

CURRICULUM VITAE

(March 2026)

Ioannis A. Kougioumtzoglou
Associate Professor

Web (Research Lab): <https://kougioumtzoglou-lab.engineering.columbia.edu>

Google Scholar: https://scholar.google.com/citations?hl=en&user=_ld2hfcAAAAJ

RESEARCH INTERESTS

Prof. Kougioumtzoglou and his research group develop primarily analytic and numerical methodologies for stochastic response analysis, reliability assessment, and optimization of complex systems and structures in the presence of uncertainties. These methodologies lead eventually to 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, computational stochastic mechanics, and uncertainty quantification. Nonlinear systems exhibiting time- and space-localized behaviors, described by wavelet- and/or fractional derivative-based operators, receive particular attention. Additional research endeavors with diverse applications in structural, earthquake, marine and wind engineering include uncertainty modeling and propagation based on joint time-frequency signal processing techniques, and on sparse representations theory and tools. Representative cross-disciplinary collaborative work relates to precision medicine applications such as modeling and analysis of the dynamic cerebral autoregulation physiological mechanism.

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 (with tenure) in the Department of Civil Engineering & Engineering Mechanics. Prof. Kougioumtzoglou is an awardee of the Junior Research Prize from the European Association of Structural Dynamics (EASD) for outstanding research in nonlinear stochastic dynamics, and of the Early Achievement Research Award from the International Association for Structural Safety and Reliability (IASSAR). He is a recipient of the prestigious CAREER award from the National Science Foundation (NSF), and of the Walter L. Huber Civil Engineering Research Prize from the American Society of Civil Engineers (ASCE) for seminal contributions to the field of stochastic engineering dynamics.

Prof. Kougioumtzoglou has published more than 100 peer-reviewed journal papers, and a book on “Path Integrals in Stochastic Engineering Dynamics” (Springer). He is an Associate Editor and/or an Editorial Board Member of the following journals: Probabilistic Engineering Mechanics, International Journal of Non-Linear Mechanics, Mechanical Systems and Signal Processing, and ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, and has served as a Guest Editor for several special issues in various journals. Prof. Kougioumtzoglou is a member of the American Society of Civil Engineers (ASCE), and of the ASCE Engineering Mechanics Institute (EMI). 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

IASSAR Early Achievement Research Award

International Association for Structural Safety and Reliability (IASSAR) (2025)

“Presented once every four years at ICOSSAR—the field’s premier conference—the award is highly selective and recognizes outstanding early-career contributions with international impact”

ASCE Walter L. Huber Civil Engineering Research Prize

American Society of Civil Engineers (ASCE) (2024)

“Awarded to Ioannis Kougiumtzoglou for seminal contributions to the field of stochastic engineering dynamics, and for pioneering Wiener path integral methods for determining the response of diverse nonlinear systems/structures subjected to a variety of stochastic excitations.”

NSF Faculty Early Career Development Program (CAREER) Awardee

National Science Foundation (NSF), USA (2018-2024)

“Prof. Kougiumtzoglou 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”

EASD Junior Research Prize

European Association of Structural Dynamics (EASD) (2014)

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

“Awarded to Ioannis Kougiumtzoglou for his innovative influence on the field of nonlinear stochastic dynamics”

Keynote Speaker

EURODYN 2026 Conference, Leibniz U., Germany: *Semi-Plenary Lecture* (09/2026)

ICOSSAR 2021-2022 Conference, Tongji U., China: *Early Career Lecture* (09/2022)

ICVRAM-ISUMA-UNCERTAINTIES Conference, Brazil: *Keynote Lecture* (04/2018)

Best Student Paper Awards

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

I. Mavromatis – ASCE EMI Conference (Dynamics), Georgia Tech (2023)

M. Katsidoniotaki – ICOSSAR 2021-2022 Conference, Tongji Univ., China (2022)

M. Katsidoniotaki – ASCE EMI Conference (Dynamics), Johns Hopkins Univ. (2022)

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: Stochastic Engineering Mechanics

ENME E3105: Mechanics

CIEE 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)

São Carlos School of Engineering, University of São Paulo, Brazil (11/2012; 05/2025)

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

Ph.D. Student Supervision

Columbia University, USA (supervisor)

O. Brudastova (Defended 08/2018)

K. R. M. Dos Santos (Defended 06/2019)

(currently an Assistant Professor, University of Minnesota, USA)

A. Psaros (Defended 06/2019)

(currently a Director, GenAI Foundations, Fidelity, USA)

I. Petromichelakis (Defended 07/2020)

(currently a Vice President, Quant. Exec. Services, WorldQuant, USA)

M. Katsidoniotaki (Defended 12/2022)

(currently an AI Research Associate, JP Morgan Chase Co, USA)

I. Mavromatis (Defended 03/2024)

(currently a Post-Doc, Columbia University, USA)

L. Taliadouros (In Progress)

G. Kalkantzis (In Progress)

Monash University, Australia (co-supervisor)

A. Meimaris (Defended 06/2020)

(currently a Data Scientist at Newgate Research, Australia)

A. Nawagamuwage (In Progress)
Leibniz University Hannover, Germany (co-supervisor)
G. Pasparakis (Defended 11/2022)
(currently a Machine Learning Researcher at Bayer R&D, USA)
University of Liverpool, UK (co-supervisor)
I. Mitseas (Defended 03/2015)
(currently a Lecturer, 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 Lecturer, University of Liverpool, UK)
N. Gazis (Defended 08/2018)
(currently a self-employed structural engineer, Chicago, USA)

RESEARCH GRANTS

National Science Foundation (NSF), USA

Principal Investigator - (404,889 \$): 09/2025 - 08/2028
"Efficient Computational Methods for Stochastic Analysis of Large-Scale Structural Dynamic Systems"

New York City Office of Technology and Innovation (NYC OTI)

Co-Principal Investigator - (150,000 \$): 06/2024 - 06/2026
"Citywide Soils Model Interpolation Methodology Research Project"

Columbia University SEAS Interdisciplinary Research Seed (SIRS) Fund

Principal Investigator - (85,000 \$): 09/2024 - 08/2025
"Exploring the potential of quantum computing for vastly more efficient analysis, design and optimization of structural systems subject to uncertainties"

Columbia University Office of the Executive Vice President for Research

Research Initiatives in Science and Engineering (RISE) Fund

Principal Investigator - (120,000 \$): 09/2024 - 08/2025
"Exploring the potential of quantum computing for revolutionizing the field of stochastic structural dynamics"

National Science Foundation (NSF), USA

Principal Investigator - (70,000 \$): 09/2020 - 08/2024
Supplement request in response of Dear Colleague Letter 20-027: "Data Science Activities for the Civil, Mechanical and Manufacturing Innovation Communities" for the project "CAREER: A Path Integral Methodology for Accurate and Computationally Efficient Stochastic Analysis of Diverse Dynamical Systems"

Columbia University SEAS Translational Acceleration Research (STAR) Fund

Principal Investigator - (160,000 \$): 09/2020 - 08/2022
"Personalized blood pressure management after acute ischemic stroke using quantitative analysis of dynamic cerebral autoregulation: an observation pilot study"

National Science Foundation (NSF), USA

Principal Investigator - (500,000 \$): 09/2018 - 08/2024

"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) Fund

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

"Real-time Elasticity Imaging"

Columbia University Hybrid Learning Course Redesign and Delivery Fund

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 Fund

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

Associate Editor

Journal of Mechanical Systems and Signal Processing (2024 - present)

ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems (2020-present)

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)

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 in presence of uncertainties”, *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems: Part B*, vol. 7(1): 010301, 2021.
“Computational methods for stochastic engineering dynamics”, *Engineering Structures* (2023), <https://www.sciencedirect.com/special-issue/101KNB11LR8>
“Special Issue on: “Stochastic Mechanics in honor of Emeritus Professor Mario Di Paola”,
Probabilistic Engineering Mechanics (2026),
<https://www.sciencedirect.com/special-issue/10R6W1VDHQM>

Leadership

ASCE EMI Dynamics Committee Secretary (2023-2025)
ASCE EMI Dynamics Committee Vice-Chair (2025-present)

Chair

Conferences

Management Chair, *ASCE ICVRAM 2014, 13-16 July, 2014, Liverpool, UK*
co-Chair, *IPW 2015, 4-6 November, 2015, Liverpool, UK*
co-Chair: *ASCE EMI / PMC 2021, 25-28 May, 2021, Columbia University, USA*
co-Chair: *CSM9, 21-25 June, 2026, Corfu, Greece*

Mini-Symposia (organized and chaired more than 50 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
Mamis K. (2020), National Technical University of Athens, Greece
Aliasghar-Mamaghani M. (2023), Virginia Tech, USA
Xinda M. (2023), Nanyang Technological University, Singapore
Pipistrelli M. (2025), Università degli Studi di Perugia, Italy
Technical Proposals
National Science Foundation (NSF), USA
Engineering and Physical Sciences Council (EPSRC), United Kingdom
National Science Center (Narodowe Centrum Nauki – NCN), Poland

Seminars (Invited) – more than 20 invited talks at universities worldwide

Scientific Committee Member (for more than 50 International Conferences)

PROFESSIONAL ASSOCIATION

Fellow

The Higher Education Academy, United Kingdom (HEA)

Member

American Society of Civil Engineers (ASCE)
ASCE Engineering Mechanics Institute (EMI)
EMI Probabilistic Methods Committee
EMI Dynamics Committee
American Society of Mechanical Engineers (ASME)
International Association for Structural Safety and Reliability (IASSAR)
International Society of Nonlinear Dynamics
European Association for Structural Dynamics (EASD)
International Society of Mechanical System Dynamics (ISMSD)
Bernoulli Society for Mathematical Statistics and Probability
Committee on Probability and Statistics in the Physical Sciences
Technical Chamber of Greece (Licensed Professional Civil Engineer)
Hellenic Society for Theoretical and Applied Mechanics (HSTAM)

PUBLICATIONS

(underline denotes current/past PhD students and Post-Docs)

A. Books

- A1. **Kougioumtzoglou I. A.**, Psaros A. F., Spanos P. D., 2024. Path Integrals in Stochastic Engineering Dynamics, *Springer*, ISBN 978-3-031-57862-5, <https://doi.org/10.1007/978-3-031-57863-2>.
- A2. Beer M., **Kougioumtzoglou I. A.**, Patelli E., Au I.S.-K., (Eds.), 2015. Encyclopedia of Earthquake Engineering, *Springer*, ISBN 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. Comerford L., Mannis A., De Angelis M., **Kougioumtzoglou I. A.**, Beer M., 2018. Utilising database-driven interactive software to enhance independent home-study in a flipped classroom setting: going beyond visualising engineering concepts to ensuring formative assessment, *European Journal of Engineering Education*, vol. 43: 522-537.

- C43. 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.
- C44. 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).
- C45. 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.
- C46. 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.
- C47. Malara G., **Kougioumtzoglou I. A.**, Arena F., 2018. Extrapolation of random wave field data via compressive sampling, *Ocean Engineering*, vol. 157: 87-95.
- C48. 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.
- C49. 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.
- C50. 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.
- C51. 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.
- C52. 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.
- C53. 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.

- C54. Meimaris A. T., **Kougioumtzoglou I. A.**, Pantelous A. A., 2019. Approximate analytical solutions for a class of nonlinear stochastic differential equations, *European Journal of Applied Mathematics*, vol. 30 (5), 928-944 (Special Issue, Invited).
- C55. Vanvinckenroye H., **Kougioumtzoglou I. A.**, Denoël V., 2019. Reliability function determination of nonlinear oscillators under evolutionary stochastic excitation via a Galerkin projection technique, *Nonlinear Dynamics*, vol. 95 (1): 293-308.
- C56. Burlon A., **Kougioumtzoglou I. A.**, Failla G., Arena F., 2019. Nonlinear random vibrations of beams with in-span supports via statistical linearization with constrained modes, *ASCE Journal of Engineering Mechanics*, vol. 145 (6), 04019038: 1-16.
- C57. Psaros A. F., Petromichelakis I., **Kougioumtzoglou I. A.**, 2019. Wiener path integrals and multi-dimensional global bases for non-stationary stochastic response determination of structural systems, *Mechanical Systems and Signal Processing*, vol. 128: 551-571.
- C58. Dos Santos K. R. M., **Kougioumtzoglou I. A.**, Spanos P. D., 2019. A Hilbert transform based stochastic averaging technique for determining the survival probability of nonlinear oscillators, *ASCE Journal of Engineering Mechanics*, vol. 145 (10), 04019079: 1-9.
- C59. Pirrotta A., **Kougioumtzoglou I. A.**, Pantelous A. A., 2019. Stochastic response determination of structural systems modeled via dependent coordinates: A frequency domain treatment based on generalized modal analysis, *Meccanica*, vol. 54: 1421-1431.
- C60. Fragkoulis V., **Kougioumtzoglou I. A.**, Pantelous A., Beer M., 2019. Non-stationary response statistics of nonlinear oscillators with fractional derivative elements under evolutionary stochastic excitation, *Nonlinear Dynamics*, vol. 97 (4): 2291-2303.
- C61. Meimaris A. T., **Kougioumtzoglou I. A.**, Pantelous A. A., Pirrotta A., 2019. An approximate technique for determining in closed-form the response transition probability density function of diverse nonlinear/hysteretic oscillators, *Nonlinear Dynamics*, vol. 97(4): 2627-2641.
- C62. Meimaris A. T., **Kougioumtzoglou I. A.**, Pantelous A. A., 2020. Closed-form approximate solutions for a class of coupled nonlinear stochastic differential equations, *Applied Mathematics and Computation*, vol. 364, 124669: 1-18.
- C63. Miller E., Dos Santos K. R. M., Marshall R. S., **Kougioumtzoglou I. A.**, 2020. Joint time-frequency analysis of dynamic cerebral autoregulation via generalized harmonic wavelets, *Physiological Measurement*, vol. 41: 024002: 1-11 (Special Issue, Invited).
- C64. Liaskos K., Pantelous A. A., **Kougioumtzoglou I. A.**, Meimaris A. T., Pirrotta A., 2020. Implicit analytic solutions for a nonlinear fractional partial differential beam equation, *Communications in Nonlinear Science and Numerical Simulation*, vol. 85, 105219: 1-19.
- C65. Petromichelakis I., Psaros A. F., **Kougioumtzoglou I. A.**, 2020. Stochastic response determination of nonlinear structural systems with singular diffusion matrices: A Wiener

- path integral variational formulation with constraints, *Probabilistic Engineering Mechanics*, vol. 60, 103044: 1-15 (Special Issue, Invited).
- C66. Psaros A. F., Zhao Y., **Kougioumtzoglou I. A.**, 2020. An exact closed-form solution for linear multi-degree-of-freedom systems under Gaussian white noise via the Wiener path integral technique, *Probabilistic Engineering Mechanics*, vol. 60, 103040: 1-12 (Special Issue, Invited).
- C67. Psaros A. F., **Kougioumtzoglou I. A.**, 2020. Functional series expansions and quadratic approximations for enhancing the accuracy of the Wiener path integral technique, *ASCE Journal of Engineering Mechanics*, vol. 146 (7), 04020065: 1-17.
- C68. Dos Santos K. R. M., Brudastova O., **Kougioumtzoglou I. A.**, 2020. Spectral identification of nonlinear multi-degree-of-freedom structural systems with fractional derivative terms based on incomplete non-stationary data, *Structural Safety*, vol. 106, 101975: 1-17.
- C69. **Kougioumtzoglou I. A.**, Petromichelakis I., Psaros A. F., 2020. Sparse representations and compressive sampling approaches in engineering mechanics: A review of theoretical concepts and diverse applications, *Probabilistic Engineering Mechanics*, vol. 61, 103082: 1-20.
- C70. Petromichelakis I., **Kougioumtzoglou I. A.**, 2020. Addressing the curse of dimensionality in stochastic dynamics: A Wiener path integral variational formulation with free boundaries, *Proceedings of the Royal Society A*, vol. 476: 20200385.
- C71. Petromichelakis I., Bosse R. M., **Kougioumtzoglou I. A.**, Beck A. T., 2021. Wiener path integral most probable path determination: A computational algebraic geometry solution treatment, *Mechanical Systems and Signal Processing*, vol. 153, 107534: 1-24.
- C72. Petromichelakis I., Psaros A. F., **Kougioumtzoglou I. A.**, 2021. Stochastic response analysis and reliability-based design optimization of nonlinear electromechanical energy harvesters with fractional derivative elements, *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part B. Mechanical Engineering*, vol. 7(1), 010901: 1-13 (Special Issue, Invited).
- C73. Pirrotta A., **Kougioumtzoglou I. A.**, Di Matteo A., Fragkoulis V., Pantelous A., Adam C., 2021. Deterministic and random vibration of linear systems with singular parameter matrices and fractional derivative terms, *ASCE Journal of Engineering Mechanics*, vol. 147 (6), 04021031: 1-12 (Editor's Choice from the current issue).
- C74. Karageorgos A. D., Moysis L., Fragkoulis V., **Kougioumtzoglou I. A.**, Pantelous A., 2021. Random vibration of linear systems with singular matrices based on Kronecker canonical forms of matrix pencils, *Mechanical Systems and Signal Processing*, vol. 161, 107896: 1-19.
- C75. Petromichelakis I., **Kougioumtzoglou I. A.**, 2021. A computational algebraic geometry technique for determining nonlinear normal modes of structural systems, *International Journal of Non-Linear Mechanics*, vol. 135, 103757: 1-15.

- C76. Pasparakis G., Dos Santos K. R. M., Kougiumtzoglou I. A., Beer M., 2022. Wind data extrapolation and stochastic field statistics estimation via compressive sampling and low rank matrix recovery methods, *Mechanical Systems and Signal Processing*, vol. 162, 107975: 1-15 (Special Issue, Invited).
- C77. Katsidoniotaki M. I., Psaros A. F., Kougiumtzoglou I. A., 2022. Uncertainty quantification of nonlinear system stochastic response estimates based on the Wiener path integral technique: A Bayesian compressive sampling treatment, *Probabilistic Engineering Mechanics*, vol. 67, 103193: 1-16.
- C78. Pasparakis G., Kougiumtzoglou I. A., Fragkoulis V., Kong F., Beer M., 2022. Excitation-response relationships for linear structural systems with singular parameter matrices: A periodized harmonic wavelet perspective, *Mechanical Systems and Signal Processing*, vol. 169, 108701: 1-16.
- C79. Fragkoulis V., Kougiumtzoglou I. A., Pantelous A., Beer M., 2022. Joint statistics of natural frequencies corresponding to structural systems with singular random parameter matrices, *ASCE Journal of Engineering Mechanics*, vol. 148 (3), 04022001: 1-11.
- C80. Zhang Y., Kougiumtzoglou I. A., Kong F., 2022. Exploiting expansion basis sparsity for efficient stochastic response determination of nonlinear systems via the Wiener path integral technique, *Nonlinear Dynamics*, vol. 107 (4): 3669-3682.
- C81. Zhao Y., Psaros A. F., Petromichelakis I., Kougiumtzoglou I. A., 2022. A quadratic Wiener path integral approximation for stochastic response determination of multi-degree-of-freedom nonlinear systems, *Probabilistic Engineering Mechanics*, vol. 69, 103319: 1-11.
- C82. Kougiumtzoglou I. A., Ni P., Mitseas I. P., Fragkoulis V. C., Beer M., 2022. An approximate stochastic dynamics approach for design spectrum based response analysis of nonlinear oscillators with fractional derivative elements, *International Journal of Non-Linear Mechanics*, vol. 146, 104178: 1-10 (Special Issue, Invited).
- C83. Scialo A., Malara G., Kougiumtzoglou I. A., Arena F., 2022. Stochastic response determination of U-OWC energy harvesters: A statistical linearization solution treatment accounting for intermittent wave excitation, *Nonlinear Dynamics*, vol. 109: 2281-2295.
- C84. Mavromatis I. G., Psaros A. F., Kougiumtzoglou I. A., 2023. A Wiener path integral formalism for treating nonlinear systems with non-Markovian response processes, *ASCE Journal of Engineering Mechanics*, vol. 149 (1), 04022092: 1-11.
- C85. Zhang Y., Kougiumtzoglou I. A., Kong F., 2023. A Wiener path integral technique for determining the stochastic response of nonlinear oscillators with fractional derivative elements: A constrained variational formulation with free boundaries, *Probabilistic Engineering Mechanics*, vol. 71, 103410: 1-8 (Special Issue, Invited).

- C86. Fragkoulis V. C., **Kougioumtzoglou I. A.**, 2023. Survival probability determination of nonlinear oscillators with fractional derivative elements under evolutionary stochastic excitation, *Probabilistic Engineering Mechanics*, vol. 71, 103411: 1-9 (Special Issue, Invited).
- C87. Mavromatis I. G., **Kougioumtzoglou I. A.**, 2023. A reduced-order Wiener path integral formalism for determining the stochastic response of nonlinear systems with fractional derivative elements, *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part B. Mechanical Engineering*, vol. 9(3), 031201: 1-9.
- C88. Katsidoniotaki M. I., Petromichelakis I., **Kougioumtzoglou I. A.**, 2023. Nonlinear stochastic dynamics of an array of coupled micromechanical oscillators, *International Journal of Mechanical System Dynamics*, vol. 3(1): 3-11.
- C89. Dos Santos K. R. M., Katsidoniotaki M. I., Miller E., Petersen N. H., Marshall R. S., **Kougioumtzoglou I. A.**, 2023. Reduced-order modeling and analysis of dynamic cerebral autoregulation via diffusion maps, *Physiological Measurement*, vol. 44, 044001: 1-13 (Special Issue, Invited).
- C90. Miller E. C., Katsidoniotaki M. I., Dos Santos K. R. M., Haghighi N., Soler N. P., Booker W., Petersen N., Wapner R., Bello N. A., **Kougioumtzoglou I. A.**, Marshall R. S., 2023. Dynamic cerebral autoregulation in postpartum individuals with and without preeclampsia, *Pregnancy Hypertension: An International Journal of Women's Cardiovascular Health*, vol. 33: 39-45.
- C91. Nawagamuwage A., **Kougioumtzoglou I. A.**, Pantelous A. A., 2024. On the existence, uniqueness and calculation of Wiener path integral most probable paths for determining the stochastic response of nonlinear dynamical systems, *Mechanical Systems and Signal Processing*, vol. 208, 110989: 1-24.
- C92. Sreekumar A., **Kougioumtzoglou I. A.**, Triantafyllou S. P., 2024. Filter approximations for random vibroacoustics of rigid porous media, *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part B. Mechanical Engineering*, vol. 10(3), 031201: 1-9.
- C93. Mavromatis I. G., **Kougioumtzoglou I. A.**, Spanos P. D., 2024. An extrapolation approach within the Wiener path integral technique for efficient stochastic response determination of nonlinear systems, *International Journal of Non-Linear Mechanics*, vol. 160, 104646: 1-10 (Special Issue, Invited).
- C94. Mavromatis I. G., **Kougioumtzoglou I. A.**, 2024. A joint time-space extrapolation approach within the Wiener path integral technique for efficient stochastic response determination of nonlinear systems, *Probabilistic Engineering Mechanics*, vol. 78, 103685: 1-9 (Special Issue, Invited).
- C95. Roncallo L., Mavromatis I. G., **Kougioumtzoglou I. A.**, Tubino F., 2024. Fractional-order filter approximations for efficient stochastic response determination of wind-excited linear

- structural systems, *Probabilistic Engineering Mechanics*, vol. 78, 103696: 1-12 (Special Issue, Invited).
- C96. van Wingerden A., Katsidoniotaki M., Haghighi N., Almonte C., Woolcock H., Valdes E., Castro P., Alian A., Booker W., Bello N., Marshall R., **Kougioumtzoglou I. A.**, Petersen N., Miller E., 2024. Postpartum Blood Pressure Variability and Heart Rate Variability in Preeclampsia, *Hypertension*, vol. 81: 2510–2519.
- C97. Pasparakis G., Fragkoulis V. C., **Kougioumtzoglou I. A.**, 2025. On the efficacy of sparse representation approaches for determining nonlinear structural system equations of motion, *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part B. Mechanical Engineering*, vol. 11(3), 031207:1-9.
- C98. Zhang Y., Psaros A. F., **Kougioumtzoglou I. A.**, 2025. A quartic Wiener path integral approximation for stochastic response determination of nonlinear systems, *ASCE Journal of Engineering Mechanics*, vol. 151 (5), 04025010: 1-13.
- C99. Taliadouros L., Mavromatis I. G., **Kougioumtzoglou I. A.**, 2025. Eigenvalue analysis of stochastic structural systems: A quantum computing approach, *Probabilistic Engineering Mechanics*, vol. 81, 103814: 1-10.
- C100. Pasparakis G., **Kougioumtzoglou I. A.**, Shields M., 2025. Joint space-time wind field data extrapolation and uncertainty quantification using nonparametric Bayesian dictionary learning, *Mechanical Systems and Signal Processing*, vol. 239, 113324: 1-21.
- C101. Woolcock H. L., Katsidoniotaki M., Taliadouros L., Haghighi N., van Wingerden A., Alien A., Booker W., Bello N., Marshall R., **Kougioumtzoglou I. A.**, 2025. Petersen N., Miller E., Aggregated Postpartum Cerebral Autoregulatory Curves in Normotensive Individuals, Preeclampsia with Severe Features, and Superimposed Preeclampsia with Severe Features, *Physiological Measurement*, vol. 46, 09NT01: 1-11.
- C102. Mavromatis I. G., Zhang Y., **Kougioumtzoglou I. A.**, 2025. First-passage analysis of nonlinear oscillators by leveraging information in the Wiener path integral most probable path, *Probabilistic Engineering Mechanics*, vol. 82, 103860: 1-9.
- C103. Dos Santos K. R. M., Mavromatis I. G., **Kougioumtzoglou I. A.**, 2026. A Rayleigh-Ritz formulation of the Wiener path integral technique for high-dimensional nonlinear systems, *International Journal of Non-Linear Mechanics*, vol. 185, 105323: 1-9 (Special Issue, Invited).

D. Conferences

- **Peer-Reviewed Conference Proceedings (Papers)**

- D1. Spanos P. D., **Kougioumtzoglou I. A.**, An approximate approach for nonlinear system evolutionary response spectrum determination via wavelets, *Proceedings of the IUTAM Symposium on Nonlinear Stochastic Dynamics and Control, Hangzhou, China, 10-14 May*,

2010, W. Q. Zhu et al. (Eds.), *IUTAM BOOK SERIES 29*: 87-96, Springer, ISBN: 978-94-007-0731-3 (Invited Lecture).

- D2. **Kougioumtzoglou I. A.**, Spanos P. D., A Wiener path integral method for non-stationary response determination of nonlinear oscillators under random loading, *Proceedings of the 6th International Conference on Computational Stochastic Mechanics (CSM 6)*, Rhodes, Greece, 13-16 June, 2010, G. Deodatis and P. D. Spanos (Eds.): 370-379, Research Publishing, ISBN: 978-981-08-7619-7.
- D3. Giaralis A., Spanos P. D., **Kougioumtzoglou I. A.**, A stochastic approach for deriving effective linear properties of bilinear hysteretic systems subject to design spectrum compatible strong ground motions, *Proceedings of the 8th International Conference on Structural Dynamics (EURODYN 2011)*, Leuven, Belgium, 4-6 July, 2011, G. De Roeck et al. (Eds.): 2819-2826, K. U. Leuven, ISBN: 978-90-760-1931-4.
- D4. Spanos P. D., **Kougioumtzoglou I. A.**, Harmonic wavelet-based statistical linearization of the Bouc-Wen hysteretic model, *Proceedings of the 11th International Conference on Applications of Statistics and Probability in Civil Engineering (ICASP 11)*, Zurich, Switzerland, 1-4 August, 2011, Faber et al. (Eds.), 2649-2656, Taylor and Francis Group, ISBN: 978-0-415-66986-3.
- D5. **Kougioumtzoglou I. A.**, Kong F., Spanos P. D., Li J., Some observations on wavelets based evolutionary power spectrum estimation, *Proceedings of the Stochastic Mechanics Conference (SM12)*, Ustica, Italy, 7-10 June, 2012, *Meccanica dei Materiali e delle Strutture*, vol. 3: 37-44 (2012), ISSN: 2035-679X.
- D6. **Kougioumtzoglou I. A.**, A dimension reduction approach for MDOF nonlinear system response determination under evolutionary stochastic excitation, *Proceedings of the 6th International ASRANet Conference for Integrating Structural Analysis, Risk and Reliability (ASRANet 2012)*, London, UK, 2-4 July, 2012.
- D7. **Kougioumtzoglou I. A.**, Spanos P. D., Harmonic wavelets based identification of nonlinear and time-variant systems, *Proceedings of the 6th International Conference on Scalable Uncertainty Management (SUM 2012)*, Marburg, Germany, 17-20 September, 2012, Huellermeier et al. (Eds.), LNAI 7520: 247-260, Springer-Verlag, ISBN: 978-3-642-33361-3.
- D8. Comerford L. A., **Kougioumtzoglou I. A.**, Beer M., An artificial neural network based approach for power spectrum estimation and simulation of stochastic processes subject to missing data, *Proceedings of the 2013 IEEE Symposium Series on Computational Intelligence (IEEE SSCI 2013)*, Singapore, 16-19 April, 2013, art. no. 6611738, pp. 118-124 (Best Student Paper Award).
- D9. **Kougioumtzoglou I. A.**, Vassilopoulou I., Gantes C. J., Stochastic response determination and reliability assessment of a nonlinear cable net structural system, *Proceedings of the 4th ECCOMAS Thematic International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering (COMPDYN 2013)*, Papadrakakis et al. (Eds), Kos, Greece, 12-14 June, 2013.

- D10. **Kougioumtzoglou I. A.**, Spanos P. D., A Wiener path integral technique for determining the response of a bending beam with random material properties, *Proceedings of the 11th International Conference on Structural Safety And Reliability (ICOSSAR 2013)*, New York, USA, 16-20 June, 2013, G. Deodatis, B. Ellingwood and D. Frangopol (Eds.), 2013, Taylor & Francis Group, London, p. 1001-1007, ISBN 978-1-138-00086-5.
- D11. Comerford L. A., **Kougioumtzoglou I. A.**, Beer M., An artificial neural network based approach for power spectrum estimation subject to limited and/or missing data, *Proceedings of the 11th International Conference on Structural Safety And Reliability (ICOSSAR 2013)*, New York, USA, 16-20 June, 2013, G. Deodatis, B. Ellingwood and D. Frangopol (Eds.), 2013 Taylor & Francis Group, London, p. 1083-1090, ISBN: 978-1-138-00086-5.
- D12. Mitseas I. P., **Kougioumtzoglou I. A.**, Beer M., Optimal design of nonlinear structures under evolutionary stochastic earthquake excitations, *Proceedings of the International Conference on Engineering and Applied Sciences Optimization (OPT-i)*, Kos, Greece, June 4 - 6, 2014, M. G. Karlaftis, N. D. Lagaros, M. Papadrakakis, (Eds.), p. 2213-2233, ISBN: 978-960-99994-5-8.
- D13. **Kougioumtzoglou I. A.**, Spanos P. D., Harmonic wavelets based response evolutionary power spectrum determination of nonlinear oscillators with fractional derivative elements, *Proceedings of the 7th International Conference on Computational Stochastic Mechanics (CSM 7)*, Santorini, Greece, 15-18 June, 2014, G. Deodatis, P. D. Spanos (Eds.), Research Publishing, ISBN: 978-981-09-5348-5, p. 367-376.
- D14. Fragkoulis V., **Kougioumtzoglou I. A.**, Pantelous A., Random vibration of linear systems with singular mass matrices, *Proceedings of the 7th International Conference on Computational Stochastic Mechanics (CSM 7)*, Santorini, Greece, 15-18 June, 2014, G. Deodatis, P. D. Spanos (Eds.), Research Publishing, ISBN: 978-981-09-5348-5, p. 277-285.
- D15. Comerford L. A., **Kougioumtzoglou I. A.**, Beer M., A compressive sensing based approach for evolutionary power spectrum estimation subject to missing data, *Proceedings of the 7th International Conference on Computational Stochastic Mechanics (CSM 7)*, Santorini, Greece, 15-18 June, 2014, G. Deodatis, P. D. Spanos (Eds.), Research Publishing, ISBN: 978-981-09-5348-5, p. 206-217.
- D16. Mitseas I. P., **Kougioumtzoglou I. A.**, Spanos P. D., Beer M., Reliability assessment of nonlinear MDOF systems subject to evolutionary stochastic excitation, *Proceedings of the 7th International Conference on Computational Stochastic Mechanics (CSM 7)*, Santorini, Greece, 15-18 June, 2014 G. Deodatis, P. D. Spanos (Eds.), Research Publishing, ISBN: 978-981-09-5348-5, p. 420-431.
- D17. Zhang Y., **Kougioumtzoglou I. A.**, Wiener path integral based nonlinear oscillator survival probability determination, *Proceedings of the 7th International Conference on Computational Stochastic Mechanics (CSM 7)*, Santorini, Greece, 15-18 June, 2014, G.

- Deodatis, P. D. Spanos (Eds.), Research Publishing, ISBN: 978-981-09-5348-5, p. 789-800.*
- D18. **Kougioumtzoglou I. A.**, Response evolutionary power spectrum determination of nonlinear oscillators subject to stochastic excitation, *Proceedings of the IX International Conference on Structural Dynamics (EURODYN 2014), Porto, Portugal, June 30 – July 2, 2014, A. Cunha, E. Caetano, P. Ribeiro, G. Müller (Eds.), ISSN: 2311-9020; ISBN: 978-972-752-165-4. P. 2883-2888.*
- D19. Comerford L. A., **Kougioumtzoglou I. A.**, Beer M., A compressive sensing based approach for estimating stochastic process power spectra subject to missing data, *Proceedings of the IX International Conference on Structural Dynamics (EURODYN 2014), Porto, Portugal, June 30 – July 2, 2014. , A. Cunha, E. Caetano, P. Ribeiro, G. Müller (Eds.), ISSN: 2311-9020; ISBN: 978-972-752-165-4, p. 2995-2999.*
- D20. Beck A. T., **Kougioumtzoglou I. A.**, Dos Santos K. M., Optimum design of nonlinear stochastic dynamical systems, *Proceedings of the 2nd International Conference on Vulnerability and Risk Analysis and Management (ICVRAM 2014) & 6th International Symposium on Uncertainty Modelling and Analysis (ISUMA 2014), University of Liverpool, Liverpool, UK, July 13 – 16, 2014, M. Beer, S.-K. Au, J. W. Hall, (Eds.), American Society of Civil Engineers (ASCE), pp. 96-105, doi: 10.1061/9780784413609.010.*
- D21. **Kougioumtzoglou I. A.**, Kong F., Spanos P. D., Li J., Harmonic wavelets based response power spectrum determination of MDOF nonlinear structural systems, *Proceedings of the 2nd International Conference on Vulnerability and Risk Analysis and Management (ICVRAM 2014) & 6th International Symposium on Uncertainty Modelling and Analysis (ISUMA 2014), University of Liverpool, Liverpool, UK, July 13 – 16, 2014, M. Beer, S.-K. Au, J. W. Hall, (Eds.), American Society of Civil Engineers (ASCE), pp. 1625-1634, doi: 10.1061/9780784413609.163*
- D22. Di Matteo A., Di Paola M., **Kougioumtzoglou I. A.**, Pirrotta A., Spanos P. D., A Wiener path integral technique for non-stationary response determination of nonlinear oscillators with fractional derivatives elements, *Proceedings of the 2nd International Conference on Vulnerability and Risk Analysis and Management (ICVRAM 2014) & 6th International Symposium on Uncertainty Modelling and Analysis (ISUMA 2014), University of Liverpool, Liverpool, UK, July 13 – 16, 2014, M. Beer, S.-K. Au, J. W. Hall, (Eds.), American Society of Civil Engineers (ASCE), pp. 1923-1932, doi: 10.1061/9780784413609.192.*
- D23. McCarthy J. C., **Kougioumtzoglou I. A.**, Pantelous A. A., A Wiener path integral technique for the asset price process: Geometric Brownian motion and Vasicek, *Proceedings of the 2nd International Conference on Vulnerability and Risk Analysis and Management (ICVRAM 2014) & 6th International Symposium on Uncertainty Modelling and Analysis (ISUMA 2014), University of Liverpool, Liverpool, UK, July 13 – 16, 2014, M. Beer, S.-K. Au, J. W. Hall, (Eds.), American Society of Civil Engineers (ASCE), pp. 1205-1213, doi: 10.1061/9780784413609.121.*

- D24. Comerford L. A., Kougiumtzoglou I. A., Beer M., Uncertainty quantification in power spectrum estimation of stochastic processes subject to missing data, *Proceedings of the 2nd International Conference on Vulnerability and Risk Analysis and Management (ICVRAM 2014) & 6th International Symposium on Uncertainty Modelling and Analysis (ISUMA 2014)*, University of Liverpool, Liverpool, UK, July 13 – 16, 2014, M. Beer, S.-K. Au, J. W. Hall, (Eds.), American Society of Civil Engineers (ASCE), pp. 370-377, doi: 10.1061/9780784413609.038.
- D25. Mitseas I. P., Kougiumtzoglou I. A., Beer M., Patelli E., Mottershead J. E., Robust design optimization of dynamical systems under evolutionary stochastic seismic excitation, *Proceedings of the 2nd International Conference on Vulnerability and Risk Analysis and Management (ICVRAM 2014) & 6th International Symposium on Uncertainty Modelling and Analysis (ISUMA 2014)*, University of Liverpool, Liverpool, UK, July 13 – 16, 2014, M. Beer, S.-K. Au, J. W. Hall, (Eds.), American Society of Civil Engineers (ASCE), pp. 215-224, doi: 10.1061/9780784413609.022
- D26. Comerford L., De Angelis M., Mannis A., Beer M., Kougiumtzoglou I. A., An open approach to educational resource development with a specific example from structural engineering, *SEFI Annual Conference Birmingham, UK, 15-19 September 2014*.
- D27. Fragkoulis V., Kougiumtzoglou I. A., Pantelous A., Pirrotta A., Higher order matrix differential equations with singular coefficient matrices, *Proceedings of the 12th International Conference of Numerical Analysis and Applied Mathematics (ICNAAM 2014)*, Rhodes, Greece, 22-28 September, 2014, American Institute of Physics (AIP) Conf. Proc. 1648, 340002-1–340002-4; doi: 10.1063/1.4912578.
- D28. Comerford L., Kougiumtzoglou I. A., Beer M., Compressive sensing based power spectrum estimation from incomplete records by utilizing an adaptive basis, *Proceedings of the 2014 IEEE Symposium Series on Computational Intelligence (IEEE SSCI 2014)*, Orlando, Florida, USA, 9-12 December, 2014, doi:10.1109/CIES.2014.7011840, pp. 117-124.
- D29. Gazis N., Kougiumtzoglou I. A., A stochastic dynamics approach for ice gouge depth determination, *Proceedings of the 25th International Ocean and Polar Engineering Conference (ISOPE 2015)*, Kona, Big Island, Hawaii, USA, June 21-26, 2015.
- D30. Zhang Y., Kougiumtzoglou I. A., An approximate approach for assessing the reliability of a stochastically excited softening Duffing oscillator, *Proceedings of the 12th International Conference on Applications of Statistics and Probability in Civil Engineering (ICASP 12)*, Vancouver, Canada, 12-15 July, 2015.
- D31. Mitseas I. P., Kougiumtzoglou I. A., Beer M., Nonlinear stochastic dynamic analysis for performance based multi-objective optimum design considering life cycle seismic loss estimation, *Proceedings of the 12th International Conference on Applications of Statistics and Probability in Civil Engineering (ICASP 12)*, Vancouver, Canada, 12-15 July, 2015.
- D32. Comerford L., Jensen H. A., Beer M., Mayorga C., Kougiumtzoglou I. A., Kusanovic D., Structural system response and reliability analysis under incomplete earthquake

- records, *Proceedings of the 12th International Conference on Applications of Statistics and Probability in Civil Engineering (ICASP 12)*, Vancouver, Canada, 12-15 July, 2015.
- D33. Giaralis A., **Kougioumtzoglou I. A.**, A stochastic dynamics approach for response spectrum analysis of bilinear systems using equivalent linear properties, *Proceedings of the 12th International Conference on Applications of Statistics and Probability in Civil Engineering (ICASP 12)*, Vancouver, Canada, 12-15 July, 2015.
- D34. Zhang Y., Comerford L., **Kougioumtzoglou I. A.**, Beer M., Compressive sensing for power spectrum estimation of multi-dimensional processes under missing data, *Proceedings of the 22nd International Conference on Systems, Signals and Image Processing (IWSSIP 2015)*, London, UK, 10-12 September, 2015, ISBN: 978-1-4673-8353-0.
- D35. Zhang Y., Comerford L., **Kougioumtzoglou I. A.**, Patelli E., Beer M., Spectral moments estimates uncertainty quantification under incomplete data, *Proceedings of the 6th Asia-Pacific Symposium on Structural Reliability and its Applications (APSSRA 2016)*, H.W. Huang, J. Li, J. Zhang & J.B. Chen (editors), May 28-30, 2016, Shanghai, China, ISBN 978-7-5608-6303-0, pp. 377-384.
- D36. Spanos P. D., **Kougioumtzoglou I. A.**, Dos Santos K. R. M., Beck A. T., Hilbert transform based stochastic averaging of nonlinear oscillators, *Proceedings of the Stochastic Mechanics Conference (SM 2016)*, Capri, Italy, 12-15 June, 2016, *Meccanica dei Materiali e delle Strutture*, Vol. VI (2016), no.1, pp. 187-194, ISSN: 2035-679X
- D37. Meimaris A. T., **Kougioumtzoglou I. A.**, Pantelous A. A., Some observations on the accuracy of the Wiener path integral solution based on the most probable path approximation, *Proceedings of the Stochastic Mechanics Conference (SM 2016)*, Capri, Italy, 12-15 June, 2016, *Meccanica dei Materiali e delle Strutture*, Vol. VI (2016), no.1, pp. 195-202, ISSN: 2035-679X
- D38. Dos Santos K. R. M., **Kougioumtzoglou I. A.**, Beck A. T., A stochastic dynamics approach for efficient incremental dynamic analysis, *Proceedings of the 8th International Conference on Bridge Maintenance, Safety and Management (IAMBAS 2016)*, Foz do Iguaçu, Brazil, 26-30 June, 2016.
- D39. Dos Santos K. M., **Kougioumtzoglou I. A.**, Beck A. T., An approximate approach for efficient stochastic incremental dynamic analysis, *Proceedings of the 16th World Conference on Earthquake Engineering (WCEE 2017)*, Santiago, Chile, 9-13 January, 2017.
- D40. Giaralis A., **Kougioumtzoglou I. A.**, Dos Santos K. M., A stochastic dynamics approach for response determination of bilinear hysteretic systems to pulse-like ground motions using time-dependent equivalent linear properties, *Proceedings of the 16th World Conference on Earthquake Engineering (WCEE 2017)*, Santiago, Chile, 9-13 January, 2017.

- D41. Laface V., Arena F., **Kougioumtzoglou I. A.**, Dos Santos K., Joint time-frequency analysis of small scale ocean storms via the harmonic wavelet transform, *Proceedings of the 36th International Conference on Ocean, Offshore & Arctic Engineering (OMAE 2017)*, Trondheim, Norway, 25-30 June, 2017, Paper No. OMAE2017-61761, pp. V03AT02A046; 8 pages doi:10.1115/OMAE2017-61761, ISBN: 978-0-7918-5765-6
- D42. Fragkoulis V. C., **Kougioumtzoglou I. A.**, Pantelous A. A., Pirrotta A., A Moore-Penrose frequency domain approach for stochastic response determination of structural systems with singular matrices, *Proceedings of the 12th International Conference On Structural Safety And Reliability (ICOSSAR 2017)*, 6-10 August, 2017, TU Wien, Vienna, Austria.
- D43. Antoniou E. N., Pantelous A. A., **Kougioumtzoglou I. A.**, Pirrotta A., A polynomial matrix theory approach for determining the response of structural systems with singular matrices, *Proceedings of the 12th International Conference On Structural Safety And Reliability (ICOSSAR 2017)*, 6-10 August, 2017, TU Wien, Vienna, Austria.
- D44. **Kougioumtzoglou I. A.**, Stochastic response determination and effective material properties of a class of one-dimensional mechanics problems, *Proceedings of the 12th International Conference On Structural Safety And Reliability (ICOSSAR 2017)*, 6-10 August, 2017, TU Wien, Vienna, Austria.
- D45. Zhang Y., Comerford L., **Kougioumtzoglou I. A.**, Beer M., Enhancing sparsity in compressive sensing based power spectrum estimation of gappy processes, *Proceedings of the 12th International Conference On Structural Safety And Reliability (ICOSSAR 2017)*, 6-10 August, 2017, TU Wien, Vienna, Austria.
- D46. Mitseas I. A., **Kougioumtzoglou I. A.**, Giaralis A., Beer M., A stochastic dynamics approach for seismic response spectrum-based analysis of hysteretic MDOF structures, *Proceedings of the 12th International Conference On Structural Safety And Reliability (ICOSSAR 2017)*, 6-10 August, 2017, TU Wien, Vienna, Austria.
- D47. Laface V., Malara G., Arena F., **Kougioumtzoglou I. A.**, Romolo A., Nonlinear wave crest distribution on a vertical breakwater, *Proceedings of the 37th International Conference on Ocean, Offshore & Arctic Engineering (OMAE 2018)*, Madrid, Spain, 17-22 June, 2018.
- D48. Psaros A. F., Petromichelakis I., **Kougioumtzoglou I. A.**, Non-stationary joint response PDF determination of nonlinear systems via the Wiener Path Integral in conjunction with a wavelet basis, *Proceedings of the 8th International Conference on Computational Stochastic Mechanics (CSM 8)*, Paros, Greece, 10-13 June, 2018, G. Deodatis, P. D. Spanos (Eds.), ISBN: 978-981-11-2723-6; doi:10.3850/978-981-11-2723-6 46-cd
- D49. Petromichelakis I., Psaros A., **Kougioumtzoglou I. A.**, Wiener path integral based stochastic response determination of nonlinear systems with singular diffusion matrices, *Proceedings of the 8th International Conference on Computational Stochastic Mechanics (CSM 8)*, Paros, Greece, 10-13 June, 2018, G. Deodatis, P. D. Spanos (Eds.), ISBN: 978-981-11-2723-6; doi:10.3850/978-981-11-2723-6 43-cd

- D50. Petromichelakis I., Psaros A., Kougiumtzoglou I. A., Stochastic response analysis and optimization of a class of nonlinear electromechanical energy harvesters, *Proceedings of the 8th International Conference on Computational Stochastic Mechanics (CSM 8)*, Paros, Greece, 10-13 June, 2018, G. Deodatis, P. D. Spanos (Eds.), ISBN: 978-981-11-2723-6; doi:10.3850/978-981-11-2723-6 42-cd
- D51. Dos Santos K. R. M., Kougiumtzoglou I. A., Spanos P. D., Nonlinear oscillator survival probability determination via Hilbert transform based stochastic averaging, *Proceedings of the 8th International Conference on Computational Stochastic Mechanics (CSM 8)*, Paros, Greece, 10-13 June, 2018, G. Deodatis, P. D. Spanos (Eds.), ISBN: 978-981-11-2723-6; doi:10.3850/978-981-11-2723-6 21-cd
- D52. Meimaris A. T., Kougiumtzoglou I. A., Pantelous A. A., Approximate transition probability density functions for a class of coupled nonlinear stochastic differential equations, *Proceedings of the 8th International Conference on Computational Stochastic Mechanics (CSM 8)*, Paros, Greece, 10-13 June, 2018, G. Deodatis, P. D. Spanos (Eds.), ISBN: 978-981-11-2723-6; doi:10.3850/978-981-11-2723-6 37-cd
- D53. Miller E. C., Dos Santos K. R. M., Wapner R., Kougiumtzoglou I. A., Marshall R., Dynamic cerebral autoregulation is impaired in the first week postpartum in women with and without preeclampsia, *Proceedings of the International Stroke Conference, Honolulu, Hawaii*, 6-8 February, 2019, https://doi.org/10.1161/str.50.suppl_1.WP544
- D54. Mitseas I. P., Kougiumtzoglou I. A., Beer M., An efficient complex modal decomposition method for inelastic stochastic design spectrum-based analysis, *Proceedings of the 13th International Conference on Applications of Statistics and Probability in Civil Engineering (ICASP 13)*, Seoul National University, Seoul, Korea, May 26-30, 2019.
- D55. Scialo A., Malara G., Kougiumtzoglou I. A., Arena F., Stochastic Response Determination of U-Oscillating Water Columns in Severe Seas by a Statistical Linearization Scheme, *Proceedings of the 41st International Conference on Ocean, Offshore & Arctic Engineering (OMAE 2022)*, Hamburg, Germany, 6-9 June, 2022.
- D56. Fragkoulis V. C., Kougiumtzoglou I. A., Pantelous A. A., Beer M., Joint statistics of natural frequencies of linear structural systems with singular matrices, *Proceedings of the 13th International Conference on Structural Safety and Reliability (ICOSSAR 2021-2022)*, September 13-17, 2022, Shanghai, China.
- D57. Katsidoniotaki M. I., Psaros A. F., Kougiumtzoglou I. A., Joint response PDF determination of nonlinear dynamical systems via the Wiener path integral technique: A Bayesian compressive sampling treatment, *Proceedings of the 13th International Conference on Structural Safety and Reliability (ICOSSAR 2021-2022)*, September 13-17, 2022, Shanghai, China.
- D58. Zhang Y., Kougiumtzoglou I. A., Kong F., Exploiting PDF expansion bases sparsity for efficient stochastic response determination of nonlinear dynamical systems via the Wiener

path integral technique, *Proceedings of the 13th International Conference on Structural Safety and Reliability (ICOSSAR 2021-2022)*, September 13-17, 2022, Shanghai, China.

- D59. Fragkoulis V. C., **Kougioumtzoglou I. A.**, Pantelous A. A., Beer M., Non-stationary response autocorrelation function of nonlinear oscillators endowed with fractional derivative elements, *Proceedings of the 14th International Conference on Applications of Statistics and Probability in Civil Engineering*, July 9 - July 13, 2023 Trinity College Dublin, Ireland.
- D60. Mavromatis I. G., **Kougioumtzoglou I. A.**, Efficient Wiener path integral most probable path determination based on extrapolation, *Proceedings of the 14th International Conference on Applications of Statistics and Probability in Civil Engineering*, July 9 - July 13, 2023 Trinity College Dublin, Ireland.

○ **Peer-Reviewed Conferences (Abstracts)**

- D61. Spanos P. D., **Kougioumtzoglou I. A.**, Soize C., On the determination of the power spectrum of randomly excited oscillators via stochastic averaging: An alternative perspective, *Proceedings of the International Conference on Stochastic Methods in Mechanics: Status and Challenges*, Warsaw, Poland, 28-30 September, 2009 (Invited Lecture).
- D62. **Kougioumtzoglou I. A.**, Spanos P. D., Response and first-passage analysis of nonlinear oscillators under evolutionary excitation by a path integral approach, *Proceedings of the International Conference of the Engineering Mechanics Institute (EMI 2010)*, Los Angeles, USA, 8-11 August, 2010.
- D63. Spanos P. D., **Kougioumtzoglou I. A.**, Galerkin scheme based determination of first-passage probability of nonlinear system response, *Proceedings of the International Symposium on Reliability Engineering and Risk Management (ISRERM 2010)*, Shanghai, China, 23-26 September, 2010 (Keynote Lecture).
- D64. **Kougioumtzoglou I. A.**, Spanos P. D., Non-Stationary stochastic response determination of nonlinear systems: An analytical Wiener path integral formalism, *Proceedings of the 11th ASCE Joint Specialty Conference on Probabilistic Mechanics and Structural Reliability (EMI/PMC 2012)*, Notre Dame, USA, 17-20 June, 2012.
- D65. **Kougioumtzoglou I. A.**, Spanos P.D., A Wiener path integral technique for non-stationary stochastic response determination of nonlinear MDOF structural systems, *Proceedings of the 10th HSTAM International Congress on Mechanics (HSTAM 2013)*, Chania, Crete, Greece, 25 – 27 May, 2013.
- D66. Duller R. A., De Angelis A., **Kougioumtzoglou I. A.**, Assessing the fractal nature of terrestrial gravel systems, *Proceedings of the 10th International Conference on Fluvial Sedimentology (ICFS 10)*, Leeds, UK, 14-19 July, 2013.

- D67. Beer M., Patelli E., **Kougioumtzoglou I. A.**, Conceptual directions in uncertainty quantification, *Proceedings of the European Safety and Reliability Conference (ESREL 2014)*, Wroclaw, Poland, 14-18 September, 2014.
- D68. **Kougioumtzoglou I. A.**, Di Matteo A., Pirrotta A., Spanos P., Di Paola M., An efficient Wiener path integral technique formulation for stochastic response determination of nonlinear MDOF systems, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2015)*, Stanford University, June 16-19, 2015.
- D69. **Kougioumtzoglou I. A.**, Zhang Y., Beer M., Reliability assessment of a softening Duffing oscillator under evolutionary stochastic excitation, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2015)*, Stanford University, June 16-19, 2015.
- D70. Fragkoulis V., **Kougioumtzoglou I. A.**, Pantelous A., Statistical linearization of nonlinear systems with singular mass matrices, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2015)*, Stanford University, June 16-19, 2015.
- D71. Comerford L., **Kougioumtzoglou I. A.**, Beer M., A compressive sensing based framework for evolutionary power spectrum estimation subject to missing data, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2015)*, Stanford University, June 16-19, 2015.
- D72. Mitseas I., **Kougioumtzoglou I. A.**, Beer M., Fragility analysis of hysteretic MDOF structural systems subject to evolutionary stochastic excitations, *Proceedings of the 8th GRACM International Congress on Computational Mechanics*, Volos, Greece, 12-15 July, 2015, ISBN: 978-960-9439-36-7, University of Thessaly Press 2015, editors, N. Pelekasis and G.E. Stavroulakis.
- D73. Comerford L., **Kougioumtzoglou I. A.**, Beer M., Uncertainty quantification in evolutionary power spectrum estimation subject to missing data, *Proceedings of the 8th GRACM International Congress on Computational Mechanics*, Volos, Greece, 12-15 July, 2015, ISBN: 978-960-9439-36-7, University of Thessaly Press 2015, editors, N. Pelekasis and G.E. Stavroulakis.
- D74. Zhang Y., Comerford L., **Kougioumtzoglou I. A.**, Beer M., A compressive sensing based approach for power spectrum estimation of multi-variate stochastic processes under missing data, *Proceedings of the 13th International Probabilistic Workshop (IPW2015)*, University of Liverpool, Liverpool, UK, 4-6 November, 2015.
- D75. Giaralis A., **Kougioumtzoglou I. A.**, Derivation of time-dependent equivalent linear properties of bilinear hysteretic systems subject to pulse-like ground motions via a stochastic dynamics approach, *Proceedings of the 13th International Probabilistic Workshop (IPW2015)*, University of Liverpool, Liverpool, UK, 4-6 November, 2015.
- D76. **Kougioumtzoglou I. A.**, Dos Santos K. R. M., Comerford L., Nonlinear system with fractional derivative terms parameter identification subject to incomplete non-stationary data, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2016) and the*

Probabilistic Mechanics and Reliability Conference (PMC 2016), Vanderbilt University, May 22-25, 2016.

- D77. Spanos P. D., Fragkoulis V. C., **Kougioumtzoglou I. A.**, Pantelous A. A., Random vibration integrals for systems endowed with fractional derivative elements, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2016) and the Probabilistic Mechanics and Reliability Conference (PMC 2016), Vanderbilt University, May 22-25, 2016.*
- D78. Dos Santos K. R. M., **Kougioumtzoglou I. A.**, Beck A. T., Efficient incremental dynamic analysis via stochastic averaging, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2016) and the Probabilistic Mechanics and Reliability Conference (PMC 2016), Vanderbilt University, May 22-25, 2016.*
- D79. **Kougioumtzoglou I. A.**, Dos Santos K. R. M., Comerford L., Incomplete data based identification of nonlinear systems endowed with fractional derivative elements, *Proceedings of the 11th HSTAM International Congress on Mechanics (HSTAM 2016), Athens, Greece, 27 – 30 May, 2016, ISBN: 978-618-82609-1-7, editors, H. G. Georgiades and V. K. Koumouis.*
- D80. **Kougioumtzoglou I. A.**, Di Matteo A., Spanos P., Pirrotta A., Di Paola M., Efficient stochastic response determination of dynamical systems via the Wiener path integral, *Proceedings of the 11th HSTAM International Congress on Mechanics (HSTAM 2016), Athens, Greece, 27 – 30 May, 2016, ISBN: 978-618-82609-1-7, editors, H. G. Georgiades and V. K. Koumouis.*
- D81. Fragkoulis V. C., **Kougioumtzoglou I. A.**, Pantelous A. A., Stochastic response determination of linear and nonlinear dynamical systems with singular matrices, *Proceedings of the 11th HSTAM International Congress on Mechanics (HSTAM 2016), Athens, Greece, 27 – 30 May, 2016, ISBN: 978-618-82609-1-7, editors, H. G. Georgiades and V. K. Koumouis.*
- D82. Meimaris A., **Kougioumtzoglou I. A.**, Pantelous A. A., Some observations on the approximations of the Wiener path integral technique, *Proceedings of the Engineering Mechanics Institute International Conference, Metz, France, October 25-27, 2016.*
- D83. Dos Santos K. R. M., **Kougioumtzoglou I. A.**, Spanos P. D., Beck A. T., Stochastic averaging of a Duffing oscillator with fractional derivative terms based on the Hilbert transform, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2017) University of California, San Diego (UCSD), June 4-7, 2017.*
- D84. Malara G., **Kougioumtzoglou I. A.**, Arena F., Compressive sampling based extrapolation of random wave field data, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2017) University of California, San Diego (UCSD), June 4-7, 2017.*
- D85. Meimaris A., **Kougioumtzoglou I. A.**, Pantelous A., Assessing the accuracy of the Wiener Path Integral technique for a class of stochastic differential equations, *Proceedings of the*

Engineering Mechanics Institute Conference (EMI 2017) University of California, San Diego (UCSD), June 4-7, 2017.

- D86. Brudastova O., **Kougioumtzoglou I. A.**, Malara G., Psaros A., A Wiener path integral technique for stochastic response determination of structural systems under non-white excitation processes, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2017) University of California, San Diego (UCSD), June 4-7, 2017.*
- D87. Psaros A., **Kougioumtzoglou I. A.**, Sparse Representations and Wiener Path Integral for Efficient Stochastic Response Determination of MDOF Systems, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2017) University of California, San Diego (UCSD), June 4-7, 2017.*
- D88. Mitseas I., **Kougioumtzoglou I. A.**, Beer M., An approximate stochastic dynamics approach for inelastic stochastic design spectrum-based analysis, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2017) University of California, San Diego (UCSD), June 4-7, 2017.*
- D89. Fragkoulis V. C., **Kougioumtzoglou I. A.**, Pantelous A. A., A frequency domain methodology for determining the stochastic response of dynamical systems with singular matrices, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2017) University of California, San Diego (UCSD), June 4-7, 2017.*
- D90. Petromichelakis I., Psaros A. F., **Kougioumtzoglou I. A.**, Stochastic response analysis and optimum design of nonlinear electromechanical energy harvesters: A Wiener path integral approach, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2018), MIT, Cambridge, MA, USA, May 29 – June 1, 2018.*
- D91. Psaros A. F., Petromichelakis I., **Kougioumtzoglou I. A.**, Wiener Path Integral and Wavelets for determining efficiently the non-stationary joint response PDF of nonlinear oscillators, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2018), MIT, Cambridge, MA, USA, May 29 – June 1, 2018.*
- D92. Psaros A. F., Petromichelakis I., **Kougioumtzoglou I. A.**, Wiener path integral based stochastic response determination of structural systems: The non-white excitation case, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2018), MIT, Cambridge, MA, USA, May 29 – June 1, 2018.*
- D93. Dos Santos R. M. K., Brudastova O., **Kougioumtzoglou I. A.**, Nonlinear structural system spectral identification subject to incomplete data, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2018), MIT, Cambridge, MA, USA, May 29 – June 1, 2018.*
- D94. Meimaris A. T., **Kougioumtzoglou I. A.**, Pantelous A. A., Approximate transition probability density functions for a class of nonlinear stochastic differential equations, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2018), MIT, Cambridge, MA, USA, May 29 – June 1, 2018.*

- D95. Mitseas I. P., **Kougioumtzoglou I. A.**, Nonlinear MDOF system non-stationary stochastic response determination via statistical linearization and complex modal analysis, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2018)*, MIT, Cambridge, MA, USA, May 29 – June 1, 2018.
- D96. Psaros A., Brudastova O., **Kougioumtzoglou I. A.**, Malara G., Nonlinear system stochastic response determination under non-white and non-Gaussian excitation via the Wiener Path Integral technique, *Proceedings of the 13th World Congress in Computational Mechanics & 2nd Pan American Congress on Computational Mechanics*, New York, NY, USA, July 22 - July 27, 2018.
- D97. Petromichelakis I., Psaros A. F., **Kougioumtzoglou I. A.**, Stochastic response determination of nonlinear systems with singular diffusion matrices by the Wiener path integral technique, *Proceedings of the 13th World Congress in Computational Mechanics & 2nd Pan American Congress on Computational Mechanics*, New York, NY, USA, July 22 - July 27, 2018.
- D98. Dos Santos R. M. K., Apostolakis I. Z., Konofagou E. A., **Kougioumtzoglou I. A.**, RF signal compression using multiresolution wavelet decomposition for efficient piecewise pulse wave imaging, *Proceedings of the 13th World Congress in Computational Mechanics & 2nd Pan American Congress on Computational Mechanics*, New York, NY, USA, July 22 - July 27, 2018.
- D99. Meimaris A. T., **Kougioumtzoglou I. A.**, Pantelous A. A., Pirrotta A., Approximate closed-form solutions for a class of nonlinear stochastic differential equations with applications in engineering dynamics, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2019)*, Caltech, Pasadena, CA, USA, June 18-21, 2019.
- D100. Petromichelakis I., **Kougioumtzoglou I. A.**, Computationally efficient stochastic response determination of high-dimensional dynamical systems via a Wiener path integral variational formulation with free boundaries, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2019)*, Caltech, Pasadena, CA, USA, June 18-21, 2019.
- D101. Psaros A. F., **Kougioumtzoglou I. A.**, Functional series expansions and quadratic approximations for enhancing the accuracy of the Wiener path integral technique, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2019)*, Caltech, Pasadena, CA, USA, June 18-21, 2019.
- D102. Dos Santos R. M. K., Psaros A. F., Petromichelakis I., **Kougioumtzoglou I. A.**, High performance computing strategies for efficient Wiener path integral based stochastic response analysis of diverse dynamical systems, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2019)*, Caltech, Pasadena, CA, USA, June 18-21, 2019.
- D103. Katsidoniotaki M., Psaros A. F., Di Matteo A., **Kougioumtzoglou I. A.**, Pirrotta A., Wiener path integral based response determination of structural systems subject to stochastic excitations modeled via fractional order filters, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2019)*, Caltech, Pasadena, CA, USA, June 18-21, 2019.

- D104. Liaskos K., Pantelous A. A., **Kougioumtzoglou I. A.**, Meimaris A. T., Analytic solutions in implicit form for the nonlinear Euler-Bernoulli beam equation with fractional derivative terms, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2019)*, Caltech, Pasadena, CA, USA, June 18-21, 2019.
- D105. Fragkoulis V., **Kougioumtzoglou I. A.**, Pantelous A., Beer M., Nonstationary stochastic response determination of nonlinear oscillators with fractional derivative elements, *Proceedings of the Engineering Mechanics Institute International Conference (EMI 2019)*, Lyon, France, July 2-5, 2019.
- D106. Psaros A. F., **Kougioumtzoglou I. A.**, Quadratic approximations of the Wiener path integral technique for stochastic response determination of diverse engineering dynamical systems, *Proceedings of the Engineering Mechanics Institute International Conference (EMI 2019)*, Lyon, France, July 2-5, 2019.
- D107. Petromichelakis I., **Kougioumtzoglou I. A.**, Wiener path integral variational formulation with free boundaries for efficient stochastic analysis of high-dimensional dynamical systems, *Proceedings of the Engineering Mechanics Institute International Conference (EMI 2019)*, Lyon, France, July 2-5, 2019.
- D108. Miller E. C., Zambrano M. D., Bello N., Miltiades A., Pimentel N., Dos Santos R. M. K., **Kougioumtzoglou I. A.**, Marshall R., Cleary K. L., Dynamic cerebral autoregulation is impaired in the first week postpartum in women with early versus late onset preeclampsia, *Proceedings of the European Stroke Organization Conference (ESOC)*, Vienna, May 12-15, 2020.
- D109. Pasparakis G., Comerford L., **Kougioumtzoglou I. A.**, Beer M., Wind field data extrapolation based on wind turbine measurement records via compressive sampling, *Proceedings of the XI International Conference on Structural Dynamics (EURODYN 2020)*, Athens, Greece, November 23-26, 2020.
- D110. Fragkoulis V. C., **Kougioumtzoglou I. A.**, Pantelous A. A., Beer M., Response evolutionary power spectrum determination of nonlinear oscillators with fractional derivative terms, *Proceedings of the XI International Conference on Structural Dynamics (EURODYN 2020)*, Athens, Greece, November 23-26, 2020.
- D111. Ni P., Mitseas I. P., Fragkoulis V. C., **Kougioumtzoglou I. A.**, Beer M., Peak response determination of nonlinear oscillators with fractional derivative elements under code-compliant stochastic seismic excitations, *Proceedings of the XI International Conference on Structural Dynamics (EURODYN 2020)*, Athens, Greece, November 23-26, 2020.
- D112. Katsidoniotaki M., Petromichelakis I., **Kougioumtzoglou I. A.**, Nonlinear random vibrations of high-dimensional nanomechanical systems, *Proceedings of the World Congress in Computational Mechanics (WCCM 2020)*, Paris, France, January 11-15, 2021.

- D113. Katsidoniotaki M., Petromichelakis I., **Kougioumtzoglou I. A.**, A Bayesian compressive sampling approach for stochastic response determination of nonlinear dynamic systems via the Wiener path integral technique, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2020)*, Columbia University, NY, USA, May 25-28, 2021.
- D114. Psaros A. F., **Kougioumtzoglou I. A.**, A quadratic approximation of the Wiener path integral for stochastic response determination of nonlinear multi-degree-of-freedom systems, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2020)*, Columbia University, NY, USA, May 25-28, 2021.
- D115. Fragkoulis V. C., **Kougioumtzoglou I. A.**, Pantelous A. A., Beer M., On the random eigenvalue problem for linear structural systems with singular matrices and parametric uncertainties, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2020)*, Columbia University, NY, USA, May 25-28, 2021.
- D116. Karageorgos A. D., Moysis L., Fragkoulis V. C., **Kougioumtzoglou I. A.**, Pantelous A. A., A Weierstrass-Kronecker canonical form approach for stochastic response determination of linear systems with singular matrices, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2020)*, Columbia University, NY, USA, May 25-28, 2021.
- D117. Petromichelakis I., **Kougioumtzoglou I. A.**, Determination of nonlinear normal modes via a center manifold technique and a Gröbner basis algebraic solution, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2020)*, Columbia University, NY, USA, May 25-28, 2021.
- D118. Bosse R., Petromichelakis I., **Kougioumtzoglou I. A.**, On the convergence of the Wiener path integral solution technique coupled with a Newton's optimization scheme, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2020)*, Columbia University, NY, USA, May 25-28, 2021.
- D119. Pasparakis G., Comerford L., **Kougioumtzoglou I. A.**, Beer M., Wind field data extrapolation in both time and space dimensions via compressive sampling, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2020)*, Columbia University, NY, USA, May 25-28, 2021.
- D120. Zhao Y., Psaros A. F., Petromichelakis I., **Kougioumtzoglou I. A.**, A Wiener path integral quadratic approximation for stochastic response determination of nonlinear multi-degree-of-freedom systems, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2022)*, Johns Hopkins University, Baltimore, USA, May 31- June 3, 2022.
- D121. Mavromatis I. G., Psaros A. F., **Kougioumtzoglou I. A.**, Stochastic response determination of nonlinear dynamical systems: A Wiener path integral technique accounting for fractional derivative modeling, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2022)*, Johns Hopkins University, Baltimore, USA, May 31- June 3, 2022.
- D122. Katsidoniotaki M. I., Dos Santos R. M. K., Miller E. C., **Kougioumtzoglou I. A.**, Marshall R. S., Data-driven parsimonious modeling and analysis of dynamic cerebral autoregulation

via diffusion maps, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2022)*, Johns Hopkins University, Baltimore, USA, May 31- June 3, 2022.

- D123. Pasparakis G. D., Fragkoulis V. C., **Kougioumtzoglou I. A.**, Beer M., Discovering nonlinear structural system dynamics based on compressive sampling concepts and tools, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2022)*, Johns Hopkins University, Baltimore, USA, May 31- June 3, 2022.
- D124. Fragkoulis V. C., **Kougioumtzoglou I. A.**, Survival probability determination of nonlinear oscillators with fractional derivative terms under evolutionary stochastic excitation, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2022)*, Johns Hopkins University, Baltimore, USA, May 31- June 3, 2022.
- D125. Fragkoulis V. C., **Kougioumtzoglou I. A.**, Pantelous A. A., Beer M., Response evolutionary power spectrum determination of nonlinear oscillators endowed with fractional derivative elements, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2023)*, Georgia Tech, Atlanta, Georgia, USA, June 6-9, 2023.
- D126. Mavromatis I. G., **Kougioumtzoglou I. A.**, Efficient Wiener path integral most probable path determination based on extrapolation, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2023)*, Georgia Tech, Atlanta, Georgia, USA, June 6-9, 2023.
- D127. Katsidoniotaki M. I., Taliadouros L., **Kougioumtzoglou I. A.**, Miller E. C., Marshall R. S., A Bayesian compressive sampling approach for modeling, analysis and diagnostics of dynamic cerebral autoregulation in cardiovascular disease, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2023)*, Georgia Tech, Atlanta, Georgia, USA, June 6-9, 2023.
- D128. Dos Santos K. R. M., **Kougioumtzoglou I. A.**, A Rayleigh-Ritz solution approach for determining the Wiener path integral technique most probable path with mixed fixed/free boundaries, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2023)*, Georgia Tech, Atlanta, Georgia, USA, June 6-9, 2023.
- D129. Katsidoniotaki M. I., Petromichelakis I., **Kougioumtzoglou I. A.**, Stochastic response determination of an array of coupled nonlinear micromechanical oscillators based on an efficient reduced-order formulation of the Wiener path integral technique, *Proceedings of the Engineering Mechanics Institute International Conference (EMI 2023)*, Palermo, Italy, August 27-30, 2023.
- D130. Dos Santos K. R. M., **Kougioumtzoglou I. A.**, Efficient stochastic response determination of nonlinear systems based on a reduced-order formulation of the Wiener path integral technique in conjunction with high-performance computing strategies, *Proceedings of the Engineering Mechanics Institute International Conference (EMI 2023)*, Palermo, Italy, August 27-30, 2023.
- D131. Roncallo L., Mavromatis I. G., **Kougioumtzoglou I. A.**, Tubino F., Integer- and non-integer-order filter approximations for determining the stochastic response of wind-excited

structural systems, *Proceedings of the Engineering Mechanics Institute International Conference (EMI 2023), Palermo, Italy, August 27-30, 2023.*

- D132. Mavromatis I. G., **Kougioumtzoglou I. A.**, Efficient Stochastic Response Determination of Nonlinear Systems By Leveraging the Unique Extrapolation Capabilities of the Wiener Path Integral Technique, *Proceedings of the Engineering Mechanics Institute International Conference (EMI 2023), Palermo, Italy, August 27-30, 2023.*
- D133. Mavromatis I. G., Pсарos A. F., **Kougioumtzoglou I. A.**, A Wiener Path Integral Formalism for Treating Nonlinear Systems with Non-Markovian Response Processes, *Proceedings of the Engineering Mechanics Institute International Conference (EMI 2023), Palermo, Italy, August 27-30, 2023.*
- D134. Nawagamuwage A., **Kougioumtzoglou I. A.**, Pantelous A., On the existence, uniqueness and efficient calculation of Wiener path integral most probable paths for a class of nonlinear stochastic differential equations, *Proceedings of the Engineering Mechanics Institute Conference and Probabilistic Mechanics and Reliability Conference (EMI/PMC 2024), Palmer House Hotel, Chicago IL, USA, May 28-31, 2024.*
- D135. **Kougioumtzoglou I. A.**, Fragkoulis V., Petromichelakis I., Statistical linearization solution treatment of stochastically excited nonlinear systems: An alternative perspective based on computational algebraic geometry, *Proceedings of the Engineering Mechanics Institute Conference and Probabilistic Mechanics and Reliability Conference (EMI/PMC 2024), Palmer House Hotel, Chicago IL, USA, May 28-31, 2024.*
- D136. Dos Santos K. R. M., **Kougioumtzoglou I. A.**, A reduced-order formulation of the Wiener path integral technique for efficient stochastic response determination of nonlinear systems with singular diffusion matrices, *Proceedings of the Engineering Mechanics Institute Conference and Probabilistic Mechanics and Reliability Conference (EMI/PMC 2024), Palmer House Hotel, Chicago IL, USA, May 28-31, 2024.*
- D137. Mavromatis I., **Kougioumtzoglou I. A.**, Efficient stochastic response determination of nonlinear structural systems: An extrapolation approach within the Wiener path integral technique, *Proceedings of the Engineering Mechanics Institute Conference and Probabilistic Mechanics and Reliability Conference (EMI/PMC 2024), Palmer House Hotel, Chicago IL, USA, May 28-31, 2024.*
- D138. Roncallo L., Mavromatis I., **Kougioumtzoglou I. A.**, Tubino F., Closed-form solutions for the stochastic response of wind-excited structural systems based on integer- and non-integer-order filter approximations, *Proceedings of the Engineering Mechanics Institute Conference and Probabilistic Mechanics and Reliability Conference (EMI/PMC 2024), Palmer House Hotel, Chicago IL, USA, May 28-31, 2024.*
- D139. Mavromatis I., **Kougioumtzoglou I. A.**, Eigenvalue problems in stochastic mechanics: A quantum computing solution treatment, *Proceedings of the Engineering Mechanics Institute Conference and Probabilistic Mechanics and Reliability Conference (EMI/PMC 2024), Palmer House Hotel, Chicago IL, USA, May 28-31, 2024.*

- D140. Taliadouros L., **Kougioumtzoglou I. A.**, Singular value decomposition problems in structural dynamics: A quantum computing solution treatment, *Proceedings of the Engineering Mechanics Institute Conference and Probabilistic Mechanics and Reliability Conference (EMI/PMC 2024)*, Palmer House Hotel, Chicago IL, USA, May 28-31, 2024.
- D141. Zifeng H., **Kougioumtzoglou I. A.**, Pantelous A., Beer M., Stochastic response analysis of nonlinear structural systems subject to non-white and non-Gaussian excitations described by probability density functionals, *Proceedings of the Engineering Mechanics Institute Conference and Probabilistic Mechanics and Reliability Conference (EMI/PMC 2024)*, Palmer House Hotel, Chicago IL, USA, May 28-31, 2024.
- D142. Mavromatis I., **Kougioumtzoglou I. A.**, Nonlinear stochastic dynamics of structural systems: an efficient extrapolation approach within the Wiener path integral technique, *Proceedings of the International Conference on Nonlinear Solid Mechanics (ICONSOM 2024)* Università degli Studi di Cagliari, Cagliari, Italy, June 11-14, 2024.
- D143. Mavromatis I., **Kougioumtzoglou I. A.**, An efficient extrapolation approach within the Wiener path integral technique, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2025)*, Anaheim, California, USA, May 27-30, 2025.
- D144. Nawagamuwage A., **Kougioumtzoglou I. A.**, Pantelous A., Approximate analytical solutions of Wiener path integral most probable paths for efficient stochastic response determination of nonlinear systems, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2025)*, Anaheim, California, USA, May 27-30, 2025.
- D145. Pasparakis G., **Kougioumtzoglou I. A.**, Shields M., A non-parametric Bayesian dictionary learning approach for joint time-space wind field data extrapolation and uncertainty quantification, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2025)*, Anaheim, California, USA, May 27-30, 2025.
- D146. Taliadouros L., Mavromatis I., **Kougioumtzoglou I. A.**, A quantum computing approach for eigenvalue analysis of stochastic structural systems, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2025)*, Anaheim, California, USA, May 27-30, 2025.
- D147. Zhang Y., Psaros A., **Kougioumtzoglou I. A.**, Stochastic response determination of nonlinear dynamic systems based on a quartic Wiener path integral approximation, *Proceedings of the Engineering Mechanics Institute Conference (EMI 2025)*, Anaheim, California, USA, May 27-30, 2025.
- D148. Fragkoulis V. C., **Kougioumtzoglou I. A.**, Petromichelakis I., A computational algebraic geometry approach within the statistical linearization technique for determining the stochastic response of nonlinear systems, *14th International Conference on Structural Safety and Reliability (ICOSSAR 2025)*, Los Angeles, CA, USA, June 1-6, 2025.
- D149. Taliadouros L., Katsidoniotaki M., **Kougioumtzoglou I. A.**, Uncertainty quantification of the dynamic cerebral autoregulation mechanism, *14th International Conference on Structural Safety and Reliability (ICOSSAR 2025)*, Los Angeles, CA, USA, June 1-6, 2025.

- D150.* Dos Santos K. R. M., Kougiumtzoglou I. A., Efficient stochastic response determination of high-dimensional nonlinear dynamical systems, *14th International Conference on Structural Safety and Reliability (ICOSSAR 2025), Los Angeles, CA, USA, June 1-6, 2025.*