time decision making in the face of natural hazard events
Institute	Technical University of Denmark
Name, period	Mathias Graf, since 2007 (co-supervisor)
Topic	Typhoon risk modeling in northwest Pacific region
Institute	ETH Zurich

ACTIVITIES WITHIN ACADEMIC SOCIETY

Membership in professional organizations	AIJ: Architectural Institute of Japan, member since 2001 JAWE: Japan Association for Wind Engineering, member since 2003

ACTIVITIES WITHIN ACADEMIC SOCIETY

Academic, scientific and technical committees	ICASP11: 11th International Conference on Applications of Statistics and Probability in Civil Engineering, organizing committee member IFIP WG 7.5: International Federation for Information Processing, Working Group 7.5, Reliability and Optimization of Structural Systems, scientific and technical committee member since 2010

ACTIVITIES WITHIN ACADEMIC SOCIETY

IWTC: International Workshop on Tropical Cyclones, sponsored by World Meteorological Organization (WMO), member in Working Group 4.1 Disaster Risks, Mitigation, Warning Systems, and Societal Impacts since 2010

INVITED PRESENTATIONS, LECTURES AND COURSES (ACADEMIA)

2007 Invited presentation at Kyoto University, Bayesian approach for typhoon risk modeling, Kyoto, Japan, 09.08.2007.

2004 Invited presentation at Cherry Bud workshop, modeling of strong wind speed driven by typhoon and its spatial dependency with multivariate extreme value distribution, Yokohama, Japan, March 2004.

INVITED PRESENTATIONS, LECTURES AND COURSES (INDUSTRY)

2010 Course for reliability analysis and use of STRUREL, Gamesa, Sarriguren, Spain, June 2010.

2008 Course for use of probabilistic typhoon model, Japan, AON Re Tokyo, Tokyo, Japan December 2008.

2007 Invited seminar on development of typhoon risk model, AON Re Tokyo, Tokyo, Japan, August-September 2007.

PUBLICATIONS

Dissertations

PhD thesis
Nishijima, K. (2009). Issues of sustainability in engineering decision analysis, ETH Zurich, Zurich.

Master thesis
Nishijima, K. (2003). Multi-site Hazard Analysis for Optimal Design of Building Portfolio, University of Tokyo, Tokyo (in Japanese).

Refereed journal papers

2009
Graf, M., Nishijima, K., and Faber, M. H. (2009). Bayesian updating in natural hazard risk assessment. Australian Journal of Structural Engineering, 9(1), 35-44.

Nishijima, K., and Faber, M. H. (2009). A budget management approach for societal infrastructure projects. Structure and Infrastructure Engineering, 5(1), 41-47.

Nishijima, K., and Faber, M. H. (2009). Societal performance of infrastructure subject to natural hazards. Australian Journal of Structural Engineering, 9(1), 9-16.

Nishijima, K., Maes, M. A., Goyet, J., and Faber, M. H. (2009). Constrained optimization of component reliabilities in complex systems. Structural Safety, 31, 168-178.

2007
Nishijima, K., and Faber, M. H. (2007). Bayesian approach to proof loading of quasi-identical multi-components structural systems. Civil Engineering and Environmental Systems, 24(2), 111-121.

Nishijima, K., Straub, D., and Faber, M. H. (2007). Inter-generational distribution of the life-cycle cost of an engineering facility. Journal of Reliability of Structures and Materials, 3(1), 33-46.

Nishijima, K., Straub, D., and Faber, M. H. (2007). Sustainable decision for life-cycle based design and maintenance. Australian Journal of Civil Engineering, 4(1), pp. 59-72.

2004
Kanda, J., and Nishijima, K. (2004). Multi-site Wind and Earthquake Hazard Analysis via Multivariate Extreme Value Distribution. Proceedings of the Institute of Statistical Mathematics, 52(1), 151-173 (in Japanese).

Nishijima, K., and Kanda, J. (2004). A Multi-point Model for Annual Maximum Wind Speed via Max-Stable Process. Journal of Wind Engineering, JAWE, 99, 215-226 (in Japanese).

Nishijima, K., and Kanda, J. (2004). An optimum design approach for building portfolio. Journal of Structural and Construction Engineering, AIJ, 579, 125-132 (in Japanese).

2003
Nishijima, K., and Kanda, J. (2003). An attempt for probabilistic seismic hazard analysis considering spatial correlation of seismic intensities at two sites. Journal of Structural Engineering, 49B, 351-358.

2002
Nishijima, K., Kanda, J., and Choi, H. (2002). Estimation of Peak Factor for Non-Gaussian Wind Pressure. Journal of Structural and Construction Engineering, AIJ, 557, 79-84 (in Japanese).

Conference papers

2010 Nishijima, K., Qin, J., and Faber, M.H. (2010). Probability integral solution by extrapolation for system reliability assessment. ISRERM2010, Shanghai, China.

Nishijima, K., Qin, J., and Faber, M.H. (2010). A scalable parametric approximation to multi-normal probability integrals. IFIP WG7.5 Working Conference on Reliability and Optimization of Structural Systems, Munich, Germany.

2009 Graf, M., Nishijima, K. and Faber, M.H. (2009). A probabilistic typhoon model for the northwest Pacific region. Proceedings of the 7th Asia-Pacific Conference on Wind Engineering, APCWE7, Taipei, Taiwan.

Nishijima, K., Graf, M., and Faber, M.H. (2009). Optimal evacuation and shut-down decisions in the face of emerging natural hazards. Proceedings of the 10th International Conference on Structural Safety and Reliability, ICOSSAR2009, Osaka, Japan.

2008 Graf, M., Nishijima, K., and Faber, M.H. (2008). Adaptation of typhoon risk modelling to climate changes. International Disaster and Risk Conference, IDRC, Davos, Switzerland.

Nishijima, K., Maes, M., and Faber, M.H. (2008). Probabilistic assessment of extreme events subject to epistemic uncertainties. Proceedings of the ASME 27th International Conference on Offshore Mechanics and Arctic Engineering, OMAE2008, Estoril, Portugal.

Nishijima, K., and Faber, M.H. (2008). Implicit proof-load effect in life-cycle assessment of structural performance. IFIP WG7.5, Reliability and optimization of structural systems, Mexico.

2007 Faber, M. H., Bayraktarli, Y., and Nishijima, K. (2007). Recent Developments in the Management of Risks Due to Large Scale Natural Hazards. XVI Congreso Nacional Ingenieria Sismica, Ixtapa-Zihuatanejo, Mexico.

Nishijima, K., and Faber, M. H. (2007). A Bayesian framework for typhoon risk management. 12th International Conference on Wind Engineering, 12ICWE, Cairns, Australia.

Nishijima, K., and Faber, M. H. (2007). On Structural Performance vs. Societal Economic Growth. 10th International Conference on Applications of Statistics and Probability in Civil Engineering, ICASP10, Kashiwa, Japan.

2006 Nishijima, K., and Faber, M. H. (2006). A Budget Management Approach for Societal Infrastructure Projects. IABMAS'06, 3rd International Conference on Bridge Maintenance, Safety and Management, Porto, Portugal.

Nishijima, K., and Faber, M. H. (2006). Optimal condition control of systems comprised of multiple homogenous components. 13th IFIP TC7 WG 7.5 Working Conference on Reliability and Optimization of Structural Systems, Kobe, Japan.

2005 Nishijima, K., Straub, D., and Faber, M. H. (2005). The Effect of Changing Decision Makers on the Optimal Service Life Design of Concrete Structures. Proceedings of the 4th International Workshop on Life-Cycle Cost Analysis and Design of Civil Infrastructures Systems, Cocoa Beach, Florida, 325-333.

2004 Faber, M. H., Maes, M. A., and Nishijima, K. (2004). Optimal Design and Portfolio Risk Management for Groups of Structures. Proceedings OMAE2004, 23rd International Conference on Offshore Mechanics and Arctic Engineering, Vancouver, British Columbia, Canada, [OMAE2004-51430].

Conference papers

2003 Faber, M. H., and Nishijima, K. (2004). Aspects of Sustainability in Engineering Decision Analysis. Proceedings 9th ASCE Specialty Conference on Probabilistic Mechanics and Structural Reliability, Albuquerque, New Mexico, USA.

Nishijima, K., and Kanda, J. (2003). Optimum Reliability for Building Portfolio Considering Spatial Correlation of Loads. 9th International Conference on Applications of Statistics and Probability in Civil Engineering, ICASP9, San Francisco, USA, 719-723.

Nishijima, K., and Kanda, J. (2003). A risk management approach for the design of building portfolios. 11th IFIP WG7.5 Working Conference on Reliability and Optimization of Structural Systems, Banff, Canada, 369-376.

2002 Kanda, J., and Nishijima, K. (2002). Wind loads and Earthquake Ground Motions as Stochastic Processes. 1st International ASRANet Colloquium, Glasgow, UK.

Workshop papers

2010 Nishijima, K. and Custer, R. (2010). Open framework for global natural hazard risk assessment. International Forum on Engineering Decision Making, Fifth IFED Forum, Stoos, Switzerland.

2009 Nishijima, K. and Faber, M. H. (2009). A macroeconomic decision framework for sustainable design and maintenance policy making for civil infrastructure. International Forum on Engineering Decision Making, Fourth IFED Forum, Hakone, Japan.

2008 Nishijima, K., Graf, M., and Faber, M. H. (2008). From Near-real-time Information Processing to Near-real-time Decision Making in Risk Management of Natural Hazards. Inaugural International Conference of the Engineering Mechanics Institute, EM08, University of Minnesota, Minneapolis, Minnesota.

2007 Graf, M., Nishijima, K., and Faber, M. H. (2007). Bayesian updating in natural hazard risk assessment. International Forum on Engineering Decision Making, Third IFED Forum, Shoal Bay, Australia.

Nishijima, K., and Faber, M. H. (2007). Societal optimal performance of infrastructure subject to natural hazards. International Forum on Engineering Decision Making, IFED, Shoal Bay, Australia.

Nishijima, K., Maes, M. A., Goyet, J., and Faber, M. H. (2007). Optimal Reliability of Components of Complex Systems Using Hierarchical System Models. Special Workshop on Risk Acceptance and Risk Communication, Stanford University, California, USA.

2006 Nishijima, K., and Faber, M. H. (2006). Optimal proof load testing of large quasi-identical component systems. International Forum on Engineering Decision Making, Lake Louise, Canada.

2005 Baker, J. W., Straub, D., Nishijima, K., and Faber, M. H. (2005). On the Assessment of Robustness I: A General Framework. Workshop Robustness of Structures, Garston, Watford, England.

2004 Kanda, J., and Nishijima, K. (2004). Scope of Insurance Premium for Residential Houses against Seismic Risk in Japan. First Forum on Engineering Decision Making, IFED, Stoos, Switzerland.

Nishijima, K., Straub, D., and Faber, M. H. (2004). Sustainable decisions for Life-Cycle Based Design and Maintenance. First Forum on Engineering Decision Making, IFED, Stoos, Switzerland.

Other publications and presentations

2010 Nishijima, K., Qin, J., and Faber, M.H. (2010). 標準ガウス空間上で定義された破壊確率のスケールパラメータを用いた近似計算, 第 30 回最適設計研究会＋第 17 回信頼性設計技術 WS, Tsukuba, Japan

2009 Nishijima, K., Graf, M., and Faber, M. H. (2009). Technical note on Development of stochastic typhoon model in Northwest Pacific region and its application to portfolio loss estimation. AON Re Tokyo.

Graf, M., Nishijima, K., and Faber, M. H. (2009). User manual for Typhoon Risk Analysis. AON Re Tokyo.

2005 Nishijima, K. (2005). Probabilistic Modeling of Maximum Wind Field due to Typhoon. Natural Hazards in an Alpine Valley PhD-Workshop, Saas Tal, Switzerland.

Kazuyoshi Nishijima,

13.01.2011, Lyngby, Denmark