

MSc. Kusanovic S. Danilo

CONTACT INFORMATION	Graduate Student at CALTECH Mechanical and Civil Engineering Department The California Institute of Technology Pasadena, USA	<i>CellPhone:</i> (+1)-916-801-5110 <i>Office :</i> Gate-Thomas, B103 <i>Passport :</i> 15.581.358-K <i>E-mail:</i> dkusanov@caltech.edu
EDUCATION	National Technical University of Athens. Athens, Greece. M.Sc., Analysis and Design in Earthquake Resistance Structures (ADERS), March 2013 <ul style="list-style-type: none">• Thesis Topic: <i>Reliability-Based Characterization of Base-Isolated Buildings</i>. Adviser: PhD. Manolis Papadrakakis. Area of Study: Reliability Analysis of Structures. Santa Maria University. Valparaíso, Chile. M.Sc., in Science of Civil Engineering, March 2009 <ul style="list-style-type: none">• Thesis Topic: <i>Robust design in structural systems based on advanced stochastic programming techniques</i>. Adviser: PhD. Héctor Jensen. Area of Study: Reliability-based optimization. B.Sc., Civil Engineering, June 2005 <ul style="list-style-type: none">• Civil engineering specialization (emphasis on structural analysis)	
AWARDS	Fulbright <ul style="list-style-type: none">• Fulbright Nominee. Santa Maria University. <ul style="list-style-type: none">• Academic Merit Award: 2003 – 2007.	
SCHOLARSHIP	National Technical University of Athens <ul style="list-style-type: none">• MSc. in Analysis and Design of Earthquake Resistance Structures, 2011 – 2012. Santa Maria University <ul style="list-style-type: none">• MSc. in Science of Structural Civil Engineering: 2007–2008 CORFO <ul style="list-style-type: none">• English Course: July 2009 – December 2009	
REFEREED JOURNAL PUBLICATIONS	<p>[1] H.A. Jensen D.S. Kusanovic, E. Millas and C. Papadimitriou. Model reduction techniques for Bayesian finite elements model updating using dynamic response data. <i>Computer Methods in Applied Mechanics and Engineering</i>, 279(301–324), 2014.</p> <p>[2] H.A. Jensen and D.S. Kusanovic, On the effect of near-field excitations of reliability-based performance and design of based-isolated buildings. <i>Journal of Probabilistic Engineering Mechanics</i>, 36(28–44), 2014.</p> <p>[3] H.A. Jensen, M.A. Valdebenito, D.S. Kusanovic, Compromise design of stochastic dynamical systems: A reliability-based approach. <i>Journal of Probabilistic Engineering Mechanics</i>, 29(40–52), 2012.</p> <p>[4] H.A. Jensen, D.S. Kusanovic, M.A. Valdebenito and G.I. Schüeller. Reliability-Based Design Optimization of Uncertain Stochastic Systems: Gradient-Based Scheme. <i>The Journal of Engineering Mechanics</i>, 138(60–70), 2012.</p> <p>[5] H.A. Jensen, M.S. Ferré, D.S. Kusanovic, Reliability-based synthesis of nonlinear stochastic dynamical systems: a global approximation approach. <i>International Journal of Reliability and Safety</i>, Vol. 4 nos. 2/3, 2010.</p>	

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- [7] H.A. Jensen & **D.S. Kusanovic**, Reliability-Based Design of Base-isolated systems considering large scale structural models., *7th International Conference on Computational Stochastic Mechanics*, June 15 – Jun 18, 2014, Santorini, Greece.
- [8] H.A. Jensen, E.A. Millas & **D.S. Kusanovic**, The Use of Component Mode Synthesis Techniques for Large Finite Element Model Updating using Dynamic Data, *IX International Conference on Structural Dynamics*, EUROODYN 2014, June 30 – July 2, 2014, Porto, Portugal.
- [9] H.A. Jensen, Franco Mayorga & **D.S. Kusanovic**, Sensitivity analysis for stochastic ground motion modeling, *Sociedad Chilena de Mecánica Computacional*, October 3-4, 2013, Santiago, Chile.
- [10] H.A. Jensen, **D.S. Kusanovic** & M.A. Valdebenito, Design of isolation systems for large scale buildings models under stochastic excitation, *ICOSSAR 2013*, June 16-20, 2013, New York, USA.
- [11] M.A. Valdebenito, H.A. Jensen, J.P. Oyarzún, J.I. Correa & **D.S. Kusanovic**, Efficient Assessment of First Excursion Probabilities for Uncertain Linear Dynamical Structures Subject to Gaussian Excitation, *ICOSSAR 2013*, June 16-20, 2013, New York, USA.
- [12] H.A. Jensen, **D.S. Kusanovic** & Manolis Papadrakakis, Reliability-based characterization of base-isolated structural systems, *ECCOMAS 2012*, September 10-14, 2012, Vienna, Austria.
- [13] H.A. Jensen, **D.S. Kusanovic**, Tradeoff analysis of offshore structures under stochastic excitation, *II South-American Congress on Computational Mechanics*, November 15-18, Buenos Aires, Argentina, 2010.
- [14] H.A. Jensen, **D.S. Kusanovic**, M.A. Valdebenito, J.G. Sepulveda, Robust structural optimization of stochastic dynamical systems, *2nd International conference on engineering optimization*, September 6-9, Lisbon, Portugal, 2010.
- [15] H.A. Jensen, **D.S. Kusanovic**, An efficient decision support system for robust design of stochastic dynamical system, *IV European conference on computational mechanics*, May 16-21, Paris, France, 2010.
- [16] H.A. Jensen, **D.S. Kusanovic**, Reliability sensitivity analysis: an effective tool in reliability based optimization of dynamical systems, *11th Pan-American Congress of Applied Mechanics*, January 4-8, Foz do Iguacu, Brazil, 2010.
- [17] H.A. Jensen, **D.S. Kusanovic**, Discrete-continuous variable optimization of stochastic dynamical systems, *The 10th International Conference on Structural Safety and Reliability (ICOSSAR 2009)*, September 13-17, Osaka, Japan, 2009.
- [18] H.A. Jensen, G.I. Schüeller, M.A. Valdebenito, and **D.S. Kusanovic**. Efficient reliability-based optimization of stochastic systems using line search. In M. Papadrakakis, N.D. Lagaros, and M. Fragiadakis, editors, *ECCOMAS. Thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering (COMPdyn 2009)*, Rhodes, Greece, EU, June 22-24, 2009.
- [19] P. Winckler G., **D.S. Kusanovic** and C. Cardenas M., Study of tsunami generated by mass removals associated to the earthquake on April 21st in 2007, Aysen’s Fiord, Chile, *Fifth international seminary of engineering and port operations*, Chilean society of Hydraulics Engineering, November 2008, Concepcion, Chile.

CHAPTERS BOOKS	[20] H.A. Jensen, M.A. Valdebenito, G.I. Schüeller, and D.S. Kusanovic . <i>Computational Method in Stochastic Dynamics</i> , M. Papadrakakis et al., An efficient first-order scheme for reliability based optimization of stochastic system, Springer-Verlag, The Netherlands, 2010.
ENCYCLOPEDIA	Contributor to the Encyclopedia of Earthquake Engineering. <ul style="list-style-type: none"> • Reliability-based characterization of base-isolated systems. Editors: Michael Beer, Edoardo Patelli, Ioannis Kougiumtzoglou and Siu-Kui Au. Article ID: 369346 – Chapter ID: 163. Editorial: Springer.
PROFESSIONAL EXPERIENCE	SIRVE S.A , Santiago, Chile, January 2011 to September 2011. <ul style="list-style-type: none"> • Worked as a Civil Engineer in the R+D department of the same company, under the supervision of André Côté. Valparaíso University , Viña del Mar, Chile, January 2008 to September 2008. <ul style="list-style-type: none"> • Worked as a Civil Engineer in the development of numerical analysis of Tsunami under the supervision of Professor Patricio Winckler G. at the Numerical Oceanography laboratory.
TEACHING EXPERIENCE	Santa Maria University , Valparaíso, Chile <i>Lecturer</i> , March 2010 to Present. <ul style="list-style-type: none"> • Finite Elements Method (IPO–401), Structures I (CON–130), Structures II (CON–131). <i>Teaching Assistant</i> , March 2004 to December 2010. <ul style="list-style-type: none"> • Statics of Structures (CIV-131), Strength of Materials (CIV-132), Dynamics of Structures (CIV-235), Structural Analysis (CIV-234).
RESEARCH EXPERIENCE	Department of Civil Engineering, Santa Maria University, Valparaíso, Chile, March 2013 to Present. <ul style="list-style-type: none"> • Design and implementation of a data base for tsunami prediction for the chilean coast using high performance computing. Funded by the Chilean Science Foundation (CONICYT). FONDEF D11I1119. • Reliability-Based Design of Base-Isolated Buildings. Funded by the Chilean Science Foundation (CONICYT). Grant, FONDECYT 1110061. Institute of Structural Analysis & Seismic Research, National Technical University of Athens, Athens, Greece, September 2011 to Dicember 2012. <ul style="list-style-type: none"> • Reliability-Based Characterization of Base-Isolated Buildings. Funded by The European Union Project. Grant, PIRSES-GA-2010-269222. Department of Civil Engineering, Santa María University, Valparaíso, Chile, September 2008 to Dicember 2010. <ul style="list-style-type: none"> • Reliability-based structural optimization. Funded by the Chilean Science Foundation (CONICYT). Grant, FONDECYT 1070903
SOFTWARE SKILLS	Computer Languages: <ul style="list-style-type: none"> • C++, CUDA, PYTHON, MATLAB Numerical Analysis: <ul style="list-style-type: none"> • Finite element software (ETABS, SAP) • Mathematical packages (MATLAB, Maple, Mathematica) Operating Systems: <ul style="list-style-type: none"> • Microsoft Windows family, Linux (Debian, Ubuntu, Edubuntu, Kubuntu).