

**CURRICULUM VITAE**

(March 2020)

**Ioannis A. Kougioumtzoglou** Web (Department): <https://civil.columbia.edu/faculty/ioannis-kougioumtzoglou>  
Associate Professor Web (Research Lab): <https://kougioumtzoglou-lab.engineering.columbia.edu>  
Google Scholar: [https://scholar.google.com/citations?hl=en&user=\\_ld2hfcAAAAJ](https://scholar.google.com/citations?hl=en&user=_ld2hfcAAAAJ)

**RESEARCH INTERESTS**

Prof. Kougioumtzoglou and his research group develop primarily analytic and numerical stochastic methodologies for response analysis, reliability assessment, and optimization of complex engineering systems and structures under the presence of uncertainties. These methodologies lead eventually to robust and efficient design of dynamic systems ranging from the nano-scale (e.g. nano-mechanical oscillators) to the macro-scale (e.g. energy harvesters and civil infrastructure systems). Specific theoretical research themes include nonlinear stochastic dynamics and path integrals, fractional calculus modeling, computational stochastic mechanics, uncertainty quantification methodologies, and signal processing techniques. Additional research endeavors with diverse applications in structural, earthquake, marine and biomedical engineering include uncertainty modeling and propagation via joint time-frequency analysis tools such as wavelets, as well as analysis of high-dimensional and/or incomplete data via sparse representations and compressive sampling.

**BRIEF BIO**

Prof. Ioannis A. Kougioumtzoglou received his five-year Diploma in Civil Engineering from the National Technical University of Athens (NTUA) in Greece (2007), and his M.Sc. (2009) and Ph.D. (2011) degrees in Civil Engineering from Rice University, TX, USA. He joined Columbia University in 2014, where he is currently an Associate Professor in the Department of Civil Engineering & Engineering Mechanics. Prof. Kougioumtzoglou has published more than 120 technical papers in peer-reviewed International Journals and Conference Proceedings, and was chosen in 2018 by the National Science Foundation (NSF) to receive the prestigious CAREER Award, which recognizes early stage scholars with high levels of promise and excellence. He is also the 2014 European Association of Structural Dynamics (EASD) Junior Research Prize recipient “*for his innovative influence on the field of nonlinear stochastic dynamics*”. Prof. Kougioumtzoglou is an Editorial Board Member of the following Journals: Mechanical Systems and Signal Processing, Probabilistic Engineering Mechanics, and International Journal of Non-Linear Mechanics. He is also a co-Editor of the Encyclopedia of Earthquake Engineering (Springer), an Associate Managing Editor for the ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, and has served as a Guest Editor for several Special Issues in International Journals. He has held Visiting Professor positions in several universities worldwide, has served in the scientific and/or organizing committees of many international technical conferences, and has co-chaired the 13th International Probabilistic Workshop (IPW 2015). Prof. Kougioumtzoglou is a member both of the American Society of Civil Engineers (M.ASCE) and the American Society of Mechanical Engineers (M.ASME), while he currently serves as a member of the ASCE Engineering Mechanics Institute (EMI) committees on Dynamics and on Probabilistic Methods. He is a Licensed Professional Civil Engineer in Greece, and a Fellow of the Higher Education Academy (FHEA) in the UK.

## CURRENT POSITION

**Associate Professor** (07/2019 – present)

Department of Civil Engineering & Engineering Mechanics  
The Fu Foundation School of Engineering & Applied Science  
Columbia University, NY, USA

## PROFESSIONAL EXPERIENCE

**Assistant Professor** (09/2014 – 06/2019)

Department of Civil Engineering & Engineering Mechanics  
The Fu Foundation School of Engineering & Applied Science  
Columbia University, NY, USA

**Lecturer** in Uncertainty and Engineering (09/2011 – 08/2014)

(UK equivalent to Assistant Professor)  
Institute for Risk & Uncertainty & School of Engineering  
University of Liverpool, Liverpool, UK

**Research Assistant** (08/2007 – 05/2011)

Advanced Stochastic Mechanics Group (directed by Prof. P. D. Spanos)  
Department of Civil and Environmental Engineering  
Rice University, Houston, TX, USA

**Licensed Professional Civil Engineer** (08/2008 - present)

Technical Chamber of Greece (TEE-TCG)

## EDUCATION

**Doctor of Philosophy** (05/2011)

Rice University, Houston, TX, USA  
Department of Civil and Environmental Engineering  
Thesis title: “*Harmonic Wavelets Procedures and Wiener Path Integral Methods for Response Determination and Reliability Assessment of Nonlinear Systems/Structures*”  
Supervisor: P. D. Spanos, L.B. Ryon Endowed Chair in Engineering

**Master of Science** (05/2009)

Rice University, Houston, TX, USA  
Department of Civil and Environmental Engineering  
Thesis title: “*Response and First-Passage Statistics of Nonlinear Structural Models under Evolutionary Stochastic Loads*”  
Supervisor: P. D. Spanos, L.B. Ryon Endowed Chair in Engineering

**Diploma in Civil Engineering** (07/2007)

National Technical University of Athens, Greece  
School of Civil Engineering

Thesis title: “*Extended Finite Element Method (X-FEM) for Fracture Mechanics Applications*”

Supervisor: M. Papadrakakis, Professor

## HONORS / AWARDS

### Editorial Board Member

Journal of Probabilistic Engineering Mechanics (2019 - present)

International Journal of Non-Linear Mechanics (2019 - present)

Journal of Mechanical Systems and Signal Processing (2019 - present)

ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems (2015-present)

### Faculty Early Career Development Program (CAREER) Awardee

National Science Foundation (NSF), USA (2018-2023)

*“Prof. Kougioumtzoglou has been chosen by the National Science Foundation (NSF) for the project entitled «CAREER: A Path Integral Methodology for Accurate and Computationally Efficient Stochastic Analysis of Diverse Dynamical Systems» to receive the prestigious CAREER Award, which recognizes early stage scholars with high levels of promise and excellence”*

### Junior Research Prize

European Association of Structural Dynamics (EASD) (2014)

in the area of “*Development of Methodologies for Structural Dynamics*”

*“Awarded to Ioannis Kougioumtzoglou, at EURO DYN 2014, Porto, July 1<sup>st</sup>, 2014, for his innovative influence on the field of nonlinear stochastic dynamics”*

### Keynote Speaker

ICVRAM-ISUMA-UNCERTAINTIES Conference (2018)

Florianopolis, Brazil, April 8-11, 2018

*“Advanced Tools for Uncertainty Modeling and Propagation in Engineering Dynamics”*

### Visiting Professorships (Invited)

NOEL, Mediterranean University of Reggio Calabria, Italy (07/2017)

Federico Santa Maria Technical University, Valparaiso, Chile (03/2016)

University of São Paulo, São Carlos, SP, Brazil (11/2012 - 12/2012)

### Best Student Paper Awards

Awarded to PhD students supervised by Prof. Kougioumtzoglou for jointly authored papers:

I. Petromichelakis – ASCE EMI Conference (Probabilistic Methods), Caltech (2019)

M. Katsidoniotaki – ASCE EMI Conference (Dynamics), Caltech (2019)

I. Petromichelakis – ASCE EMI Conference (Dynamics), MIT (2018)

K. R. M. dos Santos – ASCE EMI Conference (Dynamics), UCSD (2017)

L. Comerford – IEEE Symposium on Computational Intelligence, Singapore (2013)

**Fellow**, The Higher Education Academy (HEA), United Kingdom (2014)

Recognition reference: PR069711

**Achieving Excellence Award**, University of Liverpool, United Kingdom (2012)

*(as a member of the Civil Engineering Program Team for enhancing the quality and revamping the Civil Engineering curriculum as well as increasing student satisfaction rates)*

*“This award recognizes people who have made a demonstrable difference to how a service is delivered; made an outstanding contribution to the achievement of one of the University's strategic priorities; or achieved outstanding project delivery”*

### **Scholarship Awards**

Hellenic Professional Society of Texas, USA (2008) – for graduate studies  
Eugenides Foundation, Greece (2008) – for graduate studies  
Rice University, Houston, TX, USA (2007-2011) – for graduate studies  
National State Scholarships Foundation, Greece (2003-2006) – for undergraduate studies

### **TEACHING INTERESTS / SUPERVISING EXPERIENCE**

#### **Courses**

Dept. of Civil Eng. & Eng. Mechanics, Columbia University (09/2014 - present)  
*ENME E6220: Random Processes in Mechanics*  
*ENME E3105: Mechanics*  
*CIEN E3111/E4111: Uncertainty and Risk in Civil Infrastructure Systems*  
School of Engineering, University of Liverpool (09/2011 – 08/2014)  
*ENGG 304: Uncertainty, Reliability and Risk I*  
*CIVE 263/362: Capstone I: Group Design Project*  
*CIVE 262: Integrated Design*

#### **Short Courses (Invited)**

NOEL, Mediterranean University of Reggio Calabria, Italy (07/2017)  
São Carlos School of Engineering, University of São Paulo, Brazil (11/2012 – 12/2012)

#### **Ph.D. Student Supervision**

Columbia University, USA (supervisor)  
O. Brudastova (Defended 08/2018)  
K. R. M. dos Santos (Defended 06/2019)  
(currently a Post-Doc at Johns Hopkins University, USA)  
A. Psaros (Defended 06/2019)  
(currently a Post-Doc at Columbia University, USA)  
I. Petromichelakis (In Progress)  
M. Katsidoniotaki (In Progress)  
Monash University, Australia (co-supervisor)  
A. Meimaris (In Progress)  
University of Liverpool, UK (co-supervisor)  
I. Mitseas (Defended 03/2015)  
(currently a Lecturer at University of Leeds, UK)  
L. Comerford (Defended 09/2015)  
(currently self-employed and founder of a start-up)  
Y. Zhang (Defended 04/2017)  
(currently an Assistant Professor, Wuhan University of Technology, China)  
V. Fragkoulis (Defended 09/2017)  
(currently a Post-Doc at Leibniz University Hannover, Germany)  
N. Gazis (Defended 08/2018)  
(currently a structural engineer, Chicago, USA)

## RESEARCH GRANTS

### **National Science Foundation (NSF), USA**

Principal Investigator - (500,000 \$): 09/2018 - 08/2023

*“CAREER: A Path Integral Methodology for Accurate and Computationally Efficient Stochastic Analysis of Diverse Dynamical Systems”*

### **National Science Foundation (NSF), USA**

Principal Investigator - (298,918 \$): 09/2017 - 08/2020

*“Compressive Sampling for Uncertainty Modeling and Quantification of Dynamical Systems Subject to Highly Limited/Incomplete Data”*

### **Columbia University SEAS Interdisciplinary Research Seed (SIRS) Funding Program**

Principal Investigator - (70,000 \$): 01/2017 - 12/2017

*“Real-time Elasticity Imaging”*

### **Columbia University Hybrid Learning Course Redesign and Delivery**

Principal Investigator - (15,000 \$): 05/2016 - 08/2017

*“A Flipped Classroom approach to the courses “ENME E3105: Mechanics & CIEN E3111/E4111: Uncertainty and Risk in Civil Infrastructure Systems” by utilizing a web-based interactive tool”*

### **Columbia University Hybrid Learning Course Redesign and Delivery**

Principal Investigator - (15,000 \$): 12/2014 - 08/2015

*“A Flipped Classroom approach to the course “ENME E6220: Random Processes in Mechanics” by utilizing a web-based interactive tool”*

### **Marie Curie International Research Staff Exchange Scheme (IRSES) – EU FP7**

Co-Principal Investigator - (281,400 €): 05/2014 – 04/2018

*“PLENOSE - Large Multipurpose Platforms for Exploiting Renewable Energy in Open Seas”*

### **UK Higher Education Innovation Funding (HEIF) for Knowledge Exchange**

Principal Investigator - (1,000 £): 02/2013 – 07/2013

*“Stochastic loss reserving and optimal pricing strategies for an insurer in a competitive market”*

### **University of Liverpool (Business Gateway) Knowledge Exchange Voucher Scheme**

Principal Investigator - (10,000 £): 01/2013 - 06/2013

*“Efficient Uncertainty Quantification Techniques for Drill-String Dynamics”*

### **Technology Strategy Board & Pavement Testing Services Ltd**

Co-Principal Investigator - (156,540 £): 08/2012 – 02/2015

*“To develop a diagnostic and remedial maintenance system to predict failure of wearing courses on motorways and trunk roads, allowing preventative maintenance service planning”*

## ACADEMIC SERVICE

### **Editorial Board Member**

Journal of Probabilistic Engineering Mechanics (2019 - present)

International Journal of Non-Linear Mechanics (2019 - present)

Journal of Mechanical Systems and Signal Processing (2019 - present)

ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems (2015-present)

**Associate Managing Editor**

ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems (2017-present)

**Co- Editor**

Encyclopedia of Earthquake Engineering, Springer, ISBN 978-3-642-35343-7

**Guest Editor** (Special Issues for International peer-reviewed Journals)

“Recent Advances and Future Challenges in Computational Stochastic Dynamics”,  
*Probabilistic Engineering Mechanics*, vol. 38: 102-179, 2014.

“Robust Engineering Solutions with Environmental Loading”, *International Journal of Reliability and Safety*, vol.8: 97-195, 2014.

“Decision Making under Risk and Uncertainty”, *ASCE-ASME Journal of Risk and Uncertainty in Engineering System: Part B*, vol. 1(2), 2015.

“Data Acquisition and Processing, Uncertainty Management and Inverse Problem Techniques for Structural Health Monitoring Applications”, *International Journal of Sustainable Materials and Structural Systems*, vol. 2, 2015

“Uncertainty Modeling & Propagation Techniques in Engineering Mechanics: A Multi-Scale Perspective”, *International Journal for Multiscale Computational Engineering*, vol. 14(3):191-321, 2016

“International Conference on Stochastic Mechanics (SM16)”, *Probabilistic Engineering Mechanics*, vol. 54: 1-146, 2018

“Response analysis and optimization of dynamic energy harvesting systems under the presence of uncertainties”, *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems: Part B* (In Progress)

**Chair**

Conferences

Management Chair, *ASCE ICVRAM 2014, 13-16 July, 2014, Liverpool, UK*

co-Chair, *IPW 2015, 4-6 November 4-6, 2015, Liverpool, UK*

co-Chair: *ASCE EMI / PMC 2020, 26-29 May, 2020, Columbia University, USA*

Mini-Symposia (organized and chaired more than 30 MS in International Conferences)

**Reviewer**

International peer-reviewed Journals (reviewer for more than 50 Journals)

PhD Theses / Dissertations (External Examiner)

Hridya P. (2017), Indian Institute of Technology, Madras, India

Vanvinckenroye H. (2018), Université de Liège, Belgium

Burlon A. (2019), Mediterranean University of Reggio Calabria, Italy

Technical Proposals

Engineering and Physical Sciences Council (EPSRC), United Kingdom

National Science Center (Narodowe Centrum Nauki – NCN), Poland

National Science Foundation (NSF), USA

**Seminars** (Invited) – more than 15 invited talks at Universities worldwide

**Scientific Committee Member** (for more than 30 International Conferences)

## PROFESSIONAL ASSOCIATION

### Fellow

The Higher Education Academy, United Kingdom (HEA)

### Member

American Society of Civil Engineers (ASCE)

American Society of Mechanical Engineers (ASME)

Engineering Mechanics Institute (EMI)

EMI Probabilistic Methods Committee

EMI Dynamics Committee

International Association for Structural Safety and Reliability (IASSAR)

Bernoulli Society for Mathematical Statistics and Probability

Committee on Probability and Statistics in the Physical Sciences

European Association for Structural Dynamics (EASD)

Technical Chamber of Greece (Licensed Professional Civil Engineer)

Hellenic Society for Theoretical and Applied Mechanics (HSTAM)

## PUBLICATIONS

(underline denotes current/past PhD students)

### A. Books

- A1. Beer M., **Kougioumtzoglou I. A.**, Patelli E., Au I.S.-K., (Eds.), 2015. Encyclopedia of Earthquake Engineering, Springer, ISBN 978-3-642-35343-7. <http://www.springer.com/engineering/civil+engineering/book/978-3-642-35343-7>

### B. Book Chapters

- B1. Beer M., **Kougioumtzoglou I. A.**, Patelli E., 2014. Emerging concepts and approaches for efficient and realistic uncertainty quantification, *Maintenance and Safety of Aging Infrastructure*, Frangopol D. M. & Tsompanakis Y. (Eds.), p. 121-161, Structures & Infrastructures Book Series, CRC Press, Taylor & Francis Group, 978-0-415-65942-0.

### C. Peer-Reviewed International Journals

- C1. **Kougioumtzoglou I. A.**, Spanos P. D., 2009. An approximate approach for nonlinear system response determination under evolutionary stochastic excitation, *Current Science, Indian Academy of Sciences*, vol. 97: 1203-1211, (Special Issue, Invited).
- C2. Spanos P. D., **Kougioumtzoglou I. A.**, Soize C., 2011. On the determination of the power spectrum of randomly excited oscillators via stochastic averaging: An alternative perspective, *Probabilistic Engineering Mechanics*, vol. 26: 10-15, (Special Issue, Invited).

- C3. Spanos P. D., **Kougioumtzoglou I. A.**, 2012. Harmonic wavelets based statistical linearization for response evolutionary power spectrum determination, *Probabilistic Engineering Mechanics*, vol. 27: 57-68, (Special Issue, Invited).
- C4. Spanos P. D., Castillo D. H., **Kougioumtzoglou I. A.**, Tapia R. A., 2012. A nonlinear model for top fuel dragster dynamic performance assessment, *Vehicle System Dynamics*, vol. 50: 281-297.
- C5. **Kougioumtzoglou I. A.**, Spanos P. D., 2012. An analytical Wiener path integral technique for non-stationary response determination of nonlinear oscillators, *Probabilistic Engineering Mechanics*, vol. 28: 125-131, (Special Issue, Invited).
- C6. **Kougioumtzoglou I. A.**, Spanos P. D., 2013. An identification approach for linear and nonlinear time-variant structural systems via harmonic wavelets, *Mechanical Systems and Signal Processing*, vol. 37: 338-352.
- C7. Lancaster I. M., Khalid H. A., **Kougioumtzoglou I. A.**, 2013. Extended FEM modeling of crack propagation using semi-circular bending test, *Construction and Building Materials*, vol. 48: 270-277.
- C8. **Kougioumtzoglou I. A.**, Spanos P. D., 2013. Response and first-passage statistics of nonlinear oscillators via a numerical path integral approach, *ASCE Journal of Engineering Mechanics*, vol. 139: 1207-1217.
- C9. **Kougioumtzoglou I. A.**, Spanos P. D., 2013. Nonlinear MDOF system stochastic response determination via a dimension reduction approach, *Computers and Structures*, vol. 126: 135-148, (Special Issue, Invited).
- C10. **Kougioumtzoglou I. A.**, 2013. Stochastic joint time-frequency response analysis of nonlinear structural systems, *Journal of Sound and Vibration*, vol. 332: 7153-7173.
- C11. Spanos P. D., **Kougioumtzoglou I. A.**, 2014. Survival probability determination of nonlinear oscillators subject to evolutionary stochastic excitation, *ASME Journal of Applied Mechanics*, vol. 81, 051016: 1-9.
- C12. **Kougioumtzoglou I. A.**, Spanos P. D., 2014. Stochastic response analysis of the softening Duffing oscillator and ship capsizing probability determination via a path integral approach, *Probabilistic Engineering Mechanics*, vol. 35: 67-74 (Special Issue, Invited).
- C13. Spanos P. D., **Kougioumtzoglou I. A.**, 2014. Galerkin scheme based determination of first-passage probability of nonlinear system response, *Structure and Infrastructure Engineering*, vol. 10: 1285-1294, (Special Issue, Invited).
- C14. **Kougioumtzoglou I. A.**, Spanos P. D., 2014. Non-stationary stochastic response determination of nonlinear systems: A Wiener path integral formalism, *ASCE Journal of Engineering Mechanics*, vol. 140: 04014064: 1-14.



- C15. Kong F., Spanos P. D., Li J., **Kougioumtzoglou I. A.**, 2014. Response evolutionary power spectrum determination of chain-like MDOF nonlinear structural systems via harmonic wavelets, *International Journal of Non-Linear Mechanics*, vol. 66: 3-17 (Special Issue, Invited).
- C16. Beck A. T., **Kougioumtzoglou I. A.**, Dos Santos K. M., 2014. Optimal performance-based design of non-linear stochastic dynamical RC structures subject to stationary wind excitation, *Engineering Structures*, vol. 78: 145-153 (Special Issue, Invited).
- C17. Di Matteo A., **Kougioumtzoglou I. A.**, Pirrotta A., Spanos P. D., Di Paola M., 2014. Stochastic response determination of nonlinear oscillators with fractional derivatives elements via the Wiener path integral, *Probabilistic Engineering Mechanics*, vol. 38: 127-135 (Special Issue, Invited).
- C18. Tubaldi E., **Kougioumtzoglou I. A.**, 2015. Nonstationary stochastic response of structural systems equipped with nonlinear viscous dampers under seismic excitation, *Earthquake Engineering and Structural Dynamics*, vol. 44: 121-138.
- C19. Comerford L. A., **Kougioumtzoglou I. A.**, Beer M., 2015. An artificial neural network approach for stochastic process power spectrum estimation subject to missing data, *Structural Safety*, vol. 52: 150-160 (Special Issue, Invited).
- C20. Zhang Y., **Kougioumtzoglou I. A.**, 2015. Nonlinear oscillator stochastic response and survival probability determination via the Wiener path integral, *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part B. Mechanical Engineering*, vol.1: 021006:1-15.
- C21. **Kougioumtzoglou I. A.**, Di Matteo A., Spanos P. D., Pirrotta A., Di Paola M., 2015. An efficient Wiener path integral technique formulation for stochastic response determination of nonlinear MDOF systems, *ASME Journal of Applied Mechanics*, vol. 82, 101005: 1-7.
- C22. Comerford L. A., **Kougioumtzoglou I. A.**, Beer M., 2015. On quantifying the uncertainty of stochastic process power spectrum estimates subject to missing data, *International Journal of Sustainable Materials and Structural Systems*, vol. 2: 185-206 (Special Issue, Invited).
- C23. **Kougioumtzoglou I. A.**, Zhang Y., Beer M., 2016. Softening Duffing oscillator reliability assessment subject to evolutionary stochastic excitation, *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A. Civil Engineering*, vol. 2 (2), C4015001: 1-10 (Special Issue, Invited).
- C24. Fragkoulis V., **Kougioumtzoglou I. A.**, Pantelous A., 2016. Linear random vibration of structural systems with singular matrices, *ASCE Journal of Engineering Mechanics*, vol. 142 (2), 04015081: 1-11.
- C25. **Kougioumtzoglou I. A.**, Spanos P. D., 2016. Harmonic wavelets based response evolutionary power spectrum determination of linear and nonlinear oscillators with

- fractional derivative elements, *International Journal of Non-Linear Mechanics*, vol. 80: 66-75 (Special Issue, Invited).
- C26. Comerford L. A., **Kougioumtzoglou I. A.**, Beer M., 2016. Compressive sensing based stochastic process power spectrum estimation subject to missing data, *Probabilistic Engineering Mechanics*, vol. 44: 66-76 (Special Issue, Invited).
- C27. Spanos P. D., Kong F., Li J., **Kougioumtzoglou I. A.**, 2016. Harmonic wavelets based excitation-response relationships for linear systems: A critical perspective, *Probabilistic Engineering Mechanics*, vol. 44: 163-173 (Special Issue, Invited).
- C28. Mitseas I. P., **Kougioumtzoglou I. A.**, Beer M., 2016. An approximate stochastic dynamics approach for nonlinear structural system performance-based multi-objective optimum design, *Structural Safety*, vol. 60: 67-76.
- C29. Fragkoulis V., **Kougioumtzoglou I. A.**, Pantelous A., 2016. Statistical linearization of nonlinear structural systems with singular matrices, *ASCE Journal of Engineering Mechanics*, vol. 142 (9), 04016063: 1-11.
- C30. Mitseas I. P., **Kougioumtzoglou I. A.**, Spanos P. D., Beer M., 2016. Nonlinear MDOF structural system survival probability determination subject to evolutionary stochastic excitation, *Strojniški vestnik - Journal of Mechanical Engineering*, vol. 62: 440-451 (Special Issue, Invited).
- C31. Dos Santos K. R. M., **Kougioumtzoglou I. A.**, Beck A. T., 2016. Incremental dynamic analysis: A nonlinear stochastic dynamics perspective, *ASCE Journal of Engineering Mechanics*, vol. 142 (10), 06016007: 1-7 (Technical Note).
- C32. Hillier J. K., **Kougioumtzoglou I. A.**, Stokes C. R., Smith M. J., Clark C. D., Spagnolo M. S., 2016. Exploring explanations of subglacial bedform sizes using statistical models, *PLOS ONE*, vol. 11(7): e0159489, doi:10.1371/journal.pone.0159489.
- C33. Kong F., **Kougioumtzoglou I. A.**, Spanos P. D., Li S., 2016. Nonlinear system response evolutionary power spectral density determination via a harmonic wavelets based Galerkin technique, *International Journal for Multiscale Computational Engineering*, vol. 14 (3): 255-272 (Special Issue, Invited).
- C34. Gazis N., **Kougioumtzoglou I. A.**, Patelli E., 2017. Ice gouge depth determination via an efficient stochastic dynamics technique, *ASME Journal of Offshore Mechanics and Arctic Engineering*, vol. 139, 011501: 1-8.
- C35. Antoniou E. N., Pantelous A. A., **Kougioumtzoglou I. A.**, Pirrotta A., 2017. Response determination of linear dynamical systems with singular matrices: A polynomial matrix theory approach, *Applied Mathematical Modeling*, vol. 42: 423-440.
- C36. Comerford L. A., Jensen H., Mayorga F., Beer M., **Kougioumtzoglou I. A.**, 2017. Compressive sensing with an adaptive wavelet basis for structural system response and reliability analysis under missing data, *Computers and Structures*, vol. 182: 26-40.

- C37. **Kougioumtzoglou I. A.**, Dos Santos K. R. M., Comerford L., 2017. Incomplete data based parameter identification of nonlinear and time-variant oscillators with fractional derivative elements, *Mechanical Systems and Signal Processing*, vol. 94: 279-296.
- C38. **Kougioumtzoglou I. A.**, 2017. A Wiener path integral solution treatment and effective material properties of a class of one-dimensional stochastic mechanics problems, *ASCE Journal of Engineering Mechanics*, vol. 143 (6), 04017014: 1-12.
- C39. **Kougioumtzoglou I. A.**, Fragkoulis V., Pantelous A., Pirrotta A., 2017. Random vibration of linear and nonlinear structural systems with singular matrices: A frequency domain approach, *Journal of Sound and Vibration*, vol. 404: 84-101.
- C40. Zhang Y., Comerford L. A., **Kougioumtzoglou I. A.**, Patelli E., Beer M., 2017. Uncertainty quantification of power spectrum and spectral moments estimates subject to missing data, *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A. Civil Engineering*, vol. 4 (3), 04017020: 1-10.
- C41. Laface V., **Kougioumtzoglou I. A.**, Malara G., Arena F., 2017. Efficient processing of water wave records via compressive sensing and joint time-frequency analysis via harmonic wavelets, *Applied Ocean Research*, vol. 69: 1-9.
- C42. Zhang Y., Comerford L., **Kougioumtzoglou I. A.**, Beer M., 2018.  $L_p$ -norm minimization for stochastic process power spectrum estimation subject to incomplete data, *Mechanical Systems and Signal Processing*, vol. 101: 361-376.
- C43. Meimaris A., **Kougioumtzoglou I. A.**, Pantelous A., 2018. A closed form approximation and error quantification for the response transition probability density function of a class of stochastic differential equations, *Probabilistic Engineering Mechanics*, vol.54: 87-94 (Special Issue, Invited).
- C44. Spanos P. D., **Kougioumtzoglou I. A.**, Dos Santos K. R. M., Beck A. T., 2018. Stochastic averaging of nonlinear oscillators: Hilbert transform perspective, *ASCE Journal of Engineering Mechanics*, vol. 144 (2), 04017173: 1-9.
- C45. Mitseas I. P., **Kougioumtzoglou I. A.**, Giaralis A., Beer M., 2018. A novel stochastic linearization framework for seismic demand estimation of hysteretic MDOF systems subject to linear response spectra, *Structural Safety*, vol. 72: 84-98.
- C46. Malara G., **Kougioumtzoglou I. A.**, Arena F., 2018. Extrapolation of random wave field data via compressive sampling, *Ocean Engineering*, vol. 157: 87-95.
- C47. Psaros A. F., **Kougioumtzoglou I. A.**, Petromichelakis I., 2018. Sparse representations and compressive sampling for enhancing the computational efficiency of the Wiener path integral technique, *Mechanical Systems and Signal Processing*, vol. 111: 87-101.
- C48. Laface V., Malara G., **Kougioumtzoglou I. A.**, Romolo A., Arena F., 2018. Nonlinear wave crest distribution on a vertical breakwater, *Coastal Engineering*, vol. 138: 227-234.

- C49. Laface V., Malara G., Romolo A., Arena F., **Kougioumtzoglou I. A.**, 2018. Compressive sensing based reconstruction of the sea free surface elevation on a vertical wall, *ASCE Journal of Waterway, Port, Coastal, and Ocean Engineering*, vol. 144 (5), 04018010: 1-11.
- C50. Petromichelakis I., Psaros A. F., **Kougioumtzoglou I. A.**, 2018. Stochastic response determination and optimization of a class of nonlinear electromechanical energy harvesters: A Wiener path integral approach, *Probabilistic Engineering Mechanics*, vol. 53: 116-125.
- C51. Psaros A. F., Brudastova O., Malara G., **Kougioumtzoglou I. A.**, 2018. Wiener path integral based response determination of nonlinear systems subject to non-white, non-Gaussian, and non-stationary stochastic excitation, *Journal of Sound and Vibration*, vol. 433: 314-333.
- C52. Liaskos K., Pantelous A. A., **Kougioumtzoglou I. A.**, Meimaris A. T., 2018. Implicit analytic solutions for the linear stochastic partial differential beam equation with fractional derivative terms, *Systems and Control Letters*, vol. 121: 38-49.
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#### ***E. Conferences***

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