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EDUCATION

- **Doctor of Philosophy**, Civil Engineering, University of Waterloo, Canada, 1990
PhD Thesis: Lyapunov Exponents and Their Applications to Structural Dynamics
- **Master of Applied Science**, Civil Engineering, University of Waterloo, Canada, 1987
MASc Thesis: Stochastic Sample Stability of Parametrically Excited Linear Systems
- **Bachelor of Applied Science**, Precision Engineering, Shanghai Jiao-Tong University, Shanghai, China, 1984

AWARDS AND PRIZES

- **Distinguished Teacher Award** the highest formal recognition given by the University of Waterloo for a superior record of continued excellence in teaching, University of Waterloo, 2007
- **Distinguished Performance Awards**
 - for outstanding contribution in teaching, scholarship and service during 2015, Faculty of Engineering, University of Waterloo, 2016
 - for outstanding contribution in teaching, scholarship and service during 2012, Faculty of Engineering, University of Waterloo, 2013
 - for outstanding contribution in teaching, scholarship and service during 2005, Faculty of Engineering, University of Waterloo, 2006
 - for outstanding contribution in teaching, scholarship and service during 1999, Faculty of Engineering, University of Waterloo, 2000
- **Teaching Excellence Award** in recognition of an exemplary record of outstanding teaching, concern for students and a commitment to the development and enrichment of engineering education at Waterloo, Faculty of Engineering, University of Waterloo, 2001
- **Natural Sciences and Engineering Research Council of Canada (NSERC) Doctoral Prize** for outstanding doctoral research and potential for a research career, 1992
- **University of Waterloo Alumni Association Gold Medal** for outstanding achievement in graduate studies at the PhD level, 1990

WORK EXPERIENCE

Since July 2002
Professor

Civil and Environmental Engineering
University of Waterloo

May 1999 to August 2002, Sept. 2003 to August 2008

Associate Chair for Undergraduate Studies

September 2002 to April 2003

Visiting Professor

Civil and Environmental Engineering

University of Waterloo

Mechanical Engineering

Hong Kong Polytechnic University

July 1997 to June 2002

Associate Professor

Civil Engineering

University of Waterloo

January 1992 to June 1997

Assistant Professor

Civil Engineering

University of Waterloo

✦ **Principal Areas of Research**

- seismic analysis and design of engineering structures
- structural dynamics and random vibration
- reliability and safety analysis of engineering systems
- dynamic stability of structures, nonlinear dynamics, and stochastic mechanics

The applications of particular interest are those pertaining to the reliability and safety analysis and design of nuclear power plants, on-shore and off-shore structures, tall buildings that are subjected to loadings caused by earthquakes, ocean waves and wind turbulence. The objective of research is to have a better understanding of the dynamic and stability behaviour of structures, and to provide methods for the reliability and safety analysis and design of structures, machinery, and engineering systems in general.

✦ **Courses Taught**

Graduate Courses

- CivE 614: Structural Dynamics
- CivE 601: Engineering Risk and Reliability
- CivE 701-I: Dynamic Stability of Structures
- CivE 701-II: Advance Structural Dynamics: Random Vibration and Seismic Risk Analysis

Undergraduate Courses

- CivE 405: Structural Dynamics
- CivE 306: Mechanics of Solids III
- CivE 224/EnvE 224: Probability and Statistics
- CivE 222/EnvE 223: Differential Equations
- CivE 221/EnvE 221: Advanced Calculus
- CivE 127/EnvE 127: Statics and Solid Mechanics 1

✦ **Graduate Student Supervision**

M.A.Sc. Students

- Fred Foo, 1993, *Seismic Analysis of Rotating Machinery Using Response Spectrum Method.*
- Yuling Zhang, 1994, *Vibration Mode Localization of Disordered Large Planar Lattice Trusses.*
- Xing Wang, 1996, *Vibration Mode Localization in Randomly Disordered Weakly Coupled Two-Dimensional Cantilever-Spring Arrays.*

- Akram Ibrahim, 1997, *Buckling Mode Localization in Rib-Stiffened Plates with Randomly Misplaced Stiffeners Using a Finite Strip Method*.
- Hassan Zaheer, 1999, *Numerical Simulation for Peak Response Factors* (Project).
- Umar Rizwan, 2001, *Evaluation of Different Floor Vibration Criteria for Cold-Formed Steel Residential Construction* (Project).
- Wei Liu, 2001, *Vibration Studies of Floors Supported by Cold-Formed Steel Joists*.
- Yuan Du, 2002, *Random Fatigue Analysis of Structures under Stationary Excitations*.
- Richard Wiebe, 2009, *Stability of a Structural Column under Stochastic Axial Loading*.

M.Math. Students

- Zhaoxin Wan, 2012, *Flocking for Multi-Agent Dynamical Systems*. (Co-supervised with Professor Xinzhi Liu)

Ph.D. Students

- Ningyuan Li, 1997, *Development of a Probabilistic Based, Integrated Pavement Management System*. (Co-supervised with Professor R.C.G. Haas)
- Richard Zhi-Hua Chen, 2002, *Vibration Localization in Stiffened Plates*.
- Jinyu Zhu, 2008, *Stochastic Stability of Flow-Induced Vibration*.
- Qinghua Huang. 2008, *Stochastic Stability of Viscoelastic Systems*.
- Jun Liu, 2010, *Qualitative Studies on Nonlinear Hybrid Systems*. (Co-supervised with Professor Xinzhi Liu)
- Tianjin Cheng, 2011, *Stochastic Renewal Process Models for Maintenance Cost Analysis*. (Co-supervised with Professor Mahesh Pandey)
- Mohamad Sahib Alwan, 2011, *Qualitative Properties of Stochastic Hybrid Systems and Applications*. (Co-supervised with Professor Xinzhi Liu)
- Dongliang Lu, 2012, *Estimation of Stochastic Degradation Models Using Uncertain Inspection Data*. (Co-supervised with Professor Mahesh Pandey)
- Shun-Hao Ni, 2012, *Design Earthquakes Based on Probabilistic Seismic Hazard Analysis*. (Co-supervised with Professor Mahesh Pandey)
- Jian Deng, 2013, *Fractional Stochastic Dynamics in Structural Stability Analysis*. (Co-supervised with Professor Mahesh Pandey)
- De-yi Zhang, 2013, *Stochastic Modelling and Analysis for Bridges under Spatially Varying Ground Motions*. (Co-supervised with Professor Mahesh Pandey)
- Zhaoliang Wang, 2015, *Seismic Risk Analysis for Nuclear Energy Facilities*. (Co-supervised with Professor Mahesh Pandey)
- Bo Li, 2015, *Response Spectra for Seismic Analysis and Design*. (Co-supervised with Professor Mahesh Pandey)
- Wei Jiang, 2016, *Direct Method of Generating Floor Response Spectra*. (Co-supervised with Professor Mahesh Pandey)
- Zhen Cai, 2016, *Seismic Fragility Analysis for Structures, Systems, and Components in Nuclear Power Plants*. (Co-supervised with Professor Mahesh Pandey)
- Kexue Zhang, 2017, *Impulsive Control of Discrete Complex Dynamical Networks with Time-Delay*. (Co-supervised with Professor Xinzhi Liu)

- Donghui Lu, 2020, *Pavement Flooding Risk Assessment and Management in the Changing Climate*. (Co-supervised with Professor Susan Tighe)
- Yang Zhou, 2020, *Direct Method for Floor Response Spectra Considering Soil-Structure Interaction*.

September 1990 to December 1991

Atomic Energy of Canada Limited, CANDU

Stress Analyst and Design Engineer

Mississauga, Ontario, Canada

- Analysed acoustic resonance in reactor inlet header and discharge pipes.
- Studied flow-induced vibration of fuel bundles.
- Performed analysis on Large Scale Fuel Channels Replacement tools and installation.
- Provided consultation on probability and statistics in probabilistic analysis to delayed hydride crack initiation in pressure tube rolled joint.
- Prepared technical review package on the composite pressure tube to reduce the probability of pressure tube rupture by delayed hydride crack.
- Studied reduced risk of pressure tube rupture by redundancy in the number of garter springs by performing reliability analysis and economic assessment.

January 1987 to August 1990

Civil Engineering, University of Waterloo

Research and Teaching Assistant

Waterloo, Ontario, Canada

PROFESSIONAL ACTIVITIES

- Licensee, *Professional Engineers Ontario*.
- Associate Editor, *Mechanics Based Design of Structures and Machines, An International Journal*, since March 2013
- Member, Editorial Board, *Journal of Nonlinear Systems and Applications*, since July 2009
- Member, Editorial Board, *Advances in Civil Engineering*, since March 2008
- Associate Editor, *ASME Journal of Applied Mechanics*, April 2007 to April 2014
- Member, Canadian Standards Association CSA N289 Technical Committee on Seismic Design, since February 2014
- Member, Canadian Standards Association CSA N289.3 Subcommittee on Design Procedures for Seismic Qualification of Nuclear Power Plants, since July 2014
- Member, *American Society of Mechanical Engineers (ASME)*.
- Member, Technical Committee on Dynamics of Structures and Systems of the ASME.
- Co-Organizer, Fields Institute Workshop on *Hybrid Dynamic Systems*, July 29-31, 2010, University of Waterloo, Waterloo, Ontario, Canada.
- Co-Organizer, *Symposium on Nonlinear Dynamics, Control and Stochastic Mechanics*, at 2008 International Mechanical Engineering Congress and Exposition (ASME), Boston, MA.
- Program Co-Chair, *International Conference on Advances in Engineering Structures, Mechanics & Construction*, May 14-17, 2006, Waterloo, Ontario, Canada.
- Principal Organizer, *Symposium on Nonlinear Dynamics and Stochastic Mechanics*, at 2003 International Mechanical Engineering Congress and Exposition (ASME), Washington, D.C.
- Guest Editor, Special Issue on *Localization Problems in Engineering*, Special Issue on

Nonlinear Dynamics and Stochastic Mechanics, Chaos, Solitons & Fractals.

- Principal Organizer, *Symposium on Nonlinear Dynamics and Stochastic Mechanics*, at 2000 International Mechanical Engineering Congress and Exposition (ASME), Orlando, FL.
- Principal Organizer, *Symposium on Nonlinear Dynamics and Stochastic Mechanics*, at 1997 International Mechanical Engineering Congress and Exposition (ASME), Dallas, TX.
- Member of the Organizing Committee, Program Coordinator, *International Symposium on Nonlinear Dynamics and Stochastic Mechanics*, August 28–September 1, 1993, Waterloo, ON, Canada.
- Reviewer for *ASME Journal of Applied Mechanics*, *Journal of Sound and Vibration*, *International Journal of Solid & Structures*, *Computers and Structures*, *Shock and Vibration Journal*, *Mechanics Based Design of Structures and Machines*, *Nonlinear Dynamics*, *Transactions of the Canadian Society for Mechanical Engineering*, *Fields Institute Communications*, *Structural Engineering & Mechanics*, *Wave Motion*, *Stochastic Dynamics*, *AIAA Journal*.

LIST OF PUBLICATIONS

Books

1. Wei-Chau Xie, Shun-Hao Ni, Wei Liu, and Wei Jiang, 2019, ***Seismic Risk Analysis of Nuclear Power Plants***, Cambridge University Press, ISBN 978-1-107-04046-5, www.cambridge.org/9781107040465, DOI: 10.1017/9781139629010, xxi+611 pages.
2. Wei-Chau Xie, 2010, ***Differential Equations for Engineers***, Cambridge University Press, ISBN-13 978-0-521-19424-2, ISBN-10 0-521-19424-5, xvi+550 pages.
3. Wei-Chau Xie, 2006, ***Dynamic Stability of Structures***, Cambridge University Press, ISBN-13 978-0-521-85266-1, ISBN-10 0-521-85266-8, xvii+435 pages.

Refereed Journal Publications, published or accepted

1. Yue Li, Wei-Chau Xie, Binh-Le Ly, Weiya Xu, and Chuan-Hua Xu, 2022, “Limit Equilibrium Analysis by Using a Lateral Force as Functional”, *International Journal of Geomechanics*, accepted.
2. Rui Wang, Wei-Chau Xie, and Mahesh D. Pandey, 2022, “Generation of Floor Response Spectra of Structures under Seismic Excitations at Multiple Support”, *Nuclear Engineering and Design*, **389**, <https://doi.org/10.1016/j.nucengdes.2021.111527>.
3. Rui Wang, Wei-Chau Xie, and Mahesh D. Pandey, 2022, “Generation of Floor and Tertiary Response Spectra of Structures under Seismic Excitations at Multiple Supports”, *Earthquake Engineering & Structural Dynamics*, **51**(4), 853-874, <https://doi.org/10.1002/eqe.3594>.
4. Yang Zhou and Wei-Chau Xie, 2022, “The Generation of Uniform Hazard Floor Response Spectra”, *Soil Dynamics and Earthquake Engineering*, **161**, <https://doi.org/10.1016/j.soildyn.2022.107383>.

5. Lanlan Yang, Binh-Le Ly, Wei-Chau Xie, Chenxi Mao, and Xiangnan Qin, 2022, “A Novel Approach to the Integration for Generating Consistent Ground Acceleration, Velocity and Displacement Time Histories”, *International Journal of Structural Stability and Dynamics*, **22**(13), <https://doi.org/10.1142/S0219455422710031>.
6. Huanling Wang, Zihua Jiang, Weiya Xu, Rubin Wang, and Weichau Xie, 2022, “Physical Model Test on Deformation and Failure Mechanism of Deposit Landslide under Gradient Rainfall”, *Bulletin of Engineering Geology and the Environment*, **81**(1), 66, <https://doi.org/10.1007/s10064-021-02566-y>.
7. Shizhuang Chen, Weiya Xu, Mengcheng Sun, Long Yan, Jing Hou, Weiwei Wu, and Wei-Chau Xie, 2022, “Shear Creep Properties and Creep Model of Gravel Sliding Zone: A Case Study of the Zhoujia Landslide in China”, *Frontiers in Earth Science*, **10**:838183. doi:10.3389/feart.2022.838183.
8. Wei Jiang, Yang Zhou, Wei-Chau Xie, and Mahesh D. Pandey, 2021, “Direct Method for Generating Floor Response Spectra Considering Soil-Structure Interaction”, *Journal of Earthquake Engineering*, <https://doi.org/10.1080/13632469.2020.1852137>.
9. Lanlan Yang, Wei-Chau Xie, Weiya Xu, Binh-Le Ly, Huanling Wang, Qingxiang Meng, 2021, “Directional Components of a Seismic Design Accelerogram”, *Journal of Earthquake Engineering*, <https://doi.org/10.1080/13632469.2021.1881657>.
10. Lanlan Yang, Wei-Chau Xie, Weiya Xu, Binh-Le Ly, Wenhua Liu, Wugang Li, 2021, “Generation of Tri-Directional Spectra-Compatible Time Histories Coupling the Influence Matrix Method and Gram-Schmidt Orthogonalization”, *International Journal of Structural Stability and Dynamics*, **21**(13), <https://doi.org/10.1142/S0219455421501868>.
11. Lanlan Yang, Wei-Chau Xie, Wenhua Liu, Xiuli Sun, Chaojun Jia, 2021, “Generation of Tri-directional Seismic Time Histories Compatible with Floor Response Spectra”, *Nuclear Power Engineering*, **40**(3): 1-12.
12. Long Yan, Weiya Xu, Rubin Wang, Huanling Wang, Wei-Chau Xie, 2021, “Mechanical and Permeability Characteristics of Basalt during Unloading Confining Pressure Creep Tests under Coupled Hydro-Mechanical Conditions”, *Rock Mechanics and Rock Engineering*, **54** (12): 6091-6103, <https://doi.org/10.1007/s00603-021-02616-7>.
13. Mengcheng Sun, Weiya Xu, Huanling Wang, Qingxiang Meng, Long Yan, Wei-Chau Xie, 2021, “A Novel Hybrid Intelligent Prediction Model for Valley Deformation: A Case Study in Xiluodu Reservoir Region, China”, *CMC-Computers Materials & Continua*, **66**(1), 1057–1074, doi:10.32604/cmc.2020.012537.
14. Zhen Wang, Huanling Wang, Weiya Xu, and Wei-Chau Xie, 2021, “Slope Stability Analysis Considering the Rotated Anisotropy in Soil Properties”, *Engineering Computations*, **38**(7), 3021–3035, <https://doi.org/10.1108/EC-05-2020-0248>.
15. Donghui Lu, Susan Tighe, and Wei-Chau Xie, 2020, “Impact of Flood Hazards on Pavement Performance,” *International Journal of Pavement Engineering*, **21**(6), 746-752, DOI: 10.1080/10298436.2018.1508844.
16. Huanling Wang, Shiqi Liu, Weiya Xu, Long Yan, Xiao Qu, Wei-Chau Xie, 2020, “Numerical Investigation on the Sliding Process and Deposit Feature of an Earthquake-Induced

- Landslide: A Case Study,” *Landslides*, **17**(11), 2671–2682, <https://doi.org/10.1007/s10346-020-01446-y>.
17. Zhipeng Xiang, Huanling Wang, Weiya Xu, Wei-Chau Xie, 2020, “Experimental Study on Hydro-Mechanical Behaviour of Anisotropic Columnar Jointed Rock-Like Specimens”, *Rock Mechanics and Rock Engineering*, **53**(12), 5781–5794, <https://doi.org/10.1007/s00603-020-02245-6>.
 18. Susheng Wang, Weiya Xu, Long Yan, Xia-Ting Feng, Wei-Chau Xie, Hongjie Chen, 2020, “Experimental Investigation and Failure Mechanism Analysis for Dacite under True Triaxial Unloading Conditions”, *Engineering Geology*, **264** (2020) 105407, <https://doi.org/10.1016/j.enggeo.2019.105407>.
 19. QingXiang Meng, WeiYa Xu, HuanLing Wang, XiaoYing Zhuang, Wei-Chau Xie, Timon Rabczuk, 2020, “DigiSim—An Open Source Software Package for Heterogeneous Material Modeling Based on Digital Image Processing”, *Advances in Engineering Software*, **148** (2020) 102836, <https://doi.org/10.1016/j.advengsoft.2020.102836>.
 20. Shiqi Liu, Huanling Wang, Weiya Xu, Zhichao Cheng, Zhipeng Xiang, and Wei-Chau Xie, 2020, “Numerical Investigation of the Influence of Rock Characteristics on the Soil-Rock Mixture (SRM) Slopes Stability”, *KSCE Journal of Civil Engineering*, **24**(11), 3247–3256, <https://doi.org/10.1007/s12205-020-0034-1>.
 21. Shiqi Liu, Huanling Wang, Weiya Xu, Xiao Qu, and Wei-Chau Xie, 2020, “Numerical Brazilian Split Test of Pre-Cracked Granite with Randomly Distributed Micro-Components”, *Engineering Computations*, DOI: 10.1108/EC-03-2019-0123.
 22. Weiya Xu, Zhichao Cheng, Haibo Wang, Qingxiang Meng, Wei-Chau Xie, 2020, “Correlation between Valley Deformation and Water Level Fluctuations in High Arch Dam”, *European Journal of Environmental and Civil Engineering*, <https://doi.org/10.1080/19648189.2020.1763851>.
 23. Yue Li, Weiya Xu, Wei-Chau Xie, Qiang Zhang, Qingxiang Meng, 2020, “Experimental Study on the Unsaturated-Saturated Seepage Characteristics of Slip Soil in Landslide Deposits”, *Rock and Soil Mechanics*, August 2020, 1000-7598-(2020)02-0304-03.
 24. Weijie Zhou, Weiya Xu, Yu Ning, Haibin Xiao, and Wei-Chau Xie, 2020, “Analytical Method of Stability Analyses of Toppling Rock Slopes Subjected to Flexural Toppling Failure Damage”, *European Journal of Environmental and Civil Engineering*, <https://doi.org/10.1080/19648189.2020.1763840>.
 25. Biao Li, Jianrong Xu, Weiya Xu, Huanling Wang, Long Yan, Qingxiang Meng, and Wei-Chau Xie, 2020, “Mechanism of Valley Narrowing Deformation during Reservoir Filling of a High Arch Dam”, *European Journal of Environmental and Civil Engineering*, <https://doi.org/10.1080/19648189.2020.1763843>.
 26. Zihua Jiang, Huanling Wang, Jianrong Xu, Hongjie Chen, Wei-Chau Xie, 2020, “Variation of Permeability of Natural Filled Jointed Rock under Repeated Loading and Unloading Conditions”, *European Journal of Environmental and Civil Engineering*, <https://doi.org/10.1080/19648189.2020.1763846>.

27. Biao Li, Weiya Xu, Long Yan, Jianrong Xu, Mingjie He, Wei-Chau Xie, 2020, “Effect of Shearing on Non-Darcian Fluid Flow Characteristics through Rough-Walled Fracture”, *Water*, **12**(11), 3260; <https://doi.org/10.3390/w12113260>.
28. Jian Deng, Navjot S. Kanwar, Mahesh D. Pandey, Wei-Chau Xie, 2019, “Dynamic Buckling Mechanism of Pillar Rockbursts Induced by Stress Waves,” *Journal of Rock Mechanics and Geotechnical Engineering*, **11**, 944–953, <https://doi.org/10.1016/j.jrmge.2019.02.005>.
29. Long Yan, Weiya Xu, Huanling Wang, Rubin Wang, Qingxiang Meng, Jun Yu, Wei-Chau Xie, 2019, “Drainage Controls on the Donglingxing Landslide (China) Induced by Rainfall and Fluctuation in Reservoir Water Levels,” *Landslides*, **16**(8), 1583–1593, <https://doi.org/10.1007/s10346-019-01202-x>.
30. Lanlan Yang, Weiya Xu, Qingxiang Meng, Wei-Chau Xie, Huanling Wang, Mengcheng Sun, 2019, “Numerical Determination of RVE for Heterogeneous Geomaterials Based on Digital Image Processing Technology,” *Processes*, **7**(6), 346; doi:10.3390/pr7060346.
31. Lanlan Yang, Wei-Chau Xie, Weiya Xu, Binh-Le Ly, 2019, “Generating Drift-Free, Consistent, and Perfectly Spectrum-Compatible Time Histories,” *Bulletin of the Seismological Society of America*, **109**(5), 1674–1690, doi: 10.1785/0120190005.
32. Zhen Cai, Wei-Chau Xie, Mahesh D. Pandey, 2018, “Improving Seismic Margin Assessment Procedure Using Multiple Ground Motion Parameters,” *Civil Engineering Research Journal*, **5**(1): 555652. DOI: 10.19080/CERJ.2018.05.555652.
33. Donghui Lu, Susan Tighe, and Wei-Chau Xie, 2018, “Pavement Risk Assessment for Future Extreme Precipitation Events under Climate Change,” *Transportation Research Record*, DOI: 10.1177/0361198118781657.
34. Bo Li, Zhen Cai, Wei-Chau Xie, Mahesh Pandey, 2018, “Probabilistic Seismic Hazard Analysis Considering Site-Specific Effects,” *Soil Dynamics and Earthquake Engineering*, **105**, 103-113, doi.org/10.1016/j.soildyn.2017.11.029.
35. Zhen Cai, Wei-Chau Xie, Mahesh D. Pandey, Shun-Hao Ni, 2018, “Determining Seismic Fragility of Structures and Components in Nuclear Power Plants Using Multiple Ground Motion Parameters – Part I: Methodology,” *Nuclear Engineering and Design*, **335**, 195–201, doi.org/10.1016/j.nucengdes.2018.05.013.
36. Zhen Cai, Wei-Chau Xie, Mahesh D. Pandey, Shun-Hao Ni, 2018, “Determining Seismic Fragility of Structures and Components in Nuclear Power Plants Using Multiple Ground Motion Parameters – Part II: Application,” *Nuclear Engineering and Design*, **335**, 186–194, doi.org/10.1016/j.nucengdes.2018.05.016.
37. Wei Jiang, Wei Liu, Wei-Chau Xie, Mahesh D. Pandey, 2017, “A Scaling Method for Generating Floor Response Spectra,” *Annals of Nuclear Energy*, **110**, 613–632.
38. Bo Li, Binh-Le Ly, Wei-Chau Xie, Mahesh D. Pandey, 2017, “Generating Spectrum-Compatible Time Histories Using Eigenfunctions,” *Bulletin of the Seismological Society of America*, **107**(3) 1512–1525, DOI: 10.1785/0120160206.
39. Xinzhi Liu, Kexue Zhang, and Wei-Chau Xie, 2017, “Consensus Seeking in Multi-Agent Systems via Hybrid Protocols with Impulse Delays,” *Nonlinear Analysis: Hybrid Systems*, **25**, 90–98, <http://dx.doi.org/10.1016/j.nahs.2017.03.002>.

40. Bo Li, Wei-Chau Xie, Mahesh D. Pandey, 2016, "Generate Tri-Directional Spectra-Compatible Time Histories Using HHT Method," *Nuclear Engineering and Design*, **308**, 73–85, doi:10.1016/j.nucengdes.2016.08.009.
41. Bo Li, Wei-Chau Xie, Mahesh D. Pandey, 2016, "Newmark Design Spectra Considering Earthquake Magnitudes and Site Categories," *Earthquake Engineering and Engineering Vibration*, **15**(3), 519–535, doi:10.1007/s11803-016-0341-1.
42. Zhaoliang Wang, Wei-Chau Xie, and Mahesh Pandey, 2016, "Computationally Efficient Vector-valued Seismic Risk Analysis of Engineering Structures," *ASCE's Journal of Structural Engineering*, **142**(9), doi: 10.1061/(ASCE)ST.1943-541X.0001504.
43. Xinzhi Liu, Kexue Zhang, and Wei-Chau Xie, 2016, "Stabilization of Time-Delay Neural Networks via Delayed Pinning Impulses," *Chaos Solitons & Fractals*, **93**, 223–234.
44. Kexue Zhang, Xinzhi Liu, and Wei-Chau Xie, 2016, "Pinning Impulsive Synchronization of Reaction-Diffusion Neural Networks with Time-Varying Delays," *IEEE Transactions on Neural Networks and Learning Systems*, **28**(5), 1055–1067, doi: 10.1109/TNNLS.2016.2518479.
45. Xiyang Wang, Xinzhi Liu, Wei Xu, Wei-Chau Xie, and Wanping Liu, 2016 "The Dynamics of HIV Models with Switching Parameters and Pulse Control," *Journal of Biological Systems*, **24**(4), 385–407.
46. Xiyang Wang, Xinzhi Liu, Wei-Chau Xie, Wei Xu, Yong Xu, 2016, "Global Stability and Persistence of HIV Models with Switching Parameters and Pulse Control," *Mathematics and Computers in Simulation*, **123**, 53–67, doi:10.1016/j.matcom.2015.12.008.
47. Mohamad S. Alwan, Xinzhi Liu, and Wei-Chau Xie, 2016, "Stability Properties of Nonlinear Stochastic Impulsive Systems with Time Delay," *Stochastic Analysis and Applications*, **34**(1), 117-136, doi: 10.1080/07362994.2015.1106951.
48. Q.-X. Meng, H.-L. Wang, W.-Y. Xu, W.-C. Xie, R.-B. Wang, and J.-C. Zhang, 2016, "Robust Equivalent Tunnelling Mohr–Coulomb Strength Parameters for Generalised Hoek–Brown Media," *European Journal of Environmental and Civil Engineering*, **20**, 841-60, doi:10.1080/19648189.2015.1084380.
49. Wei Jiang, Bo Li, Wei-Chau Xie, Mahesh D. Pandey, 2015, "Generate Floor Response Spectra, Part 1: Direct Spectra-to-Spectra Method," *Nuclear Engineering and Design*, **293**, 525-546, doi:10.1016/j.nucengdes.2015.05.034.
50. Bo Li, Wei Jiang, Wei-Chau Xie, Mahesh D. Pandey, 2015, "Generate Floor Response Spectra, Part 2: Response Spectra for Equipment-Structure Resonance," *Nuclear Engineering and Design*, **293**, 547-560, doi:10.1016/j.nucengdes.2015.05.033.
51. Jie Pan, Xinzhi Li, Wei-Chau Xie, 2015, "Exponential Stability of a Class of Complex-Valued Neural Networks with Time-Varying Delays," *Neurocomputing*, **164**, 293-299.
52. Huan-Ling Wang, Wei-Ya Xu, Long Yan, Qing-Xiang Meng, Ru-Bin Wang, Hai-Bin Zhao, and Wei-chau Xie, 2015, "Investigation on Time-Dependent Behaviour and Long-Term Stability of Underground Water-Sealed Cavern," *European Journal of Environmental and Civil Engineering*, **19** (sup1), s119-s139.

53. W.Y. Xu, Q. Zhang, R.B. Wang, H.L. Wang, R.K. Wang, and W.C. Xie, 2015 “Mechanism of Continuous Movement and Long-Term Safety Analysis of Baitieba Landslide Based on Field Monitoring Data and Numerical Simulation,” *European Journal of Environmental and Civil Engineering*, **19** (sup1), s140-s154.
54. Jian Deng, Wei-Chau Xie, and Mahesh D. Pandey, 2015, “Stochastic Stability of SDOF Linear Viscoelastic System under Wideband Noise Excitation,” *Probabilistic Engineering Mechanics*, **39**, 10–22, doi:10.1016/j.probengmech.2014.11.001.
55. Xi Li, De-Yi Zhang, Wei-Ming Yan, Yan-Jiang Chen, and Wei-Chau Xie, 2015, “Shake-table Test for a Typical Curved Bridge: Wave Passage and Local Site Effects,” *ASCE Journal of Bridge Engineering*, **20**(2), 04014061.
56. De-Yi Zhang, Shun-Hao Ni, Hong-Yu Jia, Wei-Chau Xie, and Mahesh D. Pandey, 2014, “Multivariate Distribution Models for Design Spectral Accelerations on Uniform Hazard Spectra,” *International Journal of Earthquake Engineering and Hazard Mitigation*, **2**(2).
57. De-Yi Zhang, Hong-Yu Jia, Shi-Xiong Zheng, Wei-Chau Xie, and Mahesh D. Pandey, 2014, “A Highly Efficient and Accurate Stochastic Seismic Analysis Approach for Structures under Tridirectional Nonstationary Multiple Excitations,” *Computer and Structures*, **145**, 23–35, doi: 10.1016/j.compstruc.2014.07.017.
58. Jian Deng, Wei-Chau Xie, and Mahesh D. Pandey, 2014, “Higher-Order Stochastic Averaging to Study Stability of a Fractional Viscoelastic Column,” *Journal of Sound and Vibration*. doi: 10.1016/j.jsv.2014.06.012.
59. Jian Deng, Wei-Chau Xie, and Mahesh D. Pandey, 2014, “Moment Lyapunov Exponent and Stochastic Stability of Coupled Viscoelastic Systems Driven by White Noise,” *Journal of Mechanics of Materials and Structures*, **9**(1), 27–50. doi: 10.2140/jomms.2014.9.27.
60. Jian Deng, Wei-Chau Xie, and Mahesh D. Pandey, 2014, “Stochastic Stability of a Fractional Viscoelastic Column under Bounded Noise Excitation,” *Journal of Sound and Vibration*, **333**(6), 1629 – 1643, <http://dx.doi.org/10.1016/j.jsv.2013.11.019>.
61. Xi Li, De-Yi Zhang, Wei-Ming Yan, Wei-Chau Xie, and Mahesh D. Pandey, 2014, “Effects of Model Updating on Stochastic Seismic Response of a Concrete-Filled Steel Tubular (CFST) Arch Bridge,” *Structure and Infrastructure Engineering*, doi:10.1080/15732479.2013.837079, **10**(12), 1620-1637.
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