SEDUTA DEL COLLEGIO DEI DOCENTI DEL 38°-39°-40° CICLO

02 Aprile 2025

Il Collegio dei Docenti del 38°, 39° e 40° ciclo del Dottorato di Ricerca in Scienze Fisiche e Chimiche dell'Università di Palermo, regolarmente convocato dal Coordinatore Prof. Marco Cannas, si riunisce presso il Dipartimento di Fisica e Chimica – Emilio Segrè – alle ore 14:30 del giorno 02.04.2025 con il seguente ordine del giorno:

1) Esami di ammissione al terzo anno del Dottorato di Ricerca in Scienze Fisiche e Chimiche (38° ciclo) degli allievi: Rashida ASLAM, Emanuele SANGIORGI, Ludovico GUERCIO, Chiara FERLITO, Gloria Maria CICCIARI, Marco VETRANO.

2) Autorizzazione per periodi all'estero superiori a 6 mesi

3) Assegnazione di co-tutor

4) Proposta di conferimento del titolo di Dottore di Ricerca Honoris Causa

In accordo al punto 1, gli allievi di Dottorato espongono la loro attività, in accordo al seguente calendario;

14:30-15:00 Rashida ASLAM

15:00-15:30 Emanuele SANGIORGI

15:30-16:00 Ludovico GUERCIO

16:00-16:30 Chiara FERLITO

16:30-17:00 Gloria Maria CICCIARI

17:00-17:30 Marco VETRANO

Alle ore 17:30, alla conclusione della sessione di esami, il Collegio dei Docenti si riunisce.

Presiede il Coordinatore Prof. M. Cannas, svolge le funzioni di segretario il Prof. S. Agnello

Sono presenti

Marco Cannas, Francesco Ciccarello, Tiziana Di Salvo, Francesco Ferrante, Giovanni Marsella, Gioacchino Massimo Palma, Giuseppe Cavallaro, Serena Benatti, Rosario Iaria, Simonpietro Agnello, Alberto Pettignano, Angelo Carollo, Michelangelo Scopelliti, Umberto De Giovannini, Salvatore Lorenzo, Alice Sciortino, Marco Miceli

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Sono inoltre presenti la Dott.ssa Angela Ciaravella e i Dott. Lorenzo Lisuzzo e Marco Bertini in qualità di cotutor

Sono assenti giustificati

Giuseppina Micela, Roberto Passante, Lucia Rizzuto, Giuseppe Lazzara, Gianpiero Buscarino, Francesco Giannici, Stefana Milioto, Claudio Fazio, Davide Valenti. Fabio Reale, Paolo Pagano, Fabrizio Lo Celso, Melania Del Santo, Antonino D'Ai, Fabrizio Messina, Mauro Paternostro, Luciano Burderi

Il Presidente, Prof. M. Cannas, verificato il numero legale, dichiara aperta la seduta.

1) Esami di ammissione al terzo anno del Dottorato di Ricerca in Scienze Fisiche e Chimiche (38° ciclo) degli allievi: Rashida ASLAM, Emanuele SANGIORGI, Ludovico GUERCIO, Chiara FERLITO, Gloria Maria CICCIARI, Marco VETRANO.

Il Presidente invita il tutor e il co-tutor a presentare le attività di ricerca e di formazione.

Rashida ASLAM (titolare di una borsa PNRR-STILES): Il Collegio dei Docenti, all'unanimità, esprime parere positivo in merito alle attività formative e di ricerca svolte dall'allieva e delibera l'ammissione al **terzo anno**.

Emanuele SANGIORGI (titolare di una borsa PNRR-Samothrace - Spoke 3): Il Collegio dei Docenti, all'unanimità, esprime parere positivo in merito alle attività formative e di ricerca svolte dall'allievo e delibera l'ammissione al **terzo anno**.

Ludovico GUERCIO (titolare di una borsa PNRR-Samothrace - Spoke 3): Il Collegio dei Docenti, all'unanimità, esprime parere positivo in merito alle attività formative e di ricerca svolte dall'allievo e delibera l'ammissione al **terzo anno**.

Chiara FERLITO (titolare di una borsa Regionale): Il Collegio dei Docenti, all'unanimità, esprime parere positivo in merito alle attività formative e di ricerca svolte dall'allieva e delibera l'ammissione al **terzo anno**.

Gloria Maria CICCIARI (titolare di una borsa PNRR-Cherenkov TAP): Il Collegio dei Docenti, all'unanimità, esprime parere positivo in merito alle attività formative e di ricerca svolte dall'allieva e delibera l'ammissione al **terzo anno**.

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Marco VETRANO (titolare di una borsa PNRR-STILES): Il Collegio dei Docenti, all'unanimità, esprime parere positivo in merito alle attività formative e di ricerca svolte dall'allievo e delibera l'ammissione al **terzo anno**.

2) Autorizzazione per periodi all'estero superiori a 6 mesi

Il coordinatore comunica di aver ricevuto da parte dell'allievo **Marcel Augusto PINTO** (38° ciclo) la richiesta di autorizzazione per recarsi in missione presso:

Consejo Superior de Investigaciones Científicas (CSIC) – Madrid (Spagna)

Dal 1 Maggio 2025 al 30 Ottobre 2025, per un periodo complessivo di mesi 6.

L'allievo Marcel Augusto Pinto svolgerà attività di ricerca e formazione inerente il proprio progetto di ricerca, sotto la supervisione del Prof. Alejandro Gonzales-Tudela.

Il collegio approva all'unanimità

3) Assegnazione di co-tutor

Il coordinatore comunica di aver ricevuto da parte della Dott.ssa Serena Benati (INAF – Osservatorio Astronomico di Palermo) la richiesta che l'attività di ricerca e formazione dell'allievo Valerio Fardella (39° ciclo), titolare di una borsa finanziata INAF-STILES, sia

sia supervisionata dal cotutor

Dott. Antonino Petralia (INAF - Osservatorio Astronomico di Palermo)

Il collegio approva all'unanimità

4) Proposta di conferimento del titolo di Dottore di Ricerca Honoris Causa

Il coordinatore espone al collegio la proposta di conferimento del titolo di Dottore di Ricerca Honoris Causa in Scienze Fisiche e Chimiche al Prof. Pol D. Spanos, nato a Messínî (Grecia) il 18 Febbraio 1950. Il Prof. Spanos è attualmente Lewis B. Ryon Professor in Mechanical & Civil Engineering, Materials Science and NanoEngineering presso la Rice University (Houston, Texas)

Il coordinatore mostra:

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- il curriculm vitae del Prof. Spanos (**allegato 1** al presente verbale), evidenziando la carriera accademica e scientifica;
- la relazione attestante le motivazioni della richiesta (**allegato 2** al presente verbale)

Il collegio discute la proposta, riconosce che il Prof. Spanos ha condotto un'intensa attività di ricerca multi- e inter-disciplinare e ha prodotto risultati di eccellente valore scientifico in ambiti che si allineano perfettamente con le tematiche di ricerca del Corso di Dottorato in Scienze Fisiche e Chimiche

Il Presidente mette ai voti la proposta di conferimento del titolo di Dottore di Ricerca Honoris Causa al Prof. Pol D. Spanos

il Collegio approva all'unanimità.

Il verbale è approvato seduta stante. La seduta si chiude alle ore 18:50.

Il Presidente
Prof. Marco Cannas

Il Segretario
Prof. Simonpietro Agnello

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Allegato 1

POL D. SPANOS
Departments of Civil and Mechanical Engineering
Brown School of Engineering, Rice University
P.O. Box 1892, Houston, Texas 77251-1892, USA
Phone (713) 348-4909 / Fax (713) 348-5191 / e-mail: spanos@rice.edu

POL D. SPANOS, born in Messínî (Greece) on 18 February 1950.

DEGREES RECEIVED AND DATES

Ph.D., Major - Applied Mechanics; Minor I: Applied Mathematics; Minor II: Business Economics, California Institute of Technology; Pasadena, California, 10/76.

M.S., Civil Engineering, California Institute of Technology; Pasadena, California, 6/74.

Diploma, Mechanical Engineering and Engineering Science, National Technical University; Athens, Greece, 6/73.

Diploma (6-year program), Varvakeios School for Advanced Students, Greece, 6/68.

EXPERIENCE

LB Ryon Chair in Engineering, Rice University; Houston, Texas; 7/1/88 –

Professor of Mechanical Engineering and Materials Science and of Civil and Environmental Engineering (two departments), Rice University; Houston, Texas; 7/1/84 – 6/30/88

PD Henderson Associate Professor of Engineering, University of Texas at Austin; Austin, Texas, 9/1/83 – 8/31/84

Associate Professor, Engineering Mechanics (Tenured), University of Texas at Austin; Austin, Texas, 9/1/81 – 8/31/83

Assistant Professor, Engineering Mechanics, University of Texas at Austin; Austin, Texas, 9/1/77 – 8/31/81

Faculty Member (Research Fellow), Civil Engineering, California Institute of Technology; Pasadena, California, 1976 – 1977

Research Assistant, Dynamical Systems, California Institute of Technology, Pasadena, California, 1973 – 1976

Distinguished Undergraduate Student, NV Phillipps Company Research Laboratory, Eindhoven, Holland, 7/1/72 – 8/31/72

MEMBERSHIP IN PROFESSIONAL SOCIETIES

Registered Professional Engineer, Texas: 1979 -

Registered Civil Engineer, Greece: 1978 -

Registered Mechanical Engineer, Greece: 1973 -

Alexander von Humboldt Association of America, Lifetime Member (by invitation): 1999 -

American Academy of Mechanics, Member (by invitation): 1983-1994, Fellow: 1994 -

American Society for Engineering Education, Member: 1995 –

American Society of Civil Engineers,
Associate Member: 1978-1981, Member: 1981-1991, Fellow: 1991 – 2015; Distinguished/Honorary Member: 2015 -

American Society of Mechanical Engineers,
Associate Member: 1973-1981, Member: 1981-1989, Fellow: 1990 – 2014; Distinguished/Honorary Member: 2014 -

Earthquake Engineering Research Institute, Member (by invitation): 1985 -

International Association for Structural Safety and Reliability, Member (by invitation): 1988 -

PROFESSIONAL COURSES TAUGHT

Design of Offshore Platforms, University of Texas at Austin, lecturer, Fall 1977, Spring 1978, Fall 1978, Spring 1979.

Structural Dynamics, University of Texas at Austin, lecturer, Spring 1978.

Applications of Stochastic Differential Equations in Engineering, Institute of Fundamental Technological Research, Polish Academy of Sciences, Warsaw, Poland, lecturer, 10/2-8/83.

Fundamentals of Earthquake Engineering, University of Southampton, England, co-organizer and lecturer, 3/15-17/83, 7/10-12/84, 7/4-5/85.

Dynamics of Offshore Structures, University of Southampton, England, organizer and lecturer, 3/13-15/84.

Computational Structural Dynamics, University of Southampton, England, organizer and lecturer, 11/18-21/84.

Deterministic and Random Vibrations, NASA, Houston, organizer and lecturer, Fall 1984, Spring 1985, Fall 1985.

Applied Probabilistic Structural Dynamics, Swiss Federal Institute of Technology, Lausanne, Switzerland, co-organizer and lecturer, 3/9-12/87.

Analysis of Civil Engineering Structures Under Special Loads, University of Pavia, Italy, organizer and lecturer, 12/3-12/87.

Advanced Study Institute on Finite Element Analysis for Engineering Design, Indian Institute of Technology, Madras, lecturer, 8/1-10/88.

Vibration Analysis for Predictive Maintenance, Instituto Technologico y de Estudios Superiores de Monterey, Mexico City, Mexico, organizer and lecturer, 6/12-14/89.

Auto-Regressive-Moving Average (ARMA) Algorithms for Vibration Analysis, Centre Spatial de Toulouse, France, organizer and lecturer, 6/19-22/89.

Applied Random Vibrations, University of Palermo, Italy, 7/2-13/90.

Probabilistic Offshore Platform Dynamics, Exxon Production Research Company, Houston, Texas, organizer and lecturer, 10/29-11/7/90.

Stochastic Dynamics of Marine Structures, COMETT course, Instituto Superior Tecnico, Lisbon, Portugal, co-organizer and lecturer, 12/6-9/93.

Stochastic Differential Equations in Civil Engineering, Centro Studi, Perugia, Italy, lecturer, 9/12-16/94.

Stochastic Dynamics, Office National D'Etudes et De Rescherches Aerospatiale, Paris, France, organizer and lecturer, 12/15-20/96.

Structural Reliability, National Technical University, Athens, Greece, lecturer, Fall 1998.

Nonlinear Dynamics: Complexity and Chaos, Summer School, Livatheia, Greece, lecturer, 7/13-25/98.

Probabilistic Engineering Mechanics, Federico Santa Maria University, Vina der Mare, Chile, lecturer, 11/21-25/00.

Stochastic Dynamic Tools For Analysis of Offshore Systems (lecturer): CeSOS Workshop on "Research Challenges in Probabilistic Load and Response Modeling," Norwegian Institute of Technology, March 23-25, 2006.

Dynamics of Monument-Like Rigid Structures, Professional School for Structural Engineers, Palermo Italy, November 14, 2006.

Emerging Versatile tools of Structural Dynamics, University of Palermo, Italy, June16-8, 2009.

Concepts and Tools of Stochastic Dynamics with Application to Drilling, UENF (Universidade Estadual do Norte Fluminense), Brazil, August 22-26, 2011.

M.S. STUDENTS SUPERVISED

L. C-C. Cheang
Thesis: "Behavior of a Circular Model Pile Group in Clay Under Static and Cyclic Axial Loading," 12/79.

J. E. Hansen
Thesis: "Linear Prediction Theory for Digital Simulation in Structural Dynamics Applications," 5/81.

T. A. Strouboulis
Report: "Monte Carlo Simulation for Structural Dynamics Problems," 12/81.

L. M. Vargas-Loli
Thesis: "A Statistical Approach to Spectrum Compatible Earthquake Records Simulation," 12/83.

Kenneth P. Schultz
Thesis: "Digital Simulation of Turbulent Velocity Spatial Realizations," 8/84.

J. R. Red-Horse
Program: Random Vibrations, 8/84.

S. Narasimhan
Thesis: "A Phenomenological Study of Friction Induced Torsional Vibrations of Drill Strings," 5/87.

W-Y. Tein
Thesis: "Approximate Harmonic Analysis of Marine Risers," 5/87.

F. M. Lavelle
Thesis: "Analysis of a Class of Secondary Systems by Generalized Modes," 4/88.

N. Tengler
Program: Dynamics of Aerospace Structures, 5/88.

J.L. Gonnaud
Thesis: "A Probabilistic Approach to the Critical Element Model for Fatigue in Composite Materials," 12/88.

S.H. Swerdon
Thesis: "A Harmonic Balance Solution of the Coupled, Nonlinear Equations of Motion of a Flexible Structure Subject to Vortex Shedding," 5/91.

T.L. Doyle
Program: Vehicle Vibrations, 5/92.

S.M. Miller
Thesis: "Determination of Linear System Random Response Spectral Moments by Hilbert Transforms," 5/92.

R.R. Eberle
Thesis: "Two-Stage Auto/Cross-Correlation Matching Representations of the Power Spectrum and Bispectrum," 5/93.

J.D. Rowatt
Thesis: "A Probabilistic Model for Fatigue Damage Accumulation in Composite Laminates," 5/93.

S.A. Scheer
Program: Structural Dynamics, 5/93.

A.K. Sengupta
Thesis: "Numerical Simulation of the Roller Cone Drill Bit Lift-Off Phenomenon," 9/93.

S. Kotsonis
Thesis: "Effects of Axial Forces on Drillstring Lateral Vibrations," 5/94.

V.R.S. Rao
Thesis: "Dynamics of Flexible Mechanical Systems with Parameter Stochasticity," 5/94.

G.F. Sievert
Thesis: "Effects of Stabilizer Bars on Road Vehicle Ride Quality," 5/94.

C. Rowatt
Program: Dynamics and Vibrations, 5/95.

A.L. Morris
Thesis: "A Study of Tibial Vibrations during the Tibial Resection Procedure of Total Knee Arthroplasty," 12/95.

J.M. Call
Program: Structural Dynamics, 5/97.

Y.R. Alsandor
Thesis: "Deterministic and Random Vibration of Systems with Frequency Dependent Parameters or Fractional Derivatives", 5/98.

A. Chevallier
Thesis: "A Probabilistic Approach to the Frequency Domain Analysis of Drill-String Lateral Vibrations", 5/98.

C.K. Secora
Thesis: "Residual Flexibility Methods for Decoupled Analysis of Integrated Structural Systems", 5/98.

E. Pavlou
Thesis: "Dynamic Analysis of Systems with Hysteretic Damping", 5/99.

P. Roussis
Thesis: "Dynamic Analysis of Stacked Rigid Blocks", 5/99.

R. Beer
Thesis: "Program: Probabilistic Structures Dynamics", 5/00.

J.F. Brusoe
Thesis: "Decoupled Space Station/Shuttle Analysis in the Presence of Non-Classical Damping and Geometric Non-Linearities", 5/00.

S. Tsavachidis
Thesis: "Deterministic and Stochastic Analysis of Nonlinear Systems with Biot Hysteretic Damping", 1/01.

E. McCants (co-advisee)
Thesis: "Optimal Open-Loop CMG Maneuvers", 7/01.

N. Kelm (co-advisee)
Thesis: "Hysteretic Response of Articular Cartilage to Cyclic Loading", 4/02.

N. Politis
Thesis: "An Approach for Efficient Stochastic Analysis of Drill-String Random Vibrations", 4/02.

E. Safiolea (co-advisee)
Thesis: "Assessment of Critical Factors in the Tropical Storm Allison Impact on the Braes Bayou Watershed", 4/02.

DIPARTIMENTO DI FISICA E CHIMICA Via Archirafi 36, 90123 Palermo, Italy

J. Wang
Thesis: "A Stochastic Approach for Estimating Fatigue Life of Equipment Located at Topside of FPSO Offshore Systems", 4/02.

D. Villa
Program: “Intrinsic Modes in Stochastic Processes”, 8/02

A. Lee
Thesis: “Robust Momentum Manager Controller for Space Station Applications”, 5/03

A. Brown
Special Project: “Monte Carlo Methods in Space Station Dynamics,” 5/04

C. Malloy
Program: “Fatigue Analysis for Space Satellite Applications,” 5/04

P. Ghantiwala
Program: “Dynamic Modeling of Gaiting,” 8/04

A. Kontsos
Thesis: “Deterministic and Stochastic Analysis of Oscillators with Preisach hysteresis,” 7/04

V. Gkaras
Thesis: “Vibration Isolation by a Set of Distributed Non-Linear Attachments,” 2/05

B. Posta
Program: “Vibration Applications in Petroleum Engineering,” 5/06

R. Neves
Program: “Vibration Applications in Petroleum Engineering,” 5/06

L. Bailey
Program: “Structural Dynamic Issues for Return-to-Flight for the Space Shuttle,” 8/06

M. J. Osenar
Thesis: “Performance of Automated Feature Tracking Cameras for Lunar Navigation,” 8/06

R.P. Roady
Thesis: “Real-Time Guidance for Spacecraft Reorientation Using Control Moment Gyroscopes,” 4/08

C. Van Tassell
Thesis: “Stability Analysis for the ARES-1 Launch Vehicle,” 5/08

A. Tamer
Thesis: “Monte Carlo Simulation Based Determination of Nanocomposites Thermal Conductivity,” 4/09

L. Robledo-Ricardo
Thesis: “A Stochastic Approach for Motorcycle Dynamics,” 4/09

M. Plummer
Thesis: "Stability Analysis of the ARES-1 Phase Plane," 5/09

P. Elsbernd
Thesis: "Nonlinear Finite Element Approach for Elastic and Thermal Properties of Nanocomposites," 4/09

G. Kouglioumotzoglou
Thesis: "A Galerkin Approach for First-Passage Probability of Nonlinear Oscillators under Evolutionary Stochastic Excitation," 3/09

G. Evaggelatos
Thesis: "Nonlinear Modeling of Mooring Lines in Offshore Structures Incorporating Fractional Derivatives," 3/09

B. Crouse
Thesis: "Autonomous Optical Navigation for Lunar Missions," 3/09

D. Paya
Thesis: "Dynamic Stability of Nonlinear Aerospace System," 3/10

E. Myer
Thesis: "Monte Carlo Simulation of Space Vehicles Rendezvous," 3/10

M. Ward
Thesis: "Stochastic Analysis of a Nonlinear Control System," 3/10

S. Stout
Thesis: "Stability Analysis and Numerical Simulation of an Autonomous Navigation System," 3/10

D. Burke
Thesis: "On-Orbit Transfer Trajectory Methods Using High Fidelity Dynamic Models," 4/10

E. Mees
Thesis: "Entry Guidance for Human Lunar Return Vehicles with Low Lift-to-Drag Ratios," 4/10

A.M. Sievers
Thesis: "Multiple Event Triggers in Linear Covariance Analysis for Orbital Rendezvous," 4/10

J. Wilder
Thesis: "Time-Varying Stability Analysis of Linear Systems with Linear Matrix Inequalities," 5/10

W. Harris
Thesis: "Comparison of Guidance Methods for Autonomous Planetary Lander," 4/11

M. Wichmann
Thesis: "Numerical Modeling, Determination, and Characterization of Electrical Properties of Nanocomposites," 4/11

T. Phillips
Thesis: "Control Design and Stability Analysis of an Autonomous Gimbaled Engine Vehicle," 4/11

B. Ward
Thesis: "A Numerical Resistor Network Model for the Determination of Electrical Properties of Nanocomposites," 4/11

E. Herbort
Thesis: "Trade Study of Decommissioning Strategies for the International Space Station," 4/12

Q. Phan
Thesis: "Design of Vibration Inspired Bi-Orthogonal Wavelets for Signal Analysis," 4/12

T. W. Sukut
Thesis: "Nonlinear Aeroelastic Analysis of UAVs: Deterministic and Stochastic Approaches," 4/12

T.G. Ainscough
Thesis: "Spacecraft Attitude Estimation Integrating the Q-Method into an Extended Kalman Filter," 4/13

T. Koenck
Thesis: "Piozoelectric Nanocomposites Properties Estimation by Finite-Element Discretization and Monte Carlo Simulation," 4/13

K. Mand
Thesis: "Rendezvous and Proximity Operations at the Earth-Moon L2 Lagrange Point: Navigation Analysis for Preliminary Trajectory Design," 2/14

E. Dahlin
Thesis: Vision Navigation Performance for Autonomous Orbital Rendezvous and Docking, 4/15

J. Decklever
Thesis: Nanocomposite Material Properties Estimation and Fracture analysis via Peridynamics and Monte Carlo Simulation, 4/15

A. Svecz
Thesis: Robust Optimal Guidance for Spacecraft Reorientation Maneuvers, 4/15

N. Bader
Thesis: Autonomous Vision Navigation for Spacecraft in Lunar Orbit. 4/16

P. Leach
Thesis: Minimization of Roll Firings for Optimal Propellant Maneuvers, 4/16

A.Stefanaki
Program: Digital Synthesis of Seismic Spectrum Accelerograms Program, 12/16

M. Grimmer
Thesis: “Analysis of Histeretic Systems: Preisach Formalism and Bouc-Wen Modeling”, April, 2017

C. Higginson

Thesis: “A Resistor Network model for the Determination of Electrical and Thermal Properties fo Nanocomposites, April 2017

D. Kirkpatrick
Thesis: “Optimization of GN&C Performance Requirements for Cislunar Applications, April 2018

K. Tyler
Thesis: “Monte Carlo Studies of Memristors Behavior”, May 2020

E. Palm
Thesis: “Mathematical Modeling of Memristors Materials”, May 2022

A. Atwalla
Thesis: “A Study of the Hysteretic Behavior of Memristors”, April,2024

Ph.D. STUDENTS SUPERVISED

T-W. Chen

Dissertation: "Analysis of Flow-Induced Vibrations Using Linearization Methods," 5/80.

K. Worayingwong (co-advisee)

Dissertation: "Analysis of One Dimensional Vertical and Radical Consolidation by Physical Discrete Elements Models," 8/81.

G. P. Solomos

Dissertation: "Linear Structural Responses to Evolutionary Random Loads," 8/82.

A-S. Koh

Dissertation: "Rocking and Toppling of Block-Like Structures on Rigid or Flexible Foundations Subjected to Harmonic or Random Excitations," 12/84.

M. Mignolet

Dissertation: "ARMA Simulation of Multivariate and Multidimensional Processes," 5/87.

J. R. Red-Horse

Dissertation: "Averaging for Probabilistic Nonlinear Structural Dynamics Problems," 1/88.

R. Ghanem

Dissertation: "Analysis of Stochastic Systems with Discrete Elements," 11/88.

V. Roy

Dissertation: "Pade-Type Solutions to Nonlinear Stochastic Dynamics", 5/89.

M. Donley

Dissertation: "Development of Stochastic Quadratization for Nonlinear Systems with Applications to Compliant Offshore Structures," 9/89.

S. Bhattacharjee

Dissertation: "Filter Approaches to Stochastic Dynamic Analysis of Compliant Offshore Structures," 4/90.

F. M. Lavelle, III

Dissertation: "A Lanczos Component Mode Synthesis Algorithm for Locally Nonlinear Systems with Applications to Seismic Structural Pounding," 9/90.

R. Berka

Dissertation: "Development of a Large Space Robot - A Multi-Segment Approach," 5/91.

M.L. Payne

Dissertation: "Drilling Bottom-Hole Assembly Dynamics," 5/92.

W-Y. Tein

Dissertation: "An Engineering Approach For Estimating Seismic Power Spectra," 5/92.

R. Lu

Dissertation: "System Identification of Nonlinear and Parametrically Excited Dynamics Systems with Application to Offshore Structures," 8/94.

A. Majed

Dissertation: "A Residual Flexibility Approach for Decoupled Analysis of Nonlinear Dynamic Systems," 8/94.

R.R. Eberlee

Dissertation: "A Physically Motivated Reduced-Order Modal Energy Technique for ARMA Spectrum Estimation," 5/95.

J.D. Rowatt

Dissertation: "Application Of Markov Chains To The Critical Element Model For Determining The Fatigue Life Of Composites," 5/95.

B.A. Zeldin

Dissertation: "Random Field Simulation: ARMA and Wavelets Procedures for Reliability Analysis of Engineering Systems," 5/95.

D.A. Kozodoy

Dissertation: "Nonconservative Control Design for Robustly Stable Structural Dynamic Systems," 11/95.

S.M. Miller

Dissertation: "Multibody Mechanics and the Residual Flexibility Method," 4/96.

G.L. Davis

Dissertation: "An Analysis of Nonlinear Damping and Stiffness Effects in Force-Limited Random Vibration Testing," 5/98

V.R.S. Rao

Dissertation: "A Wavelet Based Numerical Scheme for Stochastic Mechanics", 5/00

D. Boronowski

(Alexander von Humboldt Foundation advisee, Technical University of Munich, Germany)
Dissertation: "Multivariate Linear and Nonlinear Analysis of Brain Electric Recordings", 1/01

J. Pappas

(International Co-Advisee, University of Patras, Greece)
Dissertation: Probabilistic Modeling of Fatigue in Composite Materials", 8/00

G. Failla

(International Co-Advisee, University of Palermo, Italy),
Dissertation:"Galerkin Approaches for Spectral Determination of Nonlinear Oscillators", 3/01

A. Chevallier

Dissertation: "Nonlinear Stochastic Analysis of Drill String Vibrations", 1/01

P. Tratskas

Dissertation: "Wavelet-based Excitation Representation and Response Determination of Linear and Nonlinear Systems", 3/02

R. Ghosh

Dissertation: "Effect of Top Tensioned Risers (TTR) on the SPAR Responses: Time Domain and Frequency Domain Approaches", 10/04

N. Politis

Dissertation: "Joint Time Frequency Analysis in Structural Engineering Applications", 2/05

J. Teczan

Dissertation: "Non-Linear System Response to Non-Stationary Input Processes Using Harmonic Wavelets", 4/06

J. Wang

Dissertation: "Stochastic Fatigue Analysis of FPSO Topside Structures with Linear and Nonlinear Supports," 4/07

A. Kontsos

Dissertation: "Polymers Nanocomposite Characterization by a Stochastic Finite Element Representation," 5/07

V. Gkaras

Dissertation: "Vibration Isolation Systems Using Hysteretic Multiple Tuned Mass Damper Oscillators," 4/08

M. Esteva

Dissertation: "Hybrid Finite Elements Nanocomposite Characterization by Stochastic Microstructuring," 1/09

V. Nava

Dissertation: "Time and Frequency Domain Nonlinear Analysis of SPAR Marine Structures with Moonpool Effect Coupling," 3/09

D. Hernandez

Dissertation: "A Nonlinear Dynamic Model for the Performance Simulation of "Dragster" Racing Cars." 1/10

E. Evangelatos

Dissertation: "Non Local Mechanics in Time and Space Domains – Fracture Propagation via Peridynamic Formulations: A Stochastic/ Deterministic Perspective." 4/11

I. Kougioumtzoglou

Dissertation: "Harmonic Wavelets Procedures and Wind Path Integral Methods for Response Determination and Reliability Assessment of Nonlinear Systems/Structures," 4/11

G. Malara (International Co-Advisee)

Dissertation: "Dynamics and Hydrodynamics of a Floating Rectangular Structure under the action of Random Sea Waves, 2011

F. Kong (International Co-Advisee)

Dissertation: "Harmonic Wavelets for MDOF and Hysteretic Dynamic Systems, 2012

A.Tamer

Dissertation: "Probabilistic Determination of Thermal Conductivity and Cyclic Behavior of Nanocomposites via Multi-Phase Homogenization," 2013

A.Richichi (International Co-Advisee)

Dissertation: "Nonlinear Harmonic and Stochastic Analyses of Energy Harvesters," 2014

F. Pinnola (International Co-Advisee)

Dissertation: "Fractional Derivative Models for Nonlocal Mechanics Modeling," 2014

Di Matteo (International Co-Advisee

Dissertation: "Structural vibration control through Tuned Liquid Column Dampers: theoretical and experimental analysis," 2015

D. Huang (International Co-Advisee) ("sandwich" doctoral program)

Dissertation: "Stochastic Averaging for Dynamical Systems with Time Delay," 2015

S. Trovato (International Co-Advisee)

Dissertation: "Synthesis of Multicomponent Ground Motions Compatible with Hazard-consistent Target Spectrum," 2015

J. Xu (International Co-Advisee)

Dissertation: "Evolution Probability Density Method for Stability of Nonlinear Structures," 2015

S. Zhu (International Co-Advisee) ("sandwich" doctoral program)

Dissertation: "Stochastic Finite Element Models for Train-Track Interaction Modeling," 2015

E. Marquez

Dissertation: "Stochastic Dynamics in Rotary and Vibration-Assisted Drilling," 2016

Y. Cheng

Dissertation: "Reliability Assessment and Response Determination for Survival Probability of Nonlinear Systems Endowed with Fractional Derivative Operators by Galerkin Method," 2016

J. Chen

Dissertation: "Peridynamics and Applications in Drilling Mechanics", August 2017

M. Liu

Dissertation: "Role of Vacancies and Electrochemical Applications of Facet-Controlled Sythetic Superlattice Nanomaterials" January 2017

F. Strati (International Co-Adviser)

Dissertation: "Random Vibration Analysis of a U-shaped Oscillating Water Column Wave Energy" February 2017

Y. Jiao

Dissertation: "Numerical Treatment of Stochastic Dynamic Systems with Fractional Laplacian Terms" August 2018

Z. Jing(International Co-Advisee)

Dissertation: "Analytical and Numerical Methods for FPK equation and Generalized Probability Density Evolution Equation," January 2019

T. Popp

Dissertation: "Analytical Modelling of Whirling in Drill Strings", May 2020

A. Kumar

Dissertation: "Nonlinear Stochastic Analysis of Arrays of Ocean-Wave Energy Converters", May 2021

H. Zhang

Dissertation: "A Novel Method for Estimating Evolutionary Spectra of Nonstationary Random Processes", December 2022

W. Zhang

Dissertation: "Response Evaluation of Nonlinear Dynamic Systems Endowed with Fractional Order Derivative, Under Evolutionary Stochastic Excitation", November 2023

POSTGRADUATE / VISITING FACULTY/ RESEARCHERS HOSTED

Mr. O. Yokomizo, Energy Research Laboratory, Hitachi, Ltd., Japan, supported by his company, 9/1/82-8/31/83.

Dr. G. Solomos, supported by a NSF grant, Fall 1982.

Dr. S. Dimitriadis, supported by a NSF grant, Fall 1984 - Spring 1985.

Dr. A. Bokaian, supported by a Presidential Young Investigator grant, Fall 1985 - Summer 1986.

Mr. Y. Lin, supported by a NASA grant, Fall 1985 - Summer 1987.

Dr. A. Hac, supported by a Presidential Young Investigator grant, Spring 1986 - Fall 1986.

Mr. A. Cunha, supported by a grant from American-Portugal Foundation, 5/89.

Dr. R. Ghanem, supported by a grant from Texas Instruments, Inc., Dallas, Texas, Spring 1989 - Summer 1990.

Dr. K. B. Rao, Structural Engineering Research Centre, CSIR Campus, Madras, India, supported by the Indian government, 4/1/94 - 5/31/94.

Mr. S. Benfratello, University of Palermo, Italy, supported by the Italian government, 8/27/94 - 12/9/94.

Ms. M. Vannucci, Department of Statistics, University of Florence, Italy, supported by the Italian government, 3/15/95 - 5/15/95.

Dr. Franck Toubalem, Ecole Centrale de Lyon, France, supported by the French government, 11/01/96 - 05/23/97.

Ms. Laura Marcaccioli, Department of Structural Engineering, University of Florence, Florence, Italy, supported by the Italian government, 9/1/97 - 11/30/97.

Mr. Fabrice Repiton, Products & Structures Design, Institut Francais de Mecanique Avancee, Aubiere, France, supported by the French government, 2/1/98 - 7/31/98.

Mr. Y. Pappas, Department of Mechanical Engineering, University of Patras, Patras, Greece, supported by the Greek government, 9/15/98 - 12/15/98.

Mr. G. Failla, Department of Structural Engineering, University of Palermo, Palermo, Italy, supported by the Italian government, 9/1/99 - 3/31/00

Mr. M. Kaminski, Institute of Fundamental Research, Poland, supported by the Polish government, 9/1/99 - 8/31/00

Schmalfuss, Universitaet Karlsruhe (TH), Institut Fuer Technische Mechanik, supported by the University of Karlsruhe, 4/1/02 – 6/15/02.

S. Warren, California Institute of Technology (Caltech), Pasadena, CA, supported by the Monticello Scholarship for Undergraduate Students by Caltech, 7/15/02 – 9/22/02.

P. Cacciola, University of Messina, Italy, supported by a grant from the Italian government, 1/15/03 – 7/15/03.

M. Beer, University of Dresden, Germany, Lyonel Fodel (Alexander von Humboldt) Research Fellow, 9/1/2003 – 8/31/2004

A. Sofi, University of Messini, Italy, supported by University of Messini, 09/01/2004 – 12/15/2004

S. Lee, Kunsan National University, Kunsan, Chonbuk-Do, Republic of Korea, supported by Kunsan National University, 07/01/2004 to 06/30/2005

V. Nava, University of Reggia Callabria, Italy, supported by the Italian Government, 09/01/2006 to 12/31/2006, 04/01/2008 -!2/31/08,03/01/2009 .

A. Baretta of University of Naples, Italy, supported by the Italian Government, 03/01/2008 –12/31/2008

Dr. M. Shitikova, Fulbright Scholar, July 1, 2007-June 30, 2008

L. Chang, Beijing Institute of Technology, China, supported by the Chinese Government/ Institution, 9/1/2008- 8/31/2009.

Dahai Wang, of Tongji University, China, Mobility Program, supported by the Chinese Government/Institution, 3/1/09-8/31/09

Xiangying Guo, of Beijing Institute of Technology, China, Mobility Program, supported by the Chinese Government/Institution, 11/01/2009-10/31/2010

Sun Chunyan, of Northwestern University of Technology, Xian, China, Mobility Program, supported by the Chinese Government/Institution, 10/01/2009-9/30/2010

Fan Kong, Tongji University, China, Mobility Program, supported by the Chinese Government/Institution, 10/01/2009-9/30/2011

Dr. Weiyi Li, Tianjin University, China, Mobility Program, supported by the Chinese Government/Institution, 11/01/2010-04/30/2011

Juliana Rodriguez, Federal University, Brazil, supported by the Brazilian Government, 11/01/2010-04/30/2011

Dr. Hongzhe Dai, Harbin University, China, Mobility Program, supported by the Chinese Government/Institution, 04/01/2011-03/31/2012

Dr. Dongkyu Shin, Korean Advanced Institute of Sciences and Technology (KAIST), Korea, supported by the Korean Government, 12/01/2011-11/30/2012

Alessandro Richichi, the University 'Mediterranea of Reggio Calabria, Italy, supported by Government/Institution, 01/01/2012-12/31/2012

Dr. Wei Li, Xidian University, China, supported by the Chinese Government/Institution, 11/15/2011-11/14/2012

Zhiwei Yu, Harbin Institute of Technology, China, supported by Government/Institution, 12/15/2011-06/14/2012

Giovanni Malara, the University 'Mediterranea of Reggio Calabria, Italy, supported by Government/Institution, 01/01/2012-12/31/2012

Dr. Yong Cai, Central South University, China, supported by Government/Institution, 08/22/2011-08/21/2012

Dr. Shunlong Li, Harbin Institute of Technology, China, supported by Government/Institution, 05/2012 through 05/2013

Sandro Trovato, University of Reggio Calabria, Italy, supported by Government/Institution, 01/203 through 01/2014

Dr. Jianping Wang, Xi'an University of Technology, China, supported by Government/Institution, 12/2012 through 11/2013

Jun Xu, Tongji University, China, supported by Government/Institution, 10/2012 through 09/2014

Shengyang Zhu, Southwest Jaiotong University, supported by Government/Institution, 09/2012 through 03/2014

Alberto Di Matteo, Universita degli Studi di Palermo, Italy, Government/Institution, 01/15/2014 through 01/14/2015

Dr. Xin Gao, Jilin University, China, supported by Government/Institution, 02/25/2014 through 02/24, 2015

Dongmei Huang, Northwestern Polytechnical University, China, supported by Government/Institution, 09/01/2013 through 08/31/2015

Francesco Pinnola, Universita degli Studi di Palermo, Italy, supported by Government/Institution, 03/01/2013 through 06/30/2014

Dr. Jia Wang, Hunan University, China, supported by Government/Institution, 06/01/2013 through 05/30/2014

Dr. Wenxian Xie, Northwestern Polytechnical University, China, supported by Government/Institution, 12/15/2013 through 12/14/2014

Yingchun Chen, China University of Petroleum, China, supported by Government/Institution, 09/01/2014 through 08/31/2015

Kyriaki Gkoktsi, City University London, United Kingdom, supported by Government/Institution, 01/19/2015 through 06/19/2015

Dr. Lilan Liu, Xi'an University of Technology, China, supported by Government/Institution, 01/19/2015 through 01/19/2016

Wei Liu, Southwest Jiaotong University, China, supported by Government/institution, 09/20/2014 through 07/15/2015

Dr. Ying Sun, Harbin Institute of Technology, China, supported by Government/Institution, 09/01/2014 through 08/31/2015

Chang Xu, Harbin Institute of Technology, China, supported by Government/Institution, 10/01/2014 through 09/30/2016

Jie Zhong, Harbin Institute of Technology, China supported by Government/Institution, 10/15/2014/ through 03/20/2016

Roberta Srati, University of Reggio Calabria, Italy, Supported by EU, 9/15/2015 through 3/15/2016

Y. Yang, Southwest Jiantoung University, Chengdu, supported by Chinese government 10/8/16 – 10/9/17

Y. Zhang, Sichuan University, China, supported by Government/Institution 10/7/16 through 10/31/18

C. Ying, Harbin University of Engineering, China, supported by Government/Institution 3/1/16 through 10/31/18

Z. Jing, Tongji University, China, supported by Government/Institution, 9/1/16 through 8/31/18

T. Ye, Harbin Institute of Technology, China, supported by Government/Institution, 9/1/16 through 8/31/18

Alberto Di Matteo, Universita degli Studi di Palermo, Italy, Fulbright Faculty Scholar, 09/15/2022 through 03/15/2023

B.Pommaro , Universita Di Padua, Italy, Fulbright Faculty Scholar, 01/15/20223 through 07/15/2023

HONORS AND AWARDS

Panhellenic Laud in Mathematics (High School Division), Greek Mathematical Society, 1968.

European Award of Science (College Division), N.V. Phillipps Company, Eindhoven, Netherlands, 1969.

Scholarship, Greek Scholarships Institution, 1968-1972.

Special Tuition Scholarship, California Institute of Technology, 1973-1976.

Academic Excellence Award, University of Texas at Austin Engineering Foundation, 1978-1979, 1979-1980.

Several Travel Awards from the National Science Foundation and the National Academy of Science to attend meetings and present papers in the USA, Canada, Soviet Union, Japan, Western Europe, India, Brazil, Australia, and New Zealand.

The 1981 Distinguished Guest Scholar, Kyoto University, Japan, to travel to and lecture at the Disaster Prevention Research Institute of Kyoto University, Japan, 7/1-31/81.

The 1982 Pi Tau Sigma Gold Medalist for outstanding achievements within ten years from graduation, ASME.

Member of the Editorial Board, International J. of Soil Dynamics and Earthquake Engineering; International J. of Applied Ocean Research; Lecture Notes in Engineering, Springer-Verlag (retired); MicroSoftware for Engineers (retired); Engineering Analysis with Boundary Elements; The Shock and Vibration Digest; International Journal of Materials & Structural Reliability.

Contributing Editor (1984-1994), Editor (1994-1996), Editor-in-Chief (1997-present), and International J. of Non-Linear Mechanics.

The P.D. Henderson Teaching Fellow of Engineering, University of Texas at Austin, 9/1/83-8/31/84.

Presidential Young Investigator Award, Earthquake Engineering, National Science Foundation, 1984-1989.

Associate Editor and Co-Founder (1985-1992), Editor (1992 - present), J. of Probabilistic Engineering Mechanics.

News Correspondent, Engineering Mechanics Division, ASCE, 10/1/84-9/30/86.

Distinguished Invited Scholar, French Government, to visit and lecture at Ecole Centrale des Arts and Manufactures, Centre Nationale d'Etudes Spatiales, Institut Francais du Petrole, and other organizations, 12/15-22/85.

Associate Editor, J. of Engineering Mechanics, ASCE, 10/1/86-9/30/88.

Certificate of Merit, for identifying and disclosing new technology, McDonnell Douglas Astronautics Co., Houston, TX, 1987.

Visiting Professor, Department of Structural Mechanics, University of Pavia, Italy, 12/1/87-1/31/88.

Stochastic Linearization in Structural Dynamics, Masseman Distinguished Lecture Series, Department of Civil Engineering, University of Notre Dame, 4/18/88.

Associate Editor, J. of Applied Mechanics, ASME, 7/1/88 - 6/30/94.

Walter L. Huber Civil Engineering Research Prize, for outstanding contributions in Engineering Mechanics for a member under 40 years of age, ASCE, 1989.

Representative of the ASCE to the United States National Committee on Theoretical and Applied Mechanics, 10/1/89-8/31/97.

Castigliano Visiting Professor, Department of Structural and Geotechnical Engineering, University of Palermo, Italy, 7/1-31/90.

Gustus L. Larson Memorial Award, for outstanding achievement in Mechanical Engineering within 10-20 years following graduation, ASME, 1991.

Alfred M. Freudenthal Medal, for numerous and valuable contributions to engineering mechanics, reliability theory and probabilistic methods in Civil and Mechanical Engineering, and for broad professional services in these fields, ASCE, 1992.

Associate Editor, J. of Vibration and Acoustics, ASME, 7/1/93 - 1997.

G.R. Brown Award for Superior Teaching, Rice University, 1995 and 1996 (recipients selected by polling students five years after graduation from Rice University).

Humboldt Research Award for Senior Scientists, from the Alexander von Humboldt Foundation, Germany, 1995.

Associate Editor, J. of Aerospace Engineering, ASCE, 1996 -

IASSAR Research Prize in the area of Stochastic Dynamics, International Association for Structural Safety and Reliability, 1997.

Distinguished Lecturer, ASME, 1997-2003.

Schmidt Distinguished Visiting Professor, Florida Atlantic University, 4/4-12/98.

Nathan M. Newmark Medal, for fundamental contributions to techniques of representing dynamic loads and analyzing vibrations, and for pivotal studies of a diverse class of practical problems of dynamics, ASCE, 1999.

Honorary Citizen of the City of Messini in Greece, for notable contributions to science and the society, September 2, 2002.

Theodore Von Karman Medal for lifetime contributions to engineering mechanics, ASCE, 2003.

Elected Corresponding Member, Academy of Athens (National Academy of Greece), 2003

Elected Member, National Academy of Engineering (USA), 2005

Distinguished Visiting Professor, Université Marne-de-la-Valle, Paris, France, June/July 2006.

Elected Foreign Fellow, Indian Academy of Engineering, 2007

Distinguished Lecturer, Indian Government, lectured at IIT/IIS campuses at Delhi, Bombay, Chennai, Kanpur, Bangalore, and several other campuses, January 2007

Elected Foreign Member, Academia Europaea, 2008

Distinguished Lecturer, Government of China, Lectured in Beijing, Shanghai, Xian and in several other campuses and cities, May 2008

Appointed Distinguished Visiting Professor at Tongji University for the period of 2010 to 2012

The Charles Russ Richards Memorial Awardee for Outstanding Achievement in Mechanical Engineering (twenty years or more following graduation), ASME 2012

Chang Jiang Chair recipient for 2013-2015, Chinese Ministry for Research, 2012

Elected Fellow, Engineering Mechanics Institute (EMI), 2013

Abilitiazone Commissioner to Evaluate for Promotion to the ranks of Associate Professor and Full Professor, Theme ff Scienzia di Constructioni, Italian Government, 2013-2014

Elected Honorary Distinguished Member, ASME, 2014

Elected Member, American Academy of Arts and Science, 2014

Elected Honorary Distinguished Member, ASCE, 2015

Golden Medal for International Cooperation and Research Eminence, University of Palermo, Italy 2015

Elected Foreign Member, Russian Academy of Engineering, IAE, 2016

China International Research Leadership and Collaboration Award, (personally conferred by the President of China) 2017

Elected Chairman of the Board of the (IASSAR) International Association of Structural Safety Analysis and Reliability, 2018-

President Engineering Mechanic, Institute, ASCE, 2019-2021

Lifetime European Structural Dynamics Award, 2021

Elected Foreign Member, Chinese Academy of Sciences, 2021

Gold Medalist (Highest Societal Award), American Society of Mechanical Engineers, 2021

Elected Foreign Member, Canadian Academy of Engineering, 2022

Pascal Medal for distinguished achievement in Engineering (one medalist annually}, European Academy of Sciences,2024

KEYNOTE/PLENARY LECTURES

Versatile Techniques for Nonlinear Probabilistic Structural Dynamics, Probabilistic Mechanics and Structural and Geotechnical Reliability, Specialty Conference of the American Society of Civil Engineers, Denver, CO, 7/8-10/92.

Some Useful Methods for Practical Nonlinear Stochastic Structural Dynamics Problems, Convegno Nazionale de Meccanica Stocastica (National Italian Association of Mechanics), Taormina, Sicily, Italy, 7/6-8/93.

Some Representation Techniques for Stochastic Fields in Finite Element Applications, 7th International Conference on Application of Statistics and Probability in Civil Engineering, Paris, France, 7/10-13/95.

Versatile Techniques for Current Problems of Stochastic Mechanics, Symposium on Stochastic Mechanics, Worldwide Renowned Professor Series, Musashi Institute of Technology, Tokyo, Japan, 3/15-16/96.

ARMA Simulation of Random Fields: Recent Developments, 5th National Congress on Mechanics, Ioannina, Greece, 8/27-30/98.

A Perspective on Probabilistic Engineering Mechanics Methodology, Annual ASCE/EMD Conference, Johns Hopkins U., Baltimore, MD, 6/99.

Versatile Methods for Nonlinear Random Vibration Analysis, 17th ASME Biennial Conference on Mechanical Vibration and Noise, Las Vegas, NV, 9/99.

Stochastic Processes in Mechanics, Keynote Lecture, Association of Applied Mathematics and Mechanics (GAMM), Gottingen, Germany (April 6, 2000).

Pragmatic Techniques for Non-linear Stochastic Dynamics, Keynote Lecture, EUROMECH 413, Colloquium on Stochastic Dynamics of Non-linear Mechanical Systems, University of Palermo, Italy (July 11, 2000).

Vibrations of Drilling Systems and Statistical Analysis Tools, Keynote Lecture, International Workshop on New Problems and Methods in Engineering Dynamics and Mechanical Vibrations, University of the Witwatersrand, Johannesburg (July 4, 2002).

Multiscale Modeling via Wavelets of Evolutionary Spectra in Mechanics Applications, Keynote Lecture, International Symposium on Multiscaling in Mechanics, Messini, Greece (September 2, 2002).

Wavelets Applications in Structural Dynamics, Keynote Lecture, EURODYN 2002, Munich, Germany (September 5, 2002).

Wavelets in Sciences, Engineering, and Letters, Keynote Lecture, International Conference on Olympism and the Fulbright Spirit: Humanities in Action, Athens, Greece. (October 9, 2004)

Time Frequency Analysis in Stochastic Structural Dynamics, Plenary Talk, Italian Association for Computational Mechanics, Panteleria, Italy. (June 1, 2004)

Methods for Nonlinear Stochastic Dynamics for Excitations Specified via Wavelets, Keynote Lecture, 7th National Congress (Greek) on Theoretical and Applied Mechanics, Chania, Greece (June 25, 2004)

Wavelet Application in Human Endeavors, International Fulbright Conference on Humanism, Athens, Greece, October 7-9, 2004

Chirplets, Intrinsic Modes, and Wavelets in Mechanics Applications, National Conference of the Italian Society of Mechanics, Florence, Italy, September 13, 2005

A Wavelets Application in Structural Dynamics Problems, Eighth HSTAM International Congress on Mechanics, University of Patras, Greece, July 12-14, 2007

Spectrum Compatible Simulation of Accelerograms, Research Advances in Mechanics, International Conference, University of Palermo, Italy, June 8-11, 2007

A Perspective on Versatile Tools of Stochastic Engineering Mechanics, Zhu Kezhen Distinguished Lecturer, Zhejiang University, China, May 18, 2010.

Versatile Tools for Nonlinear Stochastic Dynamic Analysis. Plenary Lecture, 2010 Conference of the United States National Committee on Theoretical and Applied Mechanics, July 2010, University of Pennsylvania.

Monte Carlo Random Simulation: Rare Events with Catastrophic Consequences in Complex Systems, International Conference of Humboldt Kolleg, University of Texas at Austin, January 21-23, 2011.

Wavelet Techniques in Nonlinear Stochastic Dynamics, 2012 International Conference on Stochastic Mechanics, Italian Association of Theoretical Applied Mechanics, Ustica, Italy, June 6-9, 2012.

Emerging Tools of Joint-Time-Frequency Analysis in Stochastic Mechanics in Uncertainties – 2012, an International Conference Maresias, SP, Brazil, February 26 – March 2, 2012.

Stochastic Linearization in Modern Offshore Structures, 6th International Conference of ASRANet (Network for Integrating Structural Analysis Risk and Reliability), London, Croydon, July 2-4, 2012.

Advanced Simulation Techniques in Structural Mechanics, 8th International Conference on Scientific Computing and Applications, Las Vegas, NV, April 1-4, 2012.

Derivation of Equivalent Linear Properties of Bouc-Wen Hysteretic Systems for Seismic Response Spectrum Analysis via Statistical Linearization, 10th HSTAM International Congress on Mechanics, Chania, Crete, Greece, May 25-27, 2013.

A Wiener Path Integral Technique for Non-Stationary Stochastic Response Determination of Nonlinear MDOF Structural Systems, 10th HSTAM International Congress on Mechanics, Chania, Crete, Greece, May 25-27, 2013.

Fractional Derivatives and Wavelets: Tools for Non- Local and Local Analyses, National Italian National Conference of Stochastic Mechanics .Mecanica Stocastica, Isle of Ustica, Italy, June 7-9, 2012.

Monte Carlo Simulation in Dynamical Systems, Sixth International Conference on Simulation and Chaos, Istanbul, Turkey, June 11-14, 2013

Wavelets for Localization Analysis, Canadian Congress of Solid Mechanics, Montreal, Canada, July 23-26, 2013.

Local versus Non-Local Analyses via Wavelets and Fractional Calculus, First International Symposium on Machine Mechanics and Mechatronics, University of Belgrade, Serbia, July 1-3, 2014.

Harmonic Wavelets in Stochastic Structural Dynamics, ASCE, Second International Conference on Vulnerability on Risk Analysis and Management, University of Liverpool, July 13-14, 2014.

Potent Joint Time-Frequency Analysis Techniques for Structural Dynamics Applications, Engineering Mechanics Institute/ASCE Conference, Stanford University, June 16-19, 2015.

Versatile Techniques for Nonlinear Random Vibrations, International Conference on Advances in Applied and Computational Mechanics, Celebi University, Turkey, August 5-7, 2015.

Emerging Joint Time-Frequency Analysis Techniques for Vibration Applications, International Conference on Engineering Vibrations, Ljubljana, Slovenia, September 7-10, 2015.

Galerkin Scheme Based Determination of First-Passage Probability of Systems with Fractional Derivative Elements, Symposium on Reliability of Engineering Systems, Hangzhou, China, October 15-17, 2015.

Advantages of Filter-based Approximations of Wind Spectra, National Conference of Italians Stochastic Mechanics Society, Capri, Italy, June 2016

Dynamic Analysis of Plates Endowed with Fractional Derivative Element, National conference of the Chinese Society of Random Vibrations, Fuzhou, China, November 2016

First Passage Probability Determination, International conference on Sustainability and Reliability, Taipei, November 2016

Stochastic Analysis of Non-Linear Continua Endowed with Non-Integer Order Derivatives Elements, European Dynamics Conference (EURODYN17), Rome, Italy (scheduled for June 2017)

Stochastic Dynamic Approaches to String Behavior, International Workshop on Recent Advances in Mechanics, Dynamical Systems, and Probability Theory, University of Palermo, 5-6 March 2018

Local/Nonlocal Capturing of Dynamic Behavior via Wavelets and Fractional Derivatives, International Conference on Problems of Mechanics and Control, September 17-20, 2018, Makhachkala, United Federation of Russia

Vibrations of Nonlinear Continua Subject to Combined Harmonic and Stochastic Forces: Linearization Approximations and Monte Carlo Simulations, International Conference on Nonlinear Solid Mechanics, Rome, Italy, 16-19 June 2019

Pragmatic Methods for Nonlinear Stochastic Dynamics, Distinguished Lecturers Series, ETH Zurich, Switzerland, September 2022

Statistical Linearization for Multi-Degree-of Freedom Systems, Plenary Lecture, Conference on Structural Reliability, Tongji University, China, December 2023

Versatile Methods of Nonlinear Random Vibrations, Ernst Melan Distinguished Lecturer Series, Technical University of Vienna, Austria, (scheduled April 2024)

Linearization Techniques for Systems with Fracional Detrivative Elements, ASCE International Engineering Mechancs Conference, ViennaAustria,(scheduled 9/ 2024)

GRANTS AND CONTRACTS

Random Response of Nonlinear Oscillators, $3000, Bureau of Engineering Research, University of Texas at Austin, 1977-1978.

Dynamic Analyses of Deep Water Pipe Systems, $3000, Bureau of Engineering Research, University of Texas at Austin, 1977-1978.

Flow Induced Vibrations of Marine Risers, $3000, University Research Institute, University of Texas at Austin, 1978-1979.

Probabilistic Analysis of Nonlinear-Inelastic Earthquake Response of Structures, $26,968, National Science Foundation - Problems Focused Research, 1/1/79-3/16/80.

Probabilistic Analyses of Nonlinear Seismic Structural Responses, $2800, University Research Institute, University of Texas at Austin, 1979-1980.

Numerical Aspects of Some First-Passage Problems, $2000, Bureau of Engineering Research, University of Texas at Austin, Summer 1980.

Specialized Engineering Research Equipment for Structural Dynamics Laboratory, (with R. Craig and R. Stearman), $19,300, National Science Foundation Engineering Division and University of Texas at Austin, 6/1/80-11/30/81.

Response Statistics Due to Earthquakes with Evolutionary Spectra, $68,375, National Science Foundation, Problems Focused Research, 6/1/80-11/30/82.

Linearization Techniques for Flow Induced Vibrations, $73,832, National Science Foundation - Civil and Mechanical Sciences, 2/15/80-7/31/82.

Auto-Regressive Statistical Models for Monte Carlo Studies of Offshore Structures, $3848, University Research Institute, University of Texas at Austin, 1981-1982.

Statistical Approaches to Linear Dynamic Analysis of Aero-Structures, $89,398, NASA Lewis Research Center, 12/18/81-12/17/84.

Stochastic Analysis of Earthquake Induced Linear and Nonlinear Structural Responses, $96,715, National Science Foundation, Civil and Environmental Engineering Division, 6/1/82-5/31/84.

Random Flow-Induced Vibration of Some Compliant Structures, $17,993, Structural Mechanics Program, National Science Foundation, 8/15/84- 1/31/86.

Presidential Young Investigator Grant, $312,500, National Science Foundation, 1984-1989.

Industrial Matching Funds, Presidential Young Investigator Award, $187,500 (direct cost), Brown & Root, Shell Development Company, NL Industries, Conoco Inc., Tracor, Inc., Dow Chemical, 1984-1989.

Dynamics of Structures with Moving Masses, (with J.E. Akin), $70,000, NASA, Johnson Space Center, Houston, 7/1/85-6/31/86.

Digital Filter Techniques for Space Station Dynamic Studies, $50,000, NASA Langley Research Center, 10/1/86-9/30/88.

Seismic Analyses of Secondary Systems, $100,000, 1986-1987; $50,253, 1986-1987; $50,000, 1987-1988; $70,523, 1989-1990; $54,000, 1990-1991; $47,270, 1991-1992; National Center for Earthquake Engineering Research, State University of New York at Buffalo.

Knowledge Based Signal Processing for Predicting Maintenance, $24,900, Texas Instruments, Inc., Dallas, TX, 9/15/88-5/15/89.

Multibody Dynamics in Robotics, $31,212, NASA, Johnson Space Center, Houston, TX, 7/1/89-8/31/90.

Signal Understanding for Active Monitoring and Control of Truck Vehicle Dynamics, $35,766, Texas Instruments, Inc., Dallas, TX, 9/1/89-6/30/90.

Computer Assisted Dynamic Analysis of Inclined Drilling, $10,600, 1990-1991; $22,650, 1991-1992; $20,000, 1992-1993; University of Texas Center For Earth Sciences and Engineering - Industrial Consortium.

Novel Approach for Structural Mechanics Problems with Stochasticity, $250,402, Air Force Office of Scientific Research, 10/15/90-10/15/93.

Reliable Directional Drilling by Computational Analysis, $183,000 (direct cost), Energy Research in Applications Program, State of Texas, 11/1/90- 10/31/93.

First International Conference on Computational Stochastic Mechanics, $15,000, 9/17-19/91, Corfu, Greece, National Science Foundation, 6/1/91-5/31/92.

Approaches For Estimating Space Shuttle Random (High Frequency) Loads and Combining Them With Deterministic (Low Frequency) Loads, $58,053, NASA, Johnson Space Center, Houston, TX, 5/1/91-4/30/92.

A Spectral Approach for Analyzing Structures with Random Parameters, $113,900, National Science Foundation, Division of Mechanical and Structural Systems, 1/1/91-6/30/93.

Stochastic Quadratization for Probabilistic Analysis of Large Compliant Offshore Structures, $262,167, Department of Energy, 10/1/91-9/30/94.

Workshop on Aging of Energy Production and Distribution Systems, (Dr. M. M. Carroll, Co-Principal Investigator), $55,730, Department of Energy, 10/1/92-6/30/93.

Second International Conference on Computational Stochastic Mechanics, $26,000, 6/13-15/94, Athens, Greece, National Science Foundation and Department of Energy, 7/1/94-6/30/95.

A Novel Nonlinear System Identification Approach with Applicability to Aging of Energy Production Systems, $371,800, Department of Energy, 11/1/94-10/31/99.

Third International Conference on Stochastic Structural Dynamics, $18,750, 1/15-18/95, University of Puerto Rico, National Science Foundation, 12/1/94 - 4/31/95.

Stochastic Finite Element Analysis of Contaminant Transport in Ground Water Flows, $15,000, Energy and Environmental Systems Institute, Rice University, 7/1/95-6/30/96.

Deterministic and Stochastic Analysis of Seismic Response of Equipment and Block-Like Structures, $165,000, National Science Foundation, 4/15/96-3/31/2000.

Random Field Simulation in Structural Mechanics by Wavelets, $210,000, National Science Foundation, 9/1/96-8/31/2000.

Third International Conference on Computational Stochastic Mechanics, $9,900, 6/14-17/98, Santorini, Greece, Department of Energy, 3/1/98-5/31/99.

Structural Dynamics and Control (with F. Ghorbel), $51,270, The Charles Stark Draper Laboratory, Houston, TX, 6/1/98 - 8/31/00.

Wavelet Analysis and Estimation of Non-Stationary Random Processes for Energy Systems Diagnostics Applications, $357,450, 11/1/99 - 1/15/2002

Innovative Visual Techniques for Teaching Vibrations, $2,700, Brown Foundation, 9/1/99 -8/31/00.

Computational Nonlinear Drill String Dynamic Analysis, $10,000, Halliburton Foundation, 2/1/01-12/31/01.

Nonlinear Dynamic Systems Responses to Non-Stationary Excitations using the Wavelet Transform, $370,973, Department of Energy, 1/15/02 - 1/14/06.

Multi-Axial Fatigue Analysis of Floating Production Structures, $20,000, Fluor Corporation, Houston, TX.

The Charles Stark Draper Laboratory, Houston, TX, $37,500, 6/1/01 – 5/31/03.

Efficient Estimation of Evolutionary Seismic Spectra via the Wavelet Transform, $137,750, National Science Foundation, 10/1/2002 – 9/30/2006.

Fourth International Conference on Computational Stochastic Mechanics, $9,950, 6/9-12/02, Kerkyra, Greece, Office of Naval Research, 10/7/02 – 6/30/03.

Mid-frequency Vibration Isolation by Nonlinear Oscillators, $477,276, Office of Naval Research, 10/1/02 – 9/30/07

Loss Estimation Methodologies: Case Study for WTC, $63,214, MCEER, 1/15/2003 – 1/14/2004.

Wavelets Based Response of Structural/Mechanical Systems to Evolutionary Earthquake and Wind, $242,056, National Science Foundation, 05/01/2003 – 04/30/08

Nanomechanics Applications in Composite Materials, $336,450, Clarkson Industries, (Minority Initiative Integrator for the Department of Defense), June1,2005-May 31, 2006 , with option for renewal on an annual basis: period 2006/2007, $257,455.00**;** period 2007/2008, $263,500.00; period 1997/2009,$205,000.00

Nonlinear Structural Control (Draper Laboratories, Cambridge, MA); $45,265, annually (indirect cost only), 9/1/95 – present.

Efficient Treatment of Preisach Hysteresis Models in Smart Materials Application, National Science Foundation; $298,687.00; period: May 1, 2008 to April 30, 2011.

The Charles Stark Draper Laboratory, Houston, TX, $37,500, June 1, 2011 to May 31, 2013.

DOD-AFRL Collaboration Program – Materials and Manufacturing Research (Clarkson Aerospace); $100,000.00, period August 1, 2013 to February 28, 2014.

Computational Approaches for Understanding/Modeling Physical Properties of Ceramic Matrix (Clarkson Aerospace); $450,000.00, period September 1, 2013 to August 31, 2018.

Dynamics and Control Studies in Aerospace Applications (Draper Laboratories, Johnson Space Center); $87,600.00), period September 1, 2013 to August 31, 2014.

Dynamics and Control in Aerospace Applications (Draper Laboratories, Johnson Space Center); $43,275.00), period September 1, 2014 to August 31, 2015.

Nonlinear Mechanic Aspects of Drillstrings (Baker-Hughes Company), $467,875.00, period September 1, 2015 to August 31, 2018.

Partial Differential Equation with Fractional Derivatives: Mechanics-Related Applications (Multi-University Research Initiative, Brown University), $150,000.00 per year, period September 15, 2015 to September 14, 2020.

Proteus Controlling Resources Adaptive Embedded Software, (Multi-University-Research-Initiative), DARPA, Pi:K.Palem ;Co-PLs:K.Cartwright, P. Spanos, $7,916,419, period September 20, 2015 to February 8, 2020

Monte Carlo Simulations and Analytical Modelling of Memristors, (Air Force Research Lab), Columbus Ohio, $215,000, period April 1st 2022 to March 31st, 2024

BOOKS AND SPECIAL VOLUMES

International Journal of Non-Linear Mechanics, Editor-in-Chief, published bi-monthly by Pergamon Press, Oxford, UK, Vol. 32, 1997-present.

Probabilistic Engineering Mechanics, Co-Editor, Editor-in-Chief , published quarterly by Elsevier Science Ltd., Amsterdam, Netherlands, Vol. 1, 1985-present.

Random Vibrations, editor (with Professor T. C. Huang, University of Wisconsin, USA), ASME, New York, NY, USA, 1984, Library of Congress Catalog Card Number 84-72439.

Probabilistic Offshore Mechanics, editor, CML Publications, Southampton, England, 1985, ISBN 0 905451 32 5, CML Inc., Boston, MA, USA, ISBN 0 931215 03 X.

Probabilistic Methods in Civil Engineering, editor, Proceedings of Fifth ASCE Specialty Conference, Virginia Polytechnic Institute and State University, Blacksburg, VA, USA, 5/25-27/88, ISBN 0-87262-659-8.

Random Vibration and Statistical Linearization, (with Professor J. B. Roberts, University of Sussex, England), Wiley, New York, NY, USA, 1990, ISBN 0 471 91699 4.

Dynamic Analysis of Non-Linear Structures by the Method of Statistical Quadratization, (with Dr. M. G. Donley, Structural Dynamics Research Corporation), Lecture Notes in Engineering, Springer-Verlag, Berlin, Germany, 1990, ISBN 3-540-52743-5.

Non-Linear Random Vibrations: Problems and Techniques, guest editor of special issue, International Journal of Non-Linear Mechanics, Pergamon Press, Oxford, UK, Vol. 26, #6, 1991, pp. 801-984.

Stochastic Finite Elements: A Spectral Approach, (with Professor R. G. Ghanem, State University of New York at Buffalo), Springer-Verlag, New York, NY, USA, 1991, ISBN 0-387-97456-3.

Stochastic Finite Elements: A Spectral Approach, (with Professor R. G. Ghanem), Dover Publications, Inc., Mineola, NY, USA, ISBN 0-486-42818-4, Revised edition of the work originally published by Springer-Verlag New York, Inc.

Computational Stochastic Mechanics - CSM '91, editor, Proceedings of the First International Conference, Corfu, Greece, 9/17-19/91, Elsevier Applied Science, London, UK, New York, NY, USA, ISBN 1-85166-698-2.

Random Vibrations: A Broad Perspective, editor, special issue, Journal of Probabilistic Engineering Mechanics, Elsevier Applied Science, Oxford, UK, Vol. 8, #3-4, 1994, pp. 139-286, Vol. 9, #1-2, pp. 1-155, 1994.

Aging of Energy Production and Distribution Systems, (editor with M. Carroll), Proceedings of the Energy Workshop at Rice University, Houston, TX, USA, 10/11-13/92, special issue of Applied Mechanics Reviews, Vol. 46, #5, 5/93, pp. 140-263.

Probabilistic Structural Mechanics: Advances in Structural Reliability Methods, (with Y.-T. Wu), Proceedings of the IUTAM Symposium, San Antonio, TX, USA, Springer-Verlag, Heidelberg, Germany, 1993.

Computational Stochastic Mechanics - CSM '94, editor, Proceedings of the Second International Conference, Athens, Greece, 6/12-15/94, A. A. Balkema, Rotterdam, Netherlands, Brookfield, VT, USA, ISBN 90-5410-527-5.

A Selective Perspective on Non-Linear Mechanics: Problems and Techniques, editor, special issue, International Journal of Non-Linear Mechanics, Pergamon Press, Oxford, UK,Vol. 31, #6, 1996, pp. 795-964.

Civil Infrastructure Systems: Intelligent Renewal, co-editor, Proceedings of the Third International Symposium, Capri, Italy, 9/24-26/97, World Scientific.

Computational Stochastic Mechanics - CSM '98, editor, Proceedings of the Third International Conference, Santorini, Greece, 6/14-17/98, A.A. Balkema, Rotterdam, Netherlands, Brookfield, VT, USA, pp. 1-770, ISBN 90-5809-039-6.

Proceedings of the International Conference on Monte Carlo Simulation, co-editor, A. Balkema, Amsterdam, Netherlands, 6/18-21/00, Municipality of Monaco,2001, pp. 1-630, ISBN 90 5809 1880.

Computational Stochastic Mechanics – CSM4, (editor with G. Deodatis), Proceedings of the Fourth International Conference, Corfu, Greece, 06/09-06/12, 2002, Millpress, Rotterdam, Netherlands, pp. 1-691, ISBN 90-77017-74-7, 2003.

Computational Stochastic Mechanics – CSM5, (co-editor with G. Deodatis), Proceedings of the Fifth International Conference on Computational Stochastic Mechanics, Rodos, Greece, June 21-23, 2006, Millpress, Rotterdam, Netherlands, 2007, pp. 1-694, ISBN 978-90-5966-052-6.

Special Issue on Computational Stochastic Mechanics – CSM5 (editor with G. Deodatis), Journal of Probabilistic Engineering Mechanics, Volume 23, pp. 104-346, 2008.

Computational Stochastic Mechanics – CSM6, (co-editor with G. Deodatis), Proceedings of the Sixth International Conference on Computational Stochastic Mechanics, Rhodes, Greece, June 16-20, 2010, Scientific Research Publishers, Singapore, 2010. ISBN-10::981-08-7619-X BP1-626

Reusable Booster System: Review and Assessment, (co-author). National Research Council, The national Academies Press, 2012, ISBN: 978-0-309-26656-7

SRES-2015, (co-editors, G. Li and G. Chen, Tongji University, China), Proceedings of the International Symposium on Reliability of Engineering Systems, October 15-17, 2015, Hangzhou, China.

Computational Stochastic Mechanics – CSM7 (co-editor with G Deodatis), Proceedings of the Seventh International Conference on Computational Stochastic Mechanics, Santorini, Greece, June 11, 2014, Scientific Research Publishers, Singapore, 2015 ISBM -10::981-09-5348-8, BP 1-184

High-Performance Bolting Technology for Offshore Oil and Natural Gas Operations (co-author),Washington, DC: 2018, The National Academies Press, ISBN 978-01-309-47242-5

Independent Assessment of Science and Technology for the Department of Energy's Defense Environmental cleanup Program, (co-author), Washington, DC: 2018, The National Academies Press, ISBN 978-0-309-48775-7

Strategic Long-Term Participtation by DoD in its Manufacturing USA Institutes, (co-author), Washington, DC: 2018, The National Academies Press, ISBN 978-0-309-49138-9

Strategic Long-Term Participtation by DoD in its Manufacturing USA Institutes: Proceedings of a Workshop, (co-author), Washington, DC: 2018, The National Academies Press, ISBN 978-0-309-492948-5

Path Integral Techniques in Stochastic Engineering Dynamics,(co-author) (2024) Spinger,NewYork,USA ,ISBN 978-3-031-57863-2

REFEREED PAPERS

A Study on the Geometrical Constructions of Triangles When an Angle and the Corresponding Bisector Are Maintained Constant, in Greek, J. of the College Division, Greek Mathematical Society, pp. 122-124, 3/68, pp. 248-251, 6/68, pp. 77-79, 10/68.

Response Envelope Statistics for Nonlinear Oscillators with Random Excitation, (with W.D. Iwan), J. of Applied Mechanics, ASME, Vol. 45, pp. 170-174, 1978; included in the Eighth Applied Mechanics Congress, UCLA, Los Angeles, CA, 6/26-30/78.

On the Existence and Uniqueness of Solutions Generated by Equivalent Linearization, (with W.D. Iwan), International J. of Non-Linear Mechanics, Vol. 13, No. 3, pp. 71-78, 1978.

Energy Analysis of Structural Vibrations Under Modulated Random Excitation, J. of Structural Mechanics, Vol. 6, No. 3, pp. 289-301, 1978.

Computational Aspects of Random Vibration Analysis, (with W. D. Iwan), J. of Engineering Mechanics, ASCE, Vol. 104, pp. 1403-1415, 1978.

Non-Stationary Random Vibration of a Linear Structure, International J. of Solids and Structures, Vol. 14, pp. 861-867, 1978.

Stochastic Analysis of Oscillators with Nonlinear Damping, International J. of Non-Linear Mechanics, Vol. 13, pp. 249-259, 1978.

Hysteretic Structural Vibrations under Random Load, J. of the Acoustical Society of America, 65(2), pp. 404-410, 1979.

Harmonic Analysis of Dynamic Systems with Non-Symmetric Nonlinearities, (with W. D. Iwan), J. of Dynamical Systems, Measurement and Control, ASME, Vol. 101, pp. 31-36, 1979; included in the 99th ASME Winter Annual Meeting, San Francisco, CA, 12/10-15/78.

Numerical Simulations of a Van Der Pol Oscillator, Computers and Mathematics with Applications, Vol. 6, pp. 135-145, 1980; included in the Second International Conference on Computational Methods in Nonlinear Mechanics, University of Texas at Austin, TX, 3/26-29/79.

Probabilistic Earthquake Energy Spectra Equations, J. of Engineering Mechanics, ASCE, Vol. 106, pp. 147-159, 1980.

Linearization Equations for Vibration Induced by Oscillatory Flow, (with T-W. Chen), J. of Applied Mechanics, ASME, Vol. 46, pp. 946-948, 1980.

Formulation of Stochastic Linearization for Symmetric or Asymmetric M-D-O-F Systems, J. of Applied Mechanics, ASME, Vol. 47, pp. 209-211, 1980.

Response of a Dynamic System to Flow-Induced Load, (with T-W. Chen), International J. of Non-Linear Mechanics, Vol. 15, pp. 115-126, 1980.

Probability of Response to Evolutionary Process, (with L.D. Lutes), J. of Engineering Mechanics, ASCE, Vol. 106, pp. 213-224, 1980.

Vibrations of Marine Riser Systems, (with T-W. Chen), J. of Energy Resources Technology, ASME, Vol. 102, pp. 203-213, 1980; included in the Energy Sources Technology Conference, ASME, New Orleans, LA, 2/3-7/80.

On the Computation of the Confluent Hypergeometric Function at Densely Spaced Points, J. of Applied Mechanics, ASME, Vol. 46, pp. 682-685, 1980.

Response Spectra of Evolutionary Earthquake Models, Proceedings of the Seventh World Conference on Earthquake Engineering, Istanbul, Turkey, Vol. 2, Part II, pp. 387-390, (refereed paper), 9/8-13/80.

A Method for Analysis of Nonlinear Vibrations Caused by Modulated Random Excitation, International J. of Non-Linear Mechanics, Vol. 16, pp. 1-11, 1981.

Monte Carlo Simulations of Responses of Non-Symmetric Dynamic Systems to Random Excitations, J. of Computers and Structures, Vol. 13, pp. 371-376, 1981; included in the Symposium on Computational Methods in Nonlinear Structural and Solid Mechanics, Washington, DC, 10/6-8/80.

Stochastic Linearization in Structural Dynamics, invited refereed feature article, Applied Mechanics Reviews, Vol. 34, pp. 1-8, 1981; included in the Summer Workshop on Finite Element Analysis for Engineering Design, Indian Institute of Technology, Madras, India, 8/1-10/88.

Random Response to Flow-Induced Forces, (with T-W. Chen), J. of Engineering Mechanics, ASCE, Vol. 107, pp. 1173-1190, 1981; included in the Joint ASCE/ASME Mechanics Conference, Boulder, CO, 6/22-24/81.

Linear Prediction Theory for Digital Simulation of Sea Waves, (with J. Hansen), J. of Energy Resources Technology, ASME, Vol. 103, pp. 243-249, 1981; included in the Energy Sources Technology Conference, ASME, Houston, TX, 1/18-21/81.

Non-Stationary Random Response of Nonlinear Oscillators, Proceedings of the Ninth International Conference on Nonlinear Oscillation, Kiev, U.S.S.R., invited refereed article, Vol. I, pp. 353-357, 8/30-9/6/81; invited speaker at the conference.

Survival Probability of Non-Linear Oscillators Subjected to Broad-Band Random Disturbances, International J. of Non-Linear Mechanics, Vol. 17, pp. 303-317, 1982; included in the 20th Annual Meeting, Society of Engineering Science, University of Delaware, DE, 8/22-24/83.

Numerics for Common First-Passage Problem, J. of Engineering Mechanics, ASCE, Vol. 108, EM5, pp. 864-882, 1982.

Solution to the Backward-Kolmogorov Equation for a Non-Stationary Oscillation Problem, (with G.P. Solomos), J. of Applied Mechanics, ASME, Vol. 49, pp. 923-925, 1982.

Approximate Solutions of Random Vibrations Problems Through Stochastic Averaging, Proceedings of the International Union of Theoretical and Applied Mechanics (IUTAM) Symposium on Random Vibrations and Reliability, Frankfurt (Oder), E. Germany, invited refereed article, K. Hennig editor, published by Akademie-Verlag, Berlin, Germany, pp. 327-337, 10/31-11/6/82; invited speaker at the conference.

Digital Synthesis of Response Design Spectrum Compatible Earthquake Records for Dynamic Analysis, invited refereed paper, The Shock and Vibration Digest, No. 3, pp. 21-30, 1983; included in the Summer Workshop on Finite Element Analysis for Engineering Design, Indian Institute of Technology, Madras, India, 8/1-10/88.

Structural Reliability Under Evolutionary Seismic Excitation, (with G.P. Solomos), International J. of Soil Dynamics and Earthquake Engineering, Vol. 2, No. 2, pp. 110-116, 1983; included in the International Conference on Soil Dynamics and Earthquake Engineering, Southampton, England, 7/13-15/82.

ARMA Algorithms for Ocean Spectral Modeling, J. of Energy Resources Technology, ASME, Vol. 105, pp. 300-309, 1983; included in the Second Offshore Mechanics and Arctic Engineering Symposium, Houston, TX, 1/30-2/3/83.

Markov Approximation to Nonstationary Random Vibration, (with G.P. Solomos), J. of Engineering Mechanics, ASCE, Vol. 109, No. 4, pp. 1134-1150, 1983.

Spectral Moments Calculation of Linear System Output, J. of Applied Mechanics, ASME, Vol. 50, pp. 901-903, 1983.

Barrier-Crossing Due to Transient Excitation, (with G.P. Solomos), J. of Engineering Mechanics, ASCE, Vol. 110, No. 1, pp. 20-36, 1984.

Oscillator Response to Non-Stationary Excitation, (with G.P. Solomos), J. of Applied Mechanics, ASME, Vol. 51, pp. 907-912, 1984; included in the Ninth U.S. National Congress of Applied Mechanics, Cornell University, Ithaca, NY, 6/21-25/82.

Rocking of Rigid Blocks Due to Harmonic Shaking, (with A-S. Koh), J. of Engineering Mechanics, ASCE, Vol. 110, pp. 1627-1642, 1984; included in the Second Joint ASCE/ASME Mechanics Conference, Albuquerque, NM, 6/23-26/85.

Response of a Simple Tension Leg Platform Model to Wave Forces Calculated at Displaced Position, (with V.K. Agarwal), J. of Energy Resources Technology, ASME, Vol. 106, pp. 437-443, 1984; included in the Third International Symposium on Offshore Mechanics and Arctic Engineering, New Orleans, LA, 2/12-16/84.

A Statistical Approach to Generation of Design Spectrum Compatible Earthquake Time Histories, (with L. M. Vargas-Loli), International J. of Soil Dynamics and Earthquake Engineering, Vol. 4, No. 1, pp. 2-8, 1985.

A Primer of Random Vibration Techniques in Structural Engineering, (with L. D. Lutes), The Shock and Vibration Digest, Vol. 18, No. 4, pp. 3-9, 1986; included in Structural Safety Studies, edited by J.T.P. Yao, R. Corotis, C. B. Brown and F. Moses, ASCE, New York, 1985, pp. 11-21, (invited refereed paper). Presented at the Symposium on Structural Safety, ASCE, Denver, CO, 5/1-2/85; included in the Summer Workshop on Finite Element Analysis for Engineering Design, IIT, Madras, India, 8/1-10/88.

Numerical Synthesis of Trivariate Velocity Realizations of Turbulence, (with K. P. Schultz), International J. of Non-Linear Mechanics, Vol. 21, No. 4, pp. 269-277, 1986; included in Advances in Aerospace Structural Analysis, edited by O. H. Burnside and C. H. Parr, ASME, New York, pp. 25-35, 1985; included in the ASME Symposium on Advances in Aerospace Structural Analysis, ASME, Winter Annual Meeting, Miami Beach, FL, 11/17-22/85.

Filter Approaches to Wave Kinematics Approximation, J. of Applied Ocean Research, Vol. 8, pp. 2-7, 1986; included in Random Vibration - Status and Recent Developments, edited by I. Elishakoff and R. H. Lyon, Elsevier, NY, 1986.

Analysis of Block Random Rocking, (with A-S. Koh), International J. of Soil Dynamics and Earthquake Engineering, Vol. 5, pp. 178-183, 1986; included in the First National Congress of Mechanics, The Hellenic Society for Theoretical and Applied Mechanics, Athens, Greece, 6/25-27/86.

Stochastic Averaging: An Approximate Method of Solving Random Vibration Problems, (with J. B. Roberts), invited refereed article, International J. of Non-Linear Mechanics, Vol. 21, No. 2, pp. 111-134, 1986.

Harmonic Rocking of Rigid Block on Flexible Foundation, (with A-S. Koh and J.M. Roesset), J. of Engineering Mechanics, ASCE, Vol. 112, No. 11, pp. 1165-1180, 1986.

Z-Transform Modeling of P-M Wave Spectrum, (with M. P. Mignolet), J. of Engineering Mechanics, ASCE, Vol. 112, pp. 745-759, 1986; included in the RILEM Symposium on Stochastic Methods and Materials in Structural Engineering, Los Angeles, CA, 4/3-4/86.

An Approach to Calculating Random Vibration Integrals, J. of Applied Mechanics, ASME, Vol. 54, pp. 409-413, 1987; included in the Applied Mechanics, Bioengineering and Fluids Engineering ASME Conference, Cincinnati, OH, 6/14-17/87.

Recursive Simulation of Stationary Multivariate Random Processes-Part I, (with M.P. Mignolet), J. of Applied Mechanics, ASME, Vol. 54, pp. 674-680, 1987; included in the 1987 Winter Annual Meeting, ASME, Boston, MA, 12/13-18/87.

Recursive Simulation of Stationary Multivariate Random Processes-Part II, (with M.P. Mignolet), J. of Applied Mechanics, ASME, Vol. 54, pp. 681-687, 1987; included in the 1987 Winter Annual Meeting, ASME, Boston, MA, 12/13-18/87.

Decoupled Dynamic Analysis of Combined Systems by Iterative Determination of Interface Accelerations, (with T.T. Cao, C.A. Jacobson, Jr., D.A. Nelson, and D.A. Hamilton), Earthquake Engineering and Structural Dynamics, Vol. 16, pp. 491-500, 1988; included in the Proceedings of the 28th AIAA-ASME-ASCE-AHS Structures, Structural Dynamics and Materials Conference, Monterey, CA, Part 2A, pp. 322-329, 4/6-8/87.

A Nonstationary Solution in Nonlinear Random Vibration, (with J. R. Red-Horse), J. of Engineering Mechanics, ASCE, Vol. 114, pp. 1929-1943, 1988.

Wiener-Hermite Functional Representation of Nonlinear Stochastic Systems, (with R. V. Roy), J. of Structural Safety, Vol. 6, pp. 187-202, 1989; included in the Proceedings of the Symposium on Stochastic Structural Dynamics, University of Illinois at Urbana-Champaign, pp. 343-359, 10/30- 11/1/88, edited by N. Sri Namachchivaya, H.H. Hilton, and Y.K. Wen.

Stochastic Finite Element Expansion for Random Media, (with R. Ghanem), J. of Engineering Mechanics, ASCE, Vol. 115, No. 5, pp. 1035-1053, 5/89; included in the Summer Workshop on Finite Element Analysis for Engineering Design, Indian Institute of Technology, Madras, India, 8/1-10/88.

ARMA Monte Carlo Simulation in Probabilistic Structural Analysis, (with M.P. Mignolet), The Shock and Vibration Digest, Vol. 21, No. 11, pp. 3-14, 11/89; included as an invited paper in the Proceedings of the 28th AIAA/ASME/ASCE/AHS Structures, Structural Dynamics and Materials Conference, Monterey, CA, Part 2B, pp. 800-808, 4/6-8/87.

MA to ARMA Modeling of Wind, (with M.P. Mignolet), J. of Wind Engineering and Industrial Aerodynamics, No. 36, pp. 429-438, 1990; included in the Proceedings of the Sixth U.S. National Conference on Wind Engineering, Houston, TX, Vol. 1, pp. B3-17-B3-26, 3/8-10/89.

A Direct Determination of ARMA Algorithms for the Simulation of Stationary Random Processes, (with M.P. Mignolet), International J. of Non-Linear Mechanics, Vol. 25, No. 5, pp. 555-568, 1990.

Simulation of Stationary Random Processes: Two-Stage MA to ARMA Approach, (with M.P. Mignolet), J. of Engineering Mechanics, ASCE, Vol. 116, No. 3, pp. 620-641, 3/90.

Polynomial Chaos in Stochastic Finite Elements, (with R. Ghanem), J. of Applied Mechanics, ASME, Vol. 57, pp. 197-202, 3/90; included in the Winter Annual Meeting, ASME, San Francisco, CA, 12/11-15/89.

Low Frequency Spectral Representation of Space Shuttle Flight Data, (with L.J. Mushung, D.A. Nelson, and D.A. Hamilton), J. of Aerospace Engineering, ASCE, Vol. 3, No. 2, pp. 137-154, 4/90; included in the Proceedings of the 29th AIAA/ASME/ASCE/AHS Structures, Structural Dynamics and Materials Conference, Williamsburg, VA, Part 3, pp. 1533-1542, 4/18-20/88.

Efficient Loads Analyses of Shuttle-Payloads Using Dynamic Models with Linear or Nonlinear Interfaces, (with T. Cao, D. Nelson, Jr., and D. Hamilton), J. of Vibration, Acoustics, Stress and Reliability in Design, ASME, Vol. 112, pp. 366-373, 7/90; included in the Proceedings of the 30th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference, Mobile, AL, pp. 414-424, 4/3-5/89.

Time Domain Method for Parameter System Identification, (with A. Hac), J. of Vibration, Acoustics, Stress and Reliability in Design, ASME, Vol. 112, pp. 281-287, 7/90.

Frequency Domain Analysis of Marine Risers with Time Dependent Tension, (with W-Y. Tein and R. Ghanem), J. of Applied Ocean Research, Vol. 12, No. 4, pp. 200-210, 10/90; included in the Proceedings of the Ninth International Conference on Offshore Mechanics and Arctic Engineering, ASME, Houston, TX, Vol. I, Part B, pp. 345-351, 2/18-23/90.

Autoregressive Spectral Modeling: Difficulties and Remedies, (with M.P. Mignolet), International J. of Non-Linear Mechanics, Vol. 26, No. 6, pp. 911-930, 1991.

Boundary Element Formulation For Engineering Mechanics, ASCE, Vol. 117, No. 2, pp. 409-423, 2/91; included in the Third Joint ASCE/ASME Mechanics Conference, La Jolla, CA, 7/9-12/89.

Seismic Response Spectra of a Combined System by Green's Functions, (with F.M. Lavelle and L.A. Bergman), International J. of Soil Dynamics and Earthquake Engineering, Vol. 10, No. 2, pp. 93-100, 2/91; included in the Proceedings of the Fourth International Conference on Soil Dynamics and Earthquake Engineering, Mexico City, Mexico, Vol. I, pp. 112-121, 10/23-26/89.

Stochastic Response of a Tension Leg Platform to Viscous Drift Forces, (with M.G. Donley), J. of Offshore Mechanics and Arctic Engineering, ASME, Vol. 113, No. 2, pp. 148-155, 5/91; included in the Proceedings of the Ninth International Conference on Offshore Mechanics and Arctic Engineering, Houston, TX, Vol. II, pp. 107-114, 2/18-22/90.

Equivalent Statistical Quadratization for Nonlinear Systems, (with M.G. Donley), J. of Engineering Mechanics, ASCE, Vol. 117, No. 6, pp. 1289-1310, 6/91. Preliminary version appeared as Statistical Quadratization for Nonlinear Systems in Offshore Engineering in the Proceedings of the Second International Conference on Stochastic Structural Dynamics, Boca Raton, FL, Vol. II, pp. 33-43, 5/9-11/90.

Spectral Stochastic Finite-Element Formulation for Reliability Analysis, (with R.G. Ghanem), J. of Engineering Mechanics, ASCE, Vol. 117, No. 10, pp. 2351-2372, 10/91.

Padé-type Approach to Nonlinear Random Vibration Analysis, (with R.V. Roy), Probabilistic Engineering Mechanics, Vol. 6, Nos. 3 and 4, pp. 119-128, 9 & 12/91; included in the Proceedings of the Second International Conference on Stochastic Structural Dynamics, Boca Raton, FL, Vol. I, pp. 155-170, 5/9-11/90. Preliminary version presented at the Third Joint ASCE/ASME Mechanics Conference, La Jolla, CA, 7/9-12/89.

A Generalization to Stochastic Averaging in Random Vibration, (with J. R. Red-Horse), International J. of Non-Linear Mechanics, Vol. 27, No. 1, pp. 85-101, 1992.

Non-Linear Multi-Degree-of-Freedom System Random Vibration by Equivalent Statistical Quadratization, (with M. G. Donley), International J. of Non-Linear Mechanics, Vol. 27, No. 5, pp. 735-748, 1992; included in the 27th SES Annual Meeting, Santa Fe, NM, 10/21-25/90. Preliminary version appeared as Equivalent Statistical Quadratization for Multi-Degree-of Freedom Nonlinear Systems in the Proceedings of the IUTAM Symposium on Nonlinear Stochastic Mechanics, Turin, Italy, pp. 185-200, 7/1-5/91.

Simulation of Homogeneous Two-Dimensional Random Fields: Part I - AR and ARMA Models, (with M. P. Mignolet), J. of Applied Mechanics, ASME, Vol. 59, pp. 260-269, 1992; included in the Winter Annual Meeting, ASME, Atlanta, GA, 12/1-6/91.

Simulation of Homogeneous Two-Dimensional Random Fields: Part II - MA and ARMA Models, (with M. P. Mignolet), J. of Applied Mechanics, ASME, Vol. 59, pp. 270-277, 1992; included in the Winter Annual Meeting, ASME, Atlanta, GA, 12/1-6/91.

Power Spectral Density of Nonlinear System Response: The Recursion Method, (with R. V. Roy), J. of Applied Mechanics, ASME, Vol. 60, pp. 358-365, 1993; included in the First Joint ASCE-EMD/ASME-AND/SES Meeting, Charlottesville, VA, 6/6-9/93.

A Stochastic Galerkin Expansion for Nonlinear Random Vibration Analysis, (with R. Ghanem),Probabilistic Engineering Mechanics, Vol. 8, pp. 255-264, 1993; included in the 28th Annual Meeting of the Society of Engineering Science, University of Florida at Gainesville, FL, 11/6-8/91.

Galerkin Sampling Method for Stochastic Mechanics Problems, (with B.A. Zeldin), J. of Engineering Mechanics, ASCE, Vol. 120, No. 5, pp. 1091-1106, 5/94.

Spectral Representation of High-Frequency Space Shuttle Data, (with L.J. Mushung, D. A. Nelson Jr., and D. A. Hamilton), J. of Aerospace Engineering, ASCE, Vol. 7, No. 3, pp. 315-327, 7/94; included in the Proceedings of the 31st AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference, Long Beach, CA, Part 4, pp. 2173-2179, 4/2-4/90.

Stochastic Characterization of Ocean Depth and Filter Approximations for Wave Kinematics, (with S. Bhattacharjee), Applied Ocean Research, Vol. 16, No. 3, pp. 177-184, 5&6/94.

Hilbert Transform Generalization of a Classical Random Vibration Integral, (with S. M. Miller), J. of Applied Mechanics, ASME, Vol. 61, pp. 575-581, 9/94; included in the Proceedings of the 14th Biennial Conference on Mechanical Vibration and Noise, Albuquerque, NM, 9/19-22/93.

Trivariate Spectral Modeling of Space Shuttle Flight Data, (with R. R. Eberle, D. Hamilton, and L. Mushung), J. of Aerospace Engineering, ASCE, Vol. 8, No. 3, pp. 148-155, 7/95; included in the Proceedings of the 35th AIAA Dynamics Specialists Conference, Hilton Head, SC, pp. 267-275, 4/21-22/94.

Optimality in the Estimation of a MA System from a Long AR Model for Simulation Studies, (with M.P. Mignolet), Soil Dynamics and Earthquake Engineering, Vol. 14, No. 6, pp. 445-452, 1995.

Robustly Stable Active Structural Control, (with D.A. Kozodoy), J. of Structural Control, Vol. 2, No. 1, pp. 65-77, 6/95.

Nonlinear System Identification in Offshore Structural Reliability, (with R. Lu), J. of Offshore Mechanics and Arctic Engineering, ASME, Vol. 117, No. 3, pp. 171-177, 8/95.

Coupled In-Line and Transverse Flow-Induced Structural Vibration: Higher Order Harmonic Solutions, (with R. Ghanem and S. Swerdon), Sadhana, J. of the Indian Academy of Sciences, Vol. 20, Part 2-4, pp. 691-707, 4-8/95.

Modeling of Roller Cone Bit Lift-Off Dynamics in Rotary Drilling, (with A.K. Sengupta, R. A. Cunningham and P.R. Paslay), J. of Energy Resources Technology, ASME, Vol. 117, No. 3, pp. 197-207, 9/95.

Stochastic Damage Accumulation Model for Composite Laminates, (with J.D. Rowatt), J. of Engineering Mechanics, ASCE, Vol. 121, No. 11, pp. 1244-1251, 11/95.

Heuristic Spectral Estimation of Bivariate Nonstationary Processes, (with W.Y. Tein and R. Ghanem), Meccanica (J. of the Italian Association of Mechanics), Vol. 31, pp. 207-218, 1996.

Efficient Iterative ARMA Approximation of Multivariate Random Processes for Structural Dynamics Applications, (with B.A. Zeldin), Earthquake Engineering and Structural Dynamics, Vol. 25, pp. 497-507, 1996.

A Residual Flexibility Approach for Decoupled Analysis of Systems of Combined Components, (with A. Majed), J. of Vibration and Acoustics, ASME, Vol. 118, No. 4, pp. 682-686, 10/96.

Random Field Representation and Synthesis Using Wavelet Bases, (with B.A. Zeldin), J. of Applied Mechanics, ASME, Vol. 63, No. 4, pp. 946-952, 12/96.

Spectral Techniques for Stochastic Finite Elements, (with R. Ghanem), Archives of Computational Methods in Engineering (State of the Art Reviews), Vol. 4, No.1, pp. 63-100, 1997.

Random Vibration of Systems with Frequency Dependent Parameters of Frictional Derivatives, (with B.A. Zeldin), J. of Engineering Mechanics, ASCE, pp. 290-292, 3/97.

Stochastic Response of MDOF Wind-Excited Structures by Means of Volterra Series Approach, (with S. Benfratello and M. Di Paola), J. of Wind Engineering, 74-76, pp. 1135-1145, 1998. Also appeared in the Proceedings of the 2nd European and African Conference on Wind Engineering, Genoa, Italy, pp. 1935-1941, 6/22-26/97.

Bottom-Hole Assembly Modeling and Dynamic Response Determination, (with M.L. Payne and C.K. Secora), J. of Energy Resources Technology, ASME, Vol. 119, No. 3, pp. 153-158, 9/97.

Nonlinear Dynamics of Structures via Residual Flexibility of Components, (with A. Majed), J. of Aerospace Engineering, ASCE, Vol. 10, No. 4, pp. 173-178, 10/97.

Wavelets Concepts, (with B.A. Zeldin), Probabilistic Engineering Mechanics, (State-0f-the-Art Report on Computational Stochastic Mechanics), Vol. 12, No. 4, pp. 244-249, 10/97.

Chaotic and Random Whirling Motion of Drillstrings, (with S.J. Kotsonis), J. of Energy Resources Technology, ASME, Vol. 119, No. 4, pp. 217-222, 12/97.

Markov Chain Models for Life Prediction of Composite Laminates, (with J.D. Rowatt), Structural Safety, Vol. 20, No. 2, pp. 117-135, 1998.

Monte Carlo Treatment of Random Fields: A Broad Perspective, (with B.A. Zeldin), Applied Mechanics Reviews, ASME, Vol. 51, No. 3, pp. 219-237, 3/98.

Spectral Approximation for Wind Induced Structural Vibration Studies, (with I. Gullo and M. Di Paola), Meccanica, 33, pp. 291-298, 1998. Also appeared in the Proceedings of the 2nd European and African Conference on Wind Engineering, Genoa, Italy, pp. 1983-1990, 6/22-26/97.

On Random Field Discretization in Stochastic Finite Elements, (with B.A. Zeldin), J. of Applied Mechanics, ASME, Vol. 65, No. 2, pp. 320-327, 6/98.

Generalized Random Decrement Method for Analysis of Vibration Data, (with B.A. Zeldin), J. of Vibration and Acoustics, ASME, Vol. 120, No. 3, pp. 806-813, 7/98.

Spectral Identification of Nonlinear Structural Systems, (with B.A. Zeldin), J. of Engineering Mechanics, ASCE, Vol. 124, No. 7, pp. 728-733, 7/98.

Pitfalls of Deterministic and Random Analyses of Systems with Hysteresis (with B.A. Zeldin), J. of Engineering Mechanics, ASCE, Vol. 126, No. 10, pp. 1108-1110, 10/00.

Multisegment Large Space Robot: Concept and Design (with R.B. Berka and P. Tratskas), J. of Aerospace Engineering (2002), ASCE, Vol. 13, No. 4, pp. 123-132...

Random Field Representation in a Biorthogonal Wavelets Basis (with V.R.S. Rao), J. of Engineering Mechanics (2001), ASCE, Vol. 127, No. 2, pp. 194-205, 02/01.

A Perspective on the Vibration Overtest Problem (with G.L. Davis), Shock and Vibration Digest (2001), Vol. 33, No. 3, pp. 177-186.

Deterministic and Stochastic Analyses of a Nonlinear System with a Biot Visco-Elastic Element (with S. Tsavachidis), Earthquake Engng. Struct. Dyn. (2001); 30: 595-612.

Dynamic Analysis of Stacked Rigid Blocks (with P. Roussis and N. Politis), Soil Dynamics and Earthquake Engineering (2001); 21: 559-578.

Markov Chains for Damage Accumulation of Organic and Ceramic Matrix Composites (with Y. Pappas and V. Kostopoulos), Journal of Engineering Mechanics (2001); 127: 915-926.

A Preisach Model Identification Procedure and Simulation of Hysteresis in Ferromagnets and Shape Memory Alloys (with A. Ktena, D.I. Fotiadis and C.V. Massalas), Physica B (2001); 306: 84-90.

A Galerkin Approach for Power Spectrum Determination of Nonlinear Oscillators (with M. Di Paolo and G. Failla), Meccanica (2002), 37:51-65.

Non-Linear Stochastic Drill-String Vibrations (with A. Chevallier and N. Politis), Transactions of the ASME, Vol. 124, pp. 512-518 (2002).

Identification of 1D and 2D Preisach Models for Ferromagnets and Shape Memory Alloys, (with A. Ktena, D. Fotiadis, A. Berger and C. Massalas), International Journal of Engineering Science, Vol. 40, pp. 2235-2247 (2002).

A Spectral Approach to Equivalent Statistical Quadratization and Cubicization Methods for Nonlinear Oscillators (with G. Failla and M. Di Paola), Journal of Engineering Mechanics, ASCE, Vol. 129, No. 1, pp. 31-42 (2003).

Response Power Spectrum of Multi-Degree-of-Freedom Nonlinear Systems by a Galerkin Technique (with G. Failla and M. Di Paola), Journal of Applied Mechanics Vol. 70, pp. 708-723 (2003).

Linear Multi-Degree-of-Freedom System Stochastic Response by Using the Harmonic Wavelet Transform (with P. Tratskas), Journal of Applied Mechanics, Vol. 70, pp. 724-731 (2003).

Oil and Gas Well Drilling: A Vibrations Perspective (with A. Chevallier, N. Politis and B. Payne), The Shock and Vibration Digest, Vol. 35, No. 2, pp. 85-103 (March 2003).

Spectral Approach to Equivalent Statistical Quadratization and Cubicization Methods for Nonlinear Oscillators (with G. Failla and M D. Paola), Journal of Engineering Mechanics, Vol. 129, No. 1, pp. 31-42 (January 2003)

Random Vibration of SMA Systems via Preisach Formalism (with P. Cacciola and J. Redhorse), International Journal of Nonlinear Dynamics, 36(2), pp. 405-419 (06/2004)

Evolutionary Spectra Estimation Using Wavelets (with G. Failla), Journal of Engineering Mechanics, ASCE, Vol. 130, pp. 952-960 (2004).

Numerical wavelets and applications in stochastic dynamics (in Greek). Proceedings of the Academy of Athens (National Academy of Greece),Vol. 79, 2004, pp. 2009-246.

Stochastic Averaging of Preisach Hysteretic Systems (with P. Cacciola and G. Muscolino), Journal of Engineering Mechanics, ASCE Vol. 130(11), pp. 1257-1267 (11/2004)

Stochastic Processes Evolutionary Spectrum Estimation via the Wavelet Spectrum (with J. Tezcan and P. Tratskas), Journal of Computational Methods in Applied Mechanics and Engineering, Vol. 194, pp. 1367-1383 (2005).

Coupled analysis of a Spar marine structure: Monte Carlo and statistical linearization solutions (with R. Ghosh, L. Finn and J. Halkyard), Journal of Offshore Mechanics and Arctic Engineering, ASME (February 2005, pp. 11-16)

Wavelets: Theoretical Concepts and Vibration Applications with G. Failla, Shock and Vibration Digest, Volume 37, No. 5 (2005, 5, pp. 359-375).

Non-Stationary Response Envelope Probability Densities of Nonlinear Oscillators (with A. Sofi, M. Di Paola), Journal of Applied Mechanics, ASME, (March 2007, pp. 315-324).

A Method for Fatigue Analysis of Piping Systems on Topsides of FPSO Structures with A. Sofi, J. Wang, and B. Peng), Journal of Offshore Mechanics and Arctic Engineering, ASME, pp. 162-167, 2006.

Steady-State Dynamic Response of Preisach Hysteretic Systems (with A. Kontsos and P. Cacciola), Journal of Vibration and Acoustics, ASME, pp. 244-249, 2006.

Damage Detection in Euler-Bernoulli Beams via Spatial Wavelets Wavelets Analysis (with G. Failla, A. Santini and M. Pappatico), Journal of Structural Control and Health Monitoring, 2006, pp. 472-487.

Karhunen-Loéve Expansion of Stochastic Processes with a Modified Exponential Covariance Kernel (with M. Beer and J. Red-Horse), Journal of Engineering Mechanics Division, ASCE, July 2007, pp. 773-779).

Time-Frequency Representation of Earthquake Accelerograms and Inelastic Structural Response Records Using the Adaptive Chirplet Decomposition and Empirical Mode Decomposition and EMD (with A. Giaralis and M. Politis), International Journal of Soil Dynamics and Earthquake Engineering, pp. 675-689, 2007.

Numerical Treatment of Seismic Accelerograms and of Inelastic Seismic Responses Using Harmonic Wavelets (with A. Giaralis, M. Politis and J. Rossette), Computer-Aided Civil and Infrastructure Engineering, pp. 254-264, 2007.

A Multisacale Monte Carlo finite element method for the determination of the mechanical properties of polymer nanocomposites (with A. Kontsos), Ove Ditlevsen Special Issue in the Journal of Probabilistic Engineering Mechanics, Volume 23, Number 4, pp. 456-470, 2008.

Wavelet-Based Response Spectrum Compatible Synthesis of Accelerograms-Eurocode Application (EC8) (with A. Giaralis), Journal of Soil Dynamics and Earthquake Engineering, Volume 29, Number 1, pp. 219-235, January 2009.

Modeling of Nanoindentation Data and Characterization of Polymer Nanocomposites by a Multiscale Stochastic Finite Element Method (with A. Kontsos), Journal of Computational and Theoretical, Volume 6, Number 10, pp. 2273-2282(10), October 2009.

Effect of Stochastic Nanotube Waviness on the Elastic and Thermal Properties of Nanocomposites by Fiber Embedment in Finite Elements (with M. Esteva), Journal of Computational and Theoretical Nanoscience, Volume 6, Number 10, pp. 2317-2333(17), October 2009.

Effective Elastic Properties of Nanotube Reinforced Composites with Slightly Weakened Interfaces, with M. Esteva, Journal of Mechanics of Materials and Structures, Volume 4, Number 5, pp. 887-990, 2009.

Synthesis of Artificial and Modification of Recorded Accelerograms Compatible with the Chinese GB 50011-2001 Design Spectrum via Harmonic Wavelets, with A. Giaralis and J. Li, Journal of Vibration and Earthquake Engineering, Volume 8, Number 2, pp. 189-206, June 2009.

An Approximate Approach for Nonlinear System Response Determination under Evolutionary Stochastic Excitation, with I. Kougioumtzoglou, Journal of the Indian Academy of Sciences, Volume 97, Number 8, October 2009.

Determination of Offshore SPAR Structural Response Accounting for Nonlinear Stiffness and Radiation Damping Effects (with R. Ghosh), Journal of Mechanics of Materials and Structures, Volume 4, Number 7-8, pp. 1327-1340, 2009.

Response of a non-linear system with restoring forces governed by fractional derivatives – time domain simulation and statistical linearization solution (with GI Evangelatos), Journal of Soil Dynamics and Earthquake Engineering, Volume 30, Number 9, pp. 811-821, September 2010.

Effective linear damping and stiffness coefficients of nonlinear systems for design spectrum based analysis (with A. Giaralis), Journal of Soil Dynamics and Earthquake Engineering, Special Issue in honor of A.Veletsos,Volume 30, Issue 9, pp. 798-810, September 2010.

A Nonlinear Finite Element Model for the Determination of Elastic and Thermal Properties of Nanocomposites (with P. Elsbernd), Scientific Works Publishing, pp. 135-164, 2011

On the determination of the power spectrum of randomly excited oscillators via stochastic averaging: An alternative perspective (with AI Kougioumtzoglou and C. Soize), Journal of Probabilistic Engineering Mechanics, Volume 26, Issue 1, pp. 10-15, January 2011.

Coupled Surge-Heave-Pitch Dynamic Modeling of SPAR-Moonpool-Riser Interaction (with V. Nava and F. Arena), initial version included in the Proceedings of the ASME 28th OMAE 2009 Conference, May 31-June 5, 2009; ASME Honolulu, Hawaii, Volume 2, Structures, Safety and Reliability, pp. 551-560, 2009; Journal of Offshore Mechanics and Arctic Engineering, Volume 133, pp. 021301-1 to 021301-9, 2011.

A Collocation Approach for Spatial Discretization of Stochastic Peridynamic Modeling of Fracture (with G. Evangelatos), Journal of Mechanics of Materials and Structures, Volume 6, No. 7-8, pp. 1171-1195, 2011

A nonlinear model for top fuel dragster dynamic performance assessment (with D. Hernandez Castillo, IA Kougioumtzoglou and RA Tapia), Journal of Vehicle System Dynamics, Volume 50, No. 2, pp. 281-297, February 2012

Calculating scaling function coefficients from system response data for new discrete wavelet families, (with AJ Dick, QM Phan and JR Foley), Journal of Mechanical Systems and Signal Processing, Volume 27, pp. 333-336, 2012

Derivation of Response Spectrum Compatible Non-Stationary Stochastic Processes Relying on Monte Carlo-Based Peak Factor Estimation (with A. Giarilis), Journal of Earthquakes and Structures (Special Issue in Honor of J. M. Roesset), Volume 3, pp. 581-609, 2012.

A Galerkin Scheme-Based Determination of First-Passage Probability of Nonlinear System Response (with IA Kougioumtzoglou), Journal of Structures and Infrastructure Engineering, (to appear).

An analytical Wiener path integral technique for non-stationary response determination of nonlinear oscillators (with IA Kougioumtzoglou), Probabilistic Engineering Mechanics, Volume 28, pp. 125-131, 2012.

A Nonlinear Model for Top Fuel Dragster Dynamic Performance Assessment (with D. Hernandez Castillo, IA Kougioumtzoglou and RA Tapia), Journal of Vehicle System Dynamics, Volume 50, No. 2, pp. 281-297, 2012.

An analytical Wiener path integral technique for non-stationary response determination of nonlinear oscillators, with IA Kougioumtzoglou), Vehicle System Dynamics, Volume 28, pp. 125-131, 2012, (Special Issue, invited).

Harmonic Wavelets-Based Statistical Linearization for Response Evolutionary Spectrum Determination (with IA Kougioumtzoglou), Journal of Probabilistic Engineering Mechanics, Volume 27, pp. 57-68, 2012.

Nonlinear MDOF system stochastic response determination via a dimension reduction approach (with IA Kougioumtzoglou), Journal of Computers and Structures, Volume 126, pp. 135-148, November 2012.

Some observations on wavelets based evolutionary power spectrum estimation (with IA Kougioumtzoglou, F. Kong and J. Li), Meccanica dei Materiali e delle Strutture, Volume 3, No. 3, pp. 37-44, 2013.

An identification approach for linear and nonlinear time-variant structural systems via harmonic wavelets (with IA Kougioumtzoglou), Journal of Mechanical Systems and Signal Processing, Volume 27, pp. 338-352, January 2013.

An identification approach for linear and nonlinear time-variant structural systems via harmonic wavelets (with IA Kougioumtzoglou), Journal of Mechanical Systems and Signal Processing, Volume 37, pp. 338-352, May 2013.

Maximum roll angle estimation of a ship in confused sea waves via a quasi-deterministic approach (with G. Malara and F. Arena), Journal of Probabilistic Engineering Mechanics, Volume 35, January 2014, Pages 75-81, ISSN 0266-8920.

Response and first-passage statistics of nonlinear oscillators via a numerical path integral approach (with IA Kougioumtzoglou), ASCE Journal of Engineering Mechanics, Volume 139, No. 9, pp. 1207-1217, September 2013.

Third-order statistical linearization-based approach to derive equivalent linear properties of bilinear hysteretic systems for seismic response spectrum analysis (with A. Giaralis), Journal of Structural Safety, Volume 44, pp. 59-69, December 2013.

Nanocomposites Physical Properties Estimation via Finite Element Discretization (with P. Elsbernd, B. Ward and T. Koenck), Proceedings of the Philosophical Transaction Series A - Mathematical, Physical and Engineering Sciences of the Royal Society, Volume 371, June 2013.

Non-stationary stochastic response determination of nonlinear systems: A Wiener path integral formalism (with IA Kougioumtzoglou), ASCE Journal of Engineering Mechanics, pp. 04014064-1-01014064-14, February 2014.

Nonlinear random vibrations of beams with fractional derivative elements (with G. Malara), Journal of Engineering Mechanics, pp. 04014069-1-04014069-10, March 2014.

Galerkin scheme based determination of first-passage probability of nonlinear system response (with IA Kougioumtzoglou), Structure and Infrastructure Engineering, Volume 10, No. 10, pp. 1285-1294, May 2014.

Response evolutionary power spectrum determination of chain-like MDOF non-linear structural systems via harmonic wavelets (with F. Kong, J. Li and IA Kougioumtzoglou, International Journal of Non-Linear Mechanics, June 2014.

Survival probability determination of nonlinear oscillators subject to evolutionary stochastic excitation (with I.A. Kougioumtzoglou), ASME Journal of Applied Mechanics, Vol. 81, 051016: 1-9, May 2014.

Stochastic response analysis of the softening Duffing oscillator and ship capsizing probability determination via a path integral approach (with I.A. Kougioumtzoglou), Journal of Probabilistic Engineering Mechanics, Vol. 35: 67-64, (Special Issue, Invited), 2014.

Di Matteo A., Kougioumtzoglou I.A., Pirrotta A., Spanos P.D., Di Paola M.; Non-stationary stochastic response determination of nonlinear oscillators with fractional derivatives elements via the Wiener Path Integral, 2014, Probabilistic Engineering Mechanics, 38, 127–135.

Response evolutionary power spectrum determination of chain-like MDOF nonlinear structural systems via harmonic wavelets (with F. Kong, J. Li and I.A. Kougioumtzoglou), International Journal of Non-Linear Mechanics, Vol. 66: 3-17, (Special Issue, Invited), 2014.

Stochastic response determination of nonlinear oscillators with fractional derivatives elements via the Wiener path integral (with A. Di Matteo, I.A. Kougioumtzoglou, A. Pirrotta and M. Di Paola), Journal of Probabilistic Engineering Mechanics, Vol. 38: 127-135, (Special Issue, Invited), 2014.
Damage evolution and dynamic response of cement asphalt mortar layer of slab track under vehicle dynamic load (with S. Zhu, Q. Fu, and C. Cai), Science China Technological Sciences, October 2014, Vol. 57, Issue 10, pp 1883-1894

A nonlinear and fractional derivative viscoelastic model for rail pads in the dynamic analysis of coupled vehicle-slab track systems (with S. Zhu and C. Cai), Journal of Sound and Vibration, Vol. 335, pp. 304-320, 2014.

Q-method extended Kalman Filter (with T. Ainscough, R. Zanetti and J. Christian), Journal of Guidance, Control, and Dynamics, Vol. 38, No. 4, pp. 752-760, April 2015.

An efficient Wiener path integral technique formulation for stochastic response determination of nonlinear MDOF systems (with I.A. Kougioumtzoglou, A. Di Matteo, A. Pirrotta and M. Di Paola), ASME Journal of Applied Mechanics, Vol. 82, 101005: 107-113, October 2015.

Harmonic Wavelets Based Excitation-Response Relationships for Linear Systems: A Critical Perspective (With F. Kong, J. Li, I Kougioumtzoglou), Journal of Probabilistic Engineering Mechanics, Vol. 44, April 2016, Pages 163-173

Galerkin Scheme-Based Determination of Survival Probability of Oscillators with Fraction Derivative Elements (with P. Spanos, A. De Matteo, Y. Cheng, A. Pirrotta, J. Li), Journal of Applied Mechanics, Vol. 83 / 121003-1-121003-9 December 2016

An Integral Transform Approach for Solving Partial Differential Equations with Stochastic Excitation (with W.X. Xie), Journal of Probabilistic Engineering Mechanics, Vol. 44, April 2016, Pages 194-201

Nonlinear MDOF system Survival Probability Determination Subject to Evolutionary Stochastic Excitation, (with I. Mitseas, I. Kougioumtzoglou, M. Beer) Journal of Mechanical Engineering, May 2016, Volume 62, Pages 440-451

Efficient Dynamic Analysis of Energy Harvester (with F. Arena, G. Malara, A. Ginci) Journal of Offshore Mechanic and Arctic Engineering, August 2016, Vol. 138 / 041901-1 through 8

Nanocomposite Material Properties Estimation and Fracture Analysis via Peridynamics and Monte Carlo Simulation, (with J. Decklever), Journal of Probabilistic Engineering Mechanics, Vol. 44, April 2016, Pages 77-88

An Approach for Synthesizing Tri-component Ground Motions Compatible with Hazard consistent Target Spectrum-Italian Aseismic Code Application, Soil Dynamics and Earthquake Engineering (In Press 2017)

Advantages of Filter-based Approximation of Wind Spectra (with S. Yin) Journal of Engineering Mechanics ASCE, (In press 2017)

Rocking of rigid block on nonlinear flexible foundation, (with A. De Matteo, A Pirrotta) 2017, International Journal of Non-linear Mechanics, 94, 362-374.

Approximate Survival Probability Determination of Hysteretic Systems with fractional Derivative Elements (with A. Di Matteo, A. Pirrotta), 2018, Probabilistic Engineering Mechanics, 54, 138-146.

Random Vibrations of Nonlinear continua Endowed with Fractional Derivative Elements, (with G. Malara)Procedia Engineering, 2017, 100(Supplement C), 18-27.

Nonlinear Random Vibrations of Plates Endowed with Fractional Derivative Elements, (with G. Malara) Probabilistic Engineering Mechanics, Volume 54, October 2018, Pages 2-8, ISSN 0266-8920

An Approach for Non-linear Stochastic Analysis of U-Shaped OWC Wave Energy converters, (with F.M. Strati, G. Malara, F. Arena) Probabilistic Engineering Mechanics, Volume 54, June 2018, Pages 44-52, ISSN 0266-8920,

Simulation of Homogeneous Fluctuating Wind Field in Two Spatial Dimensions via a Joint Wave Number–Frequency Power Spectrum, (with J. Chen, Y. Song, Y. Peng) Journal of Engineering Mechanics, November 2018, Volume 144/04018100

Efficient Random Field Modeling of Soil Deposits Properties, (with Qingxia Yue, et al) Soil Dynamics and Earthquake Engineering, 2018, 109:1-12.

Steady-state dynamic response of various hysteretic systems endowed with fractional derivative elements, (with A. Di Matteo, A Pirrotta) Nonlinear Dynamics, 2019, Volume 97, pages 1-12

Synthesis of ultrathin Bi_2Se_3 nanosheets/graphene nanocomposite with defects/vacancies-dependent transient photocurrent performance, (with M. Liu, S-H. Yu) Nano Energy, July 2019, Volume 64/103877

Formulation of Statistical Linearization for M-D-O-F Systems Subject to Combined Periodic and Stochastic Excitations, (with Y. Zhang, F. Kong) Journal of Applied Mechanics, October 2019, Volume 86/101003-1

Efficient determination of nonlinear response of an array of Oscillating Water Column energy harvesters exposed to random sea waves, (with G. Malara) Nonlinear Dynamics, October 2019, Volume 98/2019-2034

A linearization scheme for vibrations due to combined deterministic and stochastic loads, (with Y. Zhang) Probabilistic Engineering Mechanics, February 2020, Volume 60/103028

Efficient response determination of a M-D-O-F gear model subject to combined periodic and stochastic excitations, (with Y. Zhang) International Journal of Nonlinear Mechanics, April 2020, Volume 2020/103378.

A polynomial chaos method for arbitrary random inputs using B-splines, (with C. Eckert, M. Beer) Probabilistic Engineering Mechanics, February 2020, Volume 60/103051

Stochastic Response of Hysteresis System Under Combined Periodic and Stochastic Excitation Via the Statistical Linearization Method, (with F. Kong) Journal of Applied Mechanics, May 2021, Volume 88/051008-1

Nonlinear stochastic vibration of a variable cross-section rod with a fractional derivative element, (with G. Malara, B. Pomaro) International Journal of Non-Linear Mechanics, June 2021, Volume 135/103770

Determination of monopile offshore structure response to stochastic wave loads via analog filter approximation and GV-GDEE procedure, (with Y. Luo, J. Chen) Probabilistic Engineering Mechanics, January 2022, Volume 67/103197

Elucidating appealing features of differentiable auto-correlation functions: A study on the modified exponential kernel, (with M. Faes, M. Broggi, M. Beer) Probabilistic Engineering Mechanics, July 2022, Volume 69/103269

Nonstationary stochastic response determination of nonlinear oscillators endowed with fractional derivatives, (with W. Zhang) International Journal of Non-Linear Mechanics, November 2022, Volume 146/104170

Stochastic response determination of multi-dimensional nonlinear systems endowed with fractional derivative elements by the GE-GDEE, (with Y. Luo, J. Chen) International Journal of Non-Linear Mechanics, December 2022, Volume 147/104247

Equation governing the probability density evolution of multi-dimensional linear fractional differential systems subject to Gaussian white noise, (with Y. Luo, M. Lyu, J. Chen) Theoretical and Applied Mechanics Letters, May 2023, Volume 13/100436

Nonstationary Stochastic Response of Hysteretic Systems Endowed With Fractional Derivative Elements, (with W. Zhang, A. Di Matteo) Journal of Applied Mechanics, June 2023, Volume 90/061011-1

Extended statistical linearization approach for estimating non-stationary response statistics of systems comprising fractional derivative elements, (with B. Pomaro) Probabilistic Engineering Mechanics, October 2023, Volume 74/103471

An extrapolation approach within the Wiener path integral technique for efficient stochastic response determination of nonlinear systems, (with I. Mavromatis, I. Kougioumtzoglou) International Journal of Non-Linear Mechanics, April 2024, Volume 160/104646

Determination of Nonstationary Stochastic Response of Linear Oscillators With Fractional Derivative Elements of Rational Order, (with A. Di Matteo) ASME Journal of Applied Mechanics, April 2024, Volume 91/041008-1

Efficient time-domain response computation of massive wave power farms, (with G. Malara, F. Arena), Nonlinear Dynamics, April 2024

Stochastic Response Analysis of a Spar-type FOWT Subjected to Extreme Waves by a Novel Filter Wave Model and the DR-PD, (with J.B. Chen, J. Li) ,ASCE Journal of Engineering Mechanics, May 2024

Estimation of Evolutionary Spectra of Univariate Stochastic Processes by Energy-Based Reckoning,(with A.Dimatteo, H.Zhang,Q.Yue,and Z.Xu) , Reliability Engineering and Safety, 245(2024)

OTHER INDEPENDENT PUBLICATIONS

A Generalization of the Chebyshev Inequality - Applications in Algebra and Trigonometry, Phillipps European Scientific Award, administered in Greece by the Greek Mathematical Society, Manuscript A-59, pp. 1-21, 1969.

Linearization Techniques for Nonlinear Dynamical Systems, EERC 76-04, Earthquake Engineering Research Laboratory, California Institute of Technology, Pasadena, CA, pp. 1-78, 1976.

Some Contact Problems of Beams and Plates, Engineering Mechanics Research Laboratory, University of Texas at Austin, TX, Report EMRL-1117, pp. 1-28, 10/77.

Aseismic Design Aspects of Offshore Platforms, Engineering Mechanics Research Laboratory, University of Texas at Austin, TX, EMRL-1123, pp. 1-39, 6/78.

Responses of Linear and Nonlinear or Hysteretic Structures, Proceedings of the Fifth National Meeting, University Council for Earthquake Engineering Research, MIT, Cambridge, MA, pp. 196, 6/23-24/78. Also titled Current Research on Earthquake Responses of Inelastic and Hysteretic Structures.

Stochastic Linearization Technique for Dynamic Systems with Asymmetric Nonlinearities, Engineering Mechanics Research Laboratory, University of Texas at Austin, TX, EMRL-1126, pp. 1-37, 8/78.

Statistics of Structural Responses to Seismic Waves Filtered Through Rock and Soil Formations, Proceedings of the 20th U.S. Symposium on Rock Mechanics, University of Texas at Austin, TX. pp. 273-278, 6/4-6/79.

Stochastic Averaging for Earthquake Structural Analyses, Proceedings of the Third Engineering Mechanics Division Specialty Conference, ASCE, Austin, TX, pp. 9-12, 9/17-19/79.

Responses of Linear and Nonlinear Structures, Sixth National Meeting of the University Council for Earthquake Engineering, University of Illinois, Champaign-Urbana, IL, pp. 263-264, 5/1-2/80.

Linear Random Response to Excitation with Evolutionary Spectrum, 17th Annual Meeting, Society of Engineering Science, Georgia Institute of Technology, Atlanta, GA, 12/15-17/80.

On the Generation of Artificial Time Records of Ocean Waves, invited paper, Proceedings of the 37th Conference of the Petroleum Division, ASME, Workshop on Risers, Dallas, TX, pp. 7-10, 9/13-15/81.

Circular First-Passage Due to Nonstationary Force, Proceedings of the Fourth Engineering Mechanics Division Specialty Conference, ASCE, Purdue University, Lafayette, IN, pp. 863-866, 5/22-25/83.

Spectrum Compatible Synthesis of Seismic Motions, Proceedings of the International Workshop on Stochastic Methods in Structural Mechanics, Pavia, Italy, invited paper, pp. 189-192, 6/10-12/83.

Time-Dependent Probability Densities of Randomly Excited Structural Motion, Proceedings of the Fourth International Conference on Applications of Statistics and Probability in Soil and Structural Engineering, Florence, Italy, pp. 551-557, 6/13-17/83.

Significance of Wave Kinematics in the Dynamics of Compliant Offshore Structures, Proceedings of the Third International Symposium on Offshore Engineering, Rio de Janeiro, Brazil, pp. 154-162, 9/12-16/83.

A Useful Integral for Random Vibration Analysis, Proceedings of the Fourth Specialty Conference on Probabilistic Mechanics and Structural Reliability, ASCE, Berkeley, CA, pp. 151-154, 1/11-13/84.

Rational Approximations of Wave Spectra, Proceedings of the Fourth Specialty Conference on Probabilistic Mechanics and Structural Reliability, ASCE, Berkeley, CA, pp. 119-122, 1/11-13/84.

Seismically Induced Rocking of Rigid Structures, (with A-S. Koh), Proceedings of Eighth World Conference on Earthquake Engineering, San Francisco, CA, Vol. IV, pp. 251-258, 7/21-28/84.

Stochastic Approach to Earthquake Simulation, (with L.M. Vargas-Loli), Proceedings of the Fifth Engineering Mechanics Specialty Conference, ASCE, Laramie, WY, edited by A. P. Boresi, and K. P. Chong, Vol. 2, pp. 1208-1211, 8/1-3/84.

Harmonic Rocking Response of Rigid Equipment Models, (with A-S. Koh), Proceedings of the Symposium on Earthquake Effects on Plant and Equipment, Hyderabad, India, invited paper, pp. 157-167, 12/20-22/84.

Two-Stage Order of Magnitude Matching for Von Karman Spectrum of Turbulence, (with K.P. Schultz), Proceedings of the Fourth International Conference on Structural Safety and Reliability, Kobe, Japan, edited by I. Konishi, A. H-S. Ang and M. Shinozuka, Vol. I, pp. 211-217, 5/27-29/85.

Stochastic Response of Rigid Blocks on Flexible Foundations, (with A-S. Koh), invited paper, Proceedings of the Eighth Conference of Structural Mechanics in Reactor Technology, (SMiRT-8), Brussels, Belgium, Vol. M1, pp. 327-332, 8/19-23/85.

Rigid Body Random Rocking Prediction, (with A-S. Koh), Proceedings of the Third Conference on Dynamic Response of Structures, ASCE, Los Angeles, CA, edited by G.C. Hart and R.B. Nelson, pp. 684-691, 3/31-4/2/86.

Stochastic Dynamic Analysis by Recursive Simulation of Multivariate Stationary Processes, Tenth U.S. National Congress of Applied Mechanics, Austin, TX, 6/16-20/86.

Integrals for Nonlinear Random Vibration Analysis, 23rd Annual Meeting of the Society of Engineering Science, University of New York at Buffalo, NY, 8/25-27/86.

ARMA Model for Analysis of Stochastic Media, First World Congress of Computational Mechanics, Austin, TX, 9/22-26/86.

Random Realizations for Structural Analysis, (with M.P. Mignolet), First World Congress on Computational Mechanics, Austin, TX, 9/22-26/86.

Seismic Uplifting of Structures on Flexible Foundation, (with A-S. Koh and J. Roesset), Proceedings of Eighth European Conference on Earthquake Engineering, Lisbon, Portugal, Vol. 2, pp. 5.6/25-32, 9/7-12/86.

A Solution for the Response of a Nonlinear Oscillator Subject to Nonstationary Stochastic Excitation, Acoustical Society of America, Anaheim, CA, 12/8-12/86.

Stochastic Linearization: An Approximate Method of Solving Random Vibration Problems, Abstracts Book, AFOSR/ARO Conference on Non-Linear Vibrations, Stability, and Dynamics of Structures and Mechanisms, Virginia Polytechnic Institute and State University, Blacksburg, VA, 3/23-25/87.

Frequency Spectra Estimation of Space Shuttle Accelerations Using Autoregressive Methods, (with L. Mushung), Technical Memorandum 1.1-TM-ES87001-66, NASA/JSC, Houston, TX, pp. 1-28, 4/87.

Autoregressive Synthesis of Space Shuttle Flight Data, (with L. Mushung), Technical Memorandum 1.1-TM-ES87001-51, NASA/JSC, Houston, TX, pp. 1-34, 4/87.

Time Domain Method for Parameter Identification of Structures, (with A. Hac), Sixth ASCE EMD Specialty Conference, University of New York at Buffalo, NY, pp. 323, 5/20-22/87.

Wave Spectra and Pitfalls of ARMA Approximations, (with M P. Mignolet), Sixth ASCE EMD Specialty Conference, University of New York at Buffalo, pp. 332, 5/20-22/87.

Some Properties of Two-Stage Determination of ARMA Simulation Algorithms, (with M.P. Mignolet), Sixth ASCE EMD Specialty Conference, University of New York at Buffalo, NY, pp. 146, 5/20-22/87.

On the Calculation of a Class of Improper Integrals, Proceedings of the Fifth International Conference on Application of Statistics and Probability in Soil and Structural Engineering (ICASP 5), Vancouver, BC, Vol. I, pp. 480-488, 5/27-29/87.

Drill String Stick-Slip Oscillations, (with R. Dawson and Y. Lin), Proceedings of the Society for Experimental Mechanics Conference, Houston, TX, pp. 590-595, 6/14-19/87.

Closed Form Solution for a Class of Nonstationary Nonlinear Random Vibration Problems, (with J. Red-Horse), Proceedings of the International Union of Theoretical and Applied Mechanics (IUTAM) Symposium on Nonlinear Stochastic Dynamical Engineering Systems, Igls, Innsbruck, Austria, pp. 393-403, 6/21-26/87.

Simulation Algorithms for Offshore Structures, (with S. Bhattacharjee), Proceedings of the Sixth Annual Structures Congress, ASCE, Orlando, FL, pp. 841-858, 8/17-20/87.

Time Domain Structural Parameters Identification, (with A. Hac), Proceedings of the Sixth Annual Structures Congress, ASCE, Orlando, FL, pp. 826-840, 8/17-20/87.

Evolutionary Power Spectrum Estimation of September 19, 1985 Mexico Earthquake Accelerograms, (with M. Donley and J. Roesset), Proceedings of the U.S.-Japan Seminar on Stochastic Approaches in Earthquake Engineering, Boca Raton, FL, Y. K. Lin, R. Minai (Eds.), Springer-Verlag, Vol. 32, pp. 322-333, 9/19/87.

Iterative Seismic Analysis of Primary-Secondary Systems, (with A. Singhal and L. D. Lutes), Technical Report NCEER-88-0004, National Center For Earthquake Engineering Research, State University of New York at Buffalo, NY, 2/88.

Orthogonal Expansion for Beam Variability, (with R. Ghanem and E. Akin), Proceedings of the Fifth ASCE Specialty Conference on Probabilistic Methods in Civil Engineering, Blacksburg, VA, pp. 156-159, 5/25-27/88.

MA to ARMA Two-Stage Monte Carlo Simulation, (with M. P. Mignolet), Proceedings of the Fifth ASCE Specialty Conference on Probabilistic Methods in Civil Engineering, Blacksburg, VA, pp. 265-268, 5/25-27/88.

Probabilistic Approach to Fatigue of Composite Materials, Workshop on Lifetime Prediction of Flawed Structures, Institute for Computational Mechanics and Propulsion, NASA Lewis Research Center, Cleveland, OH, 5/16-17/89.

Iterative Subsystem Analysis for Seismic Monte Carlo Studies, (with L. D. Lutes and A. Singal), Proceedings of the Fifth International Conference on Structural Safety and Reliability, San Francisco, CA, Vol. I, pp. 455-462, 8/7-11/89.

Some Insight in Autoregressive (AR) Spectral Modeling, (with M. P. Mignolet), Proceedings of the Fifth International Conference on Structural Safety and Reliability, San Francisco, CA, Vol. II, pp. 1145-1152, 8/7-11/89.

Tension Leg Platform Response to Drag Forces by Equivalent Stochastic Quadratization, (with M. Donley), Proceedings of the Fifth International Conference on Structural Safety and Reliability, San Francisco, CA, Vol. I, pp. 167-174, 8/7-11/89.

Galerkin-Based Response Surface Approach For Reliability Analysis, (with R. Ghanem), Proceedings of the Fifth International Conference on Structural Safety and Reliability, San Francisco, CA, Vol. II, pp. 1081-1088, 8/7-11/89.

Representation of High Frequency Space Shuttle Data by ARMA Algorithms and Random Response Spectra (with L. J. Mushung, D. A. Nelson, and D. A. Hamilton), Proceedings of the 31st AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference, Long Beach, CA, Part 4, pp. 2173-2179, 4/2-4/90.

Equivalent Stochastic Quadratization for Nonlinear Systems in Offshore Engineering, (with M.G. Donley), Proceedings of the Second International Conference on Stochastic Structural Dynamics, Boca Raton, FL, pp. 212-226, 5/9-11/90.

Digital Filters for the Simulation of Two-Dimensional Random Fields in Structural Dynamics, (with M. P. Mignolet), Proceedings of the European Conference on Structural Dynamics, EURODYN '90, Bochum, Germany, Vol. II, pp. 183-187, 6/5-7/90.

A Lanczos Component Mode Synthesis Algorithm for the Analysis of Locally Nonlinear Dynamic Systems, (with F. M. Lavelle), Proceedings of the International Conference on Advances in Structural Testing, Analysis, and Design, Indian Institute of Science, Bangalore, India, Vol. II, pp. 907-912, 7/29-8/3/90.

Controversies Surrounding Generation of a Floor Spectrum for Secondary Systems Compatible with Given Ground Design Spectrum, (with Y. K. Lin and M. Philippacopoulos), Proceedings of the Applied Technology Council, ATC-29, Seismic Design and Performance of Equipment and Non-Structural Elements in Buildings and Industrial Structures, Irvine, CA, pp. 241-252, 10/3-5/90.

Structural Response Statistics by Boundary Elements, (with R. Ghanem), Proceedings of the EMD Specialty Conference, Columbus, OH, Vol. 1, pp. 168-172, 5/20-22/91.

Stochastic Finite Element Analysis with Curved Boundaries, (with R. G. Ghanem), Proceedings of the Sixth International Conference on Applications of Statistics and Probability in Civil Engineering, Mexico City, Mexico, pp. 158-165, 6/17-20/91.

Synthesis of Two-Dimensional Random Fields by MA and ARMA Algorithms, (with M. P. Mignolet), Proceedings of the Sixth International Conference on Applications of Statistics and Probability in Civil Engineering, Mexico City, Mexico, pp. 588-595, 6/17-20/91.

A Spectral Formulation of Stochastic Finite Elements, (with R.G. Ghanem), Proceedings of the Tenth International Invitational UFEM Symposium on Unification of Finite Element Methods Through Parallelism In Analysis And Experimentation, Worcester Polytechnic Institute, Worcester, MA, pp. 59-82, 7/18-19/91.

Optimality in the Estimation of a MA System from a Long AR Model, Proceedings of the First International Conference on Computational Stochastic Methods, Corfu, Greece, pp. 545-556, 9/17-19/91.

Digital Filter Simulation of Wind Loads in Building Engineering, (with M.P. Mignolet), Proceedings of the International Workshop on Technology for Hong Kong's Infrastructure Development, Hong Kong, pp. 159-168, 12/19-20/91.

Coupled In-Line and Transverse Flow-Induced Structural Vibration: Higher Order Harmonic Solutions, (with R. Ghanem and S. Swerdon), Proceedings of the 11th International Conference on Offshore Mechanics and Arctic Engineering, Calgary, AB, Vol. 1-A, pp. 377-384, 1992.

Stochastic Response of a Tension Leg Platform to Viscous and Potential Drift Forces, (with M. G. Donley), Proceedings of the 11th International Conference on Offshore Mechanics and Arctic Engineering, Calgary, AB, Volume II, pp. 325-334, 1992.

Advances in Dynamic Bottomhole Assembly Modeling and Dynamic Response Determination, ADC/SPE Drilling Conference, New Orleans, LA, pp. 581-590, 2/18-21/92.

Frictional Aspect of Rocking-Sliding of a Rigid Block with Surface Impact, (with M. Shekarian and J. P. Conte), Proceedings of the Ninth ASCE Conference on Engineering Mechanics, College Station, TX, pp. 328-331, 5/24-27/92.

Stochastic Mixed Finite Difference Method, (with B.A. Zeldin), Proceedings of the Ninth ASCE Conference on Engineering Mechanics, College Station, TX, pp. 804-807, 5/24-27/92.

Pseudo-Simulation Method for Stochastic Problems, (with B.A. Zeldin), Proceedings of the Sixth ASCE Specialty Conference on Probabilistic Mechanics and Structural and Geotechnical Reliability, Denver, CO, pp. 37-40, 7/8-10/92.

Linear System Spectral Moments Determination, (with S. Miller), Proceedings of the Sixth ASCE Specialty Conference on Probabilistic Mechanics and Structural and Geotechnical Reliability, Denver, CO, pp. 192-195, 7/8-10/92.

Polynomial Chaos for Nonlinear Random Vibration, (with R. Ghanem), Proceedings of the Sixth ASCE Specialty Conference on Probabilistic Mechanics and Structural and Geotechnical Reliability, Denver, CO, pp. 404-407, 7/8-10/92.

Analytical Methods for the Determination of Correlations and Spectra of Nonlinear System Response, (with R. V. Roy), Proceedings of the Sixth Specialty Conference on Probabilistic Mechanics and Structural and Geotechnical Reliability, Denver, CO, pp. 412-415, 7/8-10/92.

Spectral Estimation of Bivariate Non-Stationary Processes, (with W. Y. Tein and R. Ghanem), Proceedings of the Tenth World Conference on Earthquake Engineering, Madrid, Spain, pp. 839-844, 7/19-24/92.

Modeling Aspects of Wave Kinematics in Offshore Structures Dynamics, (with R. Ghanem and S. Bhattacharjee), Proceedings of the 11th Symposium on Energy Engineering Sciences, Argonne, IL, pp. 271-278, 5/3-5/93.

A Probabilistic Model for the Accumulation of Fatigue Damage in Composite Laminates, (with J. D. Rowatt), Proceedings of the International Union of Theoretical and Applied Mechanics Symposium on Probabilistic Structural Mechanics/Advances in Structural Reliability Methods, San Antonio, TX, pp. 494-503, 6/93.

Simulation of Stochastic Processes in Finite Domains, (with R. Ghanem), Proceedings of the ASME/ASCE/SES Joint Meeting in Mechanics, University of Virginia, Charlottesville, VA, 6/93.

Versatile Techniques for Probabilistic Nonlinear Stochastic Dynamics, Keynote Lecture, Italian Association of Mechanics Meeting, Messina, Italy, 7/93.

A New Computational Approach For Nonlinear Random Vibration, (with R. Ghanem), Proceedings of the Sixth International Conference on Structural Safety and Reliability, Innsbruck, Austria, pp. 115-121, 8/9-13/93.

Indirect Sampling Method for Stochastic Mechanics Problems, (with B. A. Zeldin), Proceedings of the Sixth International Conference on Structural Safety and Reliability, Innsbruck, Austria, pp. 1755-1761, 8/9-13/93.

Hilbert Transform Approach For Linear System Spectral Moment Determination, (with S. M. Miller), Proceedings of The Sixth International Conference on Structural Safety and Reliability, Innsbruck, Austria, pp. 223-228, 8/9-13/93.

A Novel Optimal ARMA Approximation for Random Field Simulation, (with B. A. Zeldin), Abstract Book, Third International Conference on Stochastic Structural Dynamics, San Juan, Puerto Rico, pp. 91, 1994.

Dynamic Modeling of Roller Cone Bit Lift-Off in Rotary Drilling, (with A. Sengupta, P. Paslay, and R. Cunningham), Proceedings of the ASME Energy Sources Technology Conference, New Orleans, LA, pp. 241-249, 1/23-26/94.

Nonlinear System Identification in Offshore Structural Reliability, (with R. Lu), Proceedings of the 13th International Conference on Offshore Mechanics and Arctic Engineering, Houston, TX, Volume II, pp. 279-287, 2/27-3/3/94.

A Residual Flexibility Approach for Decoupled Analysis of Systems of Combined Components, (with A. Majed), Proceedings of the 35th AIAA Dynamics Specialists Conference, Hilton Head, SC, pp. 1-7, 4/21-22/94.

Some Aspects of the Random Decrement Method, (with B. Zeldin), Abstracts Book, 12th U.S. National Congress of Applied Mechanics, Seattle, WA, pp. 545, 6/27-7/1/94.

New H_2/H_∞ Nested Control Synthesis with Application to Robustly Stable Active Structural Control, (with D. A. Kozodoy), Proceedings of the First World Conference on Structural Control, Los Angeles, CA, pp. TP2-31-40, 8/3-5/94.

Trends and Priorities in Engineering Education, Interdisciplinary Educational Conference, University of Puerto Rico, Mayagüez, Puerto Rico, 9/94.

Statistical Linearization in Structural Engineering, ARMA Digital Filter Simulation for Monte Carlo Studies, Stochastic Finite Elements in Civil Engineering, Third Summer School on Stochastic Differential Equations in Civil Engineering, Universita degli Studi di Firenze, Dipartimento di Ingegneria Civile, Florence, Italy, 9/94.

Stochastic Nonlinear System Identification in Parametric Vibration, (with R. Lu), Abstract Book, Euromech Colloquium: Methods for Nonlinear Structural Dynamics, Innsbruck, Austria, pp. 31, 3/95.

Random Vibration Analysis of Dynamic Systems with Frequency Dependent Parameters or Fractional Derivatives, (with B. A. Zeldin), Proceedings of the 10th ASCE EMD Specialty Conference, Boulder, CO, pp. 635-638, 5/21-24/95.

Random Field Simulation Using Wavelet Bases, (with B. Zeldin), Proceedings of the ICASP 7 Conference on Applications of Statistics and Probability, Paris, France, Vol. 2, pp. 1275-1283, 7/10-13/95.

Methodologies for Life Prediction of Composite Structures, (with J. D. Rowatt and J. E. Merwin), Proceedings of the International Symposium on Public Infrastructure Systems Research, Seoul, Korea, pp. 401-410, 9/25-27/95.

Identification of Randomly/Parametrically Excited Structural Systems, (with B. Zeldin), International Conference of Nonlinear Stochastic Dynamics, Hanoi, Vietnam, pp. 27, 12/7-10/95.

Wavelets in Random Processes Representation, (with M. Vannucci and A. Moro), Proceedings of the 1996 ASCE Specialty Conference on Probabilistic Mechanics and Structural Reliability, Worcester, MA, pp. 672-675, 8/7-9/96.

Generalized Random Decrement Method for System Identification, (with B.A. Zeldin), Proceedings of the 1996 ASCE Specialty Conference on Probabilistic Mechanics and Structural Reliability, Worcester, MA, pp. 850-853, 8/7-9/96.

Identification of Nonlinear Systems Under Random Excitation, (with B. A. Zeldin), Proceedings of the 1996 ASCE Engineering Mechanics Specialty Conference, Ft. Lauderdale, FL, pp. 168-171, 5/19-22/96.

A Spectral Formulation of Stochastic Finite Elements, (with R. G. Ghanem), Probabilistic Methods for Structural Design, book chapter, C. Guedes Soares, Editor, Kluwer Academic Publishers, pp. 289-312, 1997.

Identification of Non-Linear Structural Systems: Frequency Domain Approach, (with B. A. Zeldin), Proceedings of the Third International Symposium on Civil Infrastructure Systems: Intelligent Renewal, Capri, Italy, pp. 343-355, 9/24-26/97.

Discretization Aspects of Stochastic Finite Elements, (with B. A. Zeldin), Proceedings of ICOSSAR '97, Kyoto, Japan, pp. 835-842, 11/24-28/97.

Pitfalls of Time Domain and Random Vibration Analyses of Systems with Frequency Dependent Parameters, (with B. Zeldin), Proceedings of the 12th ASCE Engineering Mechanics Conference, San Diego, CA, 5/17-20/98, CDR version.

ARMA Simulation of Random Fields: Recent Developments, (with B.A. Zeldin), Proceedings of the Fifth National Conference on Mechanics, Ioannina, Greece, pp. 273-285, 8/27-30/98.

On the Reliability of Ceramic Matrix Composites Subjected to Fatigue Using Markov Chain Models, (with Y. Z. Pappas and V. Kostopoulos), Proceedings of the Fifth National Conference on Mechanics, Ioannina, Greece, pp. 388-395, 8/27-30/98.

Efficient ARMA Modeling of ECoG Data of Epileptic Patients During Pre-Ictal, Inter-Ictal and Ictal States, (with D.C. Boronowski), Proceedings of Workshop on Chaos in Brain?, Bonn, Germany, pp. 313-316, 3/10-12/99.

Developing Force-Limited Random Vibration Test Specifications for Nonlinear Systems Using the Frequency-Shift Method, (with G. L. Davis), Proceedings of the 40th AIAA/SDM Conference, St. Louis, MO, pp. 1688-1698, 4/12-15/99.

Random Fields with a Biorthogonal Wavelet Basis, (with V.R.S. Rao), Proceedings of the Eighth International Conference on Applications of Statistics and Probability, Sydney, Australia, pp. 87-94, 12/12-15/99.

Stochastic Processes in Mechanics, Annual Conference of GAMM (Society for Applied Mathematics and Mechanics), Germany, University of Gottingen, Book of Abstracts, (April 2-7, 2000): 147. Abstract of Keynote Lecture.

Probabilistic Seismic Hazard Perspectives on Japan's Nuclear Energy Policy: Implications for Energy Demand and Economic Growth (with E. Safiolea and R.C. Sickles), James A. Baker Institute for Public Policy Report, (May 2000): 1-33.

A Galerkin Approach for Power Spectrum Determination of Non-linear Oscillators (with M. Di Paola and G. Failla), Proceedings EUROMECH, 14th Colloquium on Stochastic Dynamics of Non-linear Mechanical Systems, Palermo, Italy, (June 12-14, 2000): 42-57.

Monte Carlo Simulations of a Nonlinear System with Biot Hysteretic Damping (with S. Tsavachidis), Proceedings of the International Conference on Monte Carlo Simulation, Monte Carlo, Principality of Monaco, (June 18-21, 2000): 383-389.

Nonlinear Stochastic Drill-String Vibrations (with A.M. Chevallier), Proceedings of the Eighth ASCE Joint Specialty Conference on Probabilistic Mechanics and Structural Reliability, University of Notre Dame, (July 24-26, 2000): 53-61.

A Biorthogonal Wavelet Basis for Stochastic Mechanics Problems (with V.R. Rao), Proceedings of Symposium on Recent Advances in Mechanics, Balkema, Athens, Greece, (Nov. 23-25, 2000): 15-24.

Efficacious Solving of Nonlinear Space Shuttle/Station Design Problems by Numerical Interface

Decoupling (with J. Brusoe), Proceedings of AIAA Structural Dynamics Conference, Seattle (Apr. 16-19, 2001): 903-909.

Monte Carlo Simulations of a Nonlinear System with Biot Hysteretic Damping (with S. Tsavachidis), Monte Carlo Simulation, Balkema, Rotterdam, ISBN 90 5809 188 0 (2001); 383-389.

Power Spectrum Estimation of Stochastic Processes by Using the Wavelet Transform (with P. Tratskas), Proceedings of ICOSSAR '01.

An Identification Method for Vector Preisach-type Models of Hysteresis (with A. Ktena, D.I. Fotiadis and C.V. Massalas), 5th International Workshop on Mathematical Methods in Scattering Theory and Biomedical Engineering, Corfu, Greece (2001), to appear.

A Galerkin Approach for Power Spectrum Determination of Nonlinear Oscillators (with M. Di Paolo and G.Failla), Meccanica: 37:51-65, 2002.

A Constrained Optimization Approach for CMG Robust Flex Filter Design (with J-W. Jang, N. Bedrossian, A. Lee and L. Nguyen), AIAA Guidance, Navigation, and Control Conference, Monterey, CA, Aug. 5-8, 2002, pp.1-11, Paper AIAA-2002-4577.

Wavelets Applications in Structural Dynamics (with P. Tratskas and G. Failla), Proceedings of the Fifth European Conference on Structural Dynamics (EURODYN 2002), Munich (Sep. 2-5, 2002), *Structural Dynamics*, Vol. 1, pp. 185-196, Grundmann & Schueller (eds.), Swets & Zeitlinger, Lisse, ISBN 90 5809 510 X.

Multi-scale Modelling via Wavelets of Evolutionary Spectra in Mechanics Applications, (with G. Failla), Proceedings of International Symposium of Multiscaling in Mechanics, Messini, Greece (Sep. 2-6, 2002), National Technical University Press, Athens, Greece, pp. 8-16.

Wavelets Based Representation of Stochastic Processes with Evolutionary Spectra, (with G. Failla), Proceedings of the Fifth International Conference on Stochastic Structural Dynamics, Hangzhou, China, May 26-28, 2003.

Stochastic Dynamic Analysis of a Spar Structure Coupled with Top Tensioned Risers and Mooring Lines (with R. Ghosh, L.D. Finn and J. Halkyard), Proceedings of International Proceedings of the Fourth International Conference, Corfu, Greece, 06/09-06/12, 2002, Millpress, Rotterdam, Netherlands, pp. 583 - 589

A Procedure for Stochastic Fatigue Analysis of Equipment on Floating Production / Storage / Offloading Structures (FPSO), (with J. Wang, B. Peng and S. Song), Proceedings of the Fourth International Conference, Corfu, Greece, 06/09-06/12, 2002, Milpress, Rotterdam, Netherlands, pp. 591- 598

Coupled Analysis of a Spar Structure: Monte Carlo and Statistical Linearization Solutions, (with R. Ghosh, L. Finn and J. Halkyard), Proceedings of the 22nd International Conference on Offshore Mechanics and Arctic Engineering, Cancun, Mexico, Jun. 8-13, 2003.

Time-frequency localization in stochastic seismic models via time-frequency atoms (with N.P. Politis and P. M. Thomaidis) (9thJoint ASCE Specialty Conference on Probabilistic Mechanics and Structural Reliability, PMC2004 (07/26/04-07/28/04) pp. 1-8.

Analysis of nonlinear seismic responses of structural frames via adaptive time-frequency resolution techniques (with N.P. Politis, J.M. Roesset and P. M. Thomaidis) 17th Engineering Mechanics Conference of the ASCE, EM2004 (06/13/04-06/16/04), pp. 1-6

A neural network approach for representing realization of random processes (with M. Beer) 9th ASCE Specialty Conference on Probabilistic Mechanics (07/26/04-07/28/040, pp1-6.

Spectrum estimation of nonstationary stochastic processes using harmonic wavelets (with J. Tezcan) 7th National Congress on Mechanics, Chania, Greece (06/24/04-06/26/04) pp. 1-12

Random vibration of Preisach hysteretic systems (with P. Cacciola, G. Muscolino) Meccanica Stocastica 04, Pantelleria, Italy (5/31/04-6/1/04) pp.1-17

Numerical wavelets and applications in stochastic dynamics (in Greek). Proceedings of the Academy of Athens (National Academy of Greece), Vl & 9 (2004), pp. 2009-246.

Stochastic averaging for shape memory alloys (with P. Cacciola). International Conference on Multi-scale Modeling in Mechanics, Messini, Greece (06/23/04-06/28/04): pp. 1-8

Wavelet – concepts and applications (with G. Failla and N. Politis) chapter in Encyclopedia of Vibrations, CRC PRESS, Boca Raton, Florida, 2005, pp. 1-45.

A method for determining a random response envelope statistics of a class of non-linear isolators (with A. Sofi and M. DiPaola) ENOC-2005, Eindoven, Netherlands, 7-12 August 2005, pp. 1-10.

Neural network bases Monte Carlo simulation of random processes (with M. Beer), ICOSSAR-ROME 2005, June 19-24, 2005.

A method for fatigue analysis of pipelines on topsides of FPSO Systems (with A. Sofi, J. Wang and B. Peng), Proceedings of OMAE2005: 24th International Conference on Offshore Mechanics and Arctic Engineering, June 12-16, 2005, Halkidiki, Greece.

Solutions of Fokker-Planck Equations for Randomly Excited Oscillations with Preisach Model of Hysteresis (with G. Muscolino and P. Cacciola), ICOSSAR-ROME 2005, June 19-24, 2005.

A study-state response of systems with Hysteresis using the Preisach Formalism (with A. Kontsos and P. Cacciola), 2005 ASME Conference on Design Long Beach, California, September 25-28, 2005.

Vibrational analysis of normal and osteopenia trabecular bone using rapid prototype duplicates (with W. Tawackoli, J. Lemoine, M. Wettergreen, C. Rajapakse, G. Gunaratne, AK. Liebschner), Bone Mechanics Conference - 2005

Parametric study of SPAR combined system with frequency dependent damping (with A. Ghosh, L. Finn, F. Botros and J. Halkyard), Proceedings of OMAE2005: 24th International Conference on Offshore Mechanics and Arctic Engineering, June 12-16, 2005, Halkidiki, Greece.

Reliability assessment via fuzzy set concepts (with M. Beer), ICOSSAR-ROME 2005, June 19-24, 2005.

Robust control manager for aerospace station animal habitat (with P. Posta and N. Bedrossian), AIAA-2005 Conference

A numerical approach for nonlinear systems response spectrum determination via wavelets (with J. Tezcan, Proceedings of the Fifth International Conference on Computation Stochastic Mechanics, June 21-23, 2006, Rodos, Greece; publisher Mill-Press International (2007, pp. 663-670).

Monte Carlo Study of Vibration Isolation Systems Using Linear and Nonlinear Multiple-Tuned Mass Damper Oscillators (with V. Gkaras), Proceedings of the Fifth International Conference on Computation Stochastic Mechanics, June 21-23, 2006, Rodos, Greece; publisher Mill-Press International (2007, pp. 299-306).

Joint-Time Frequency Representation of Simulated Earthquake Accelerograms via the Adaptive Chirplet Transform (with M. Politis and A. Giaralis), Proceedings of the Fifth International Conference on Computation Stochastic Mechanics, June 21-23, 2006, Rodos, Greece; publisher Mill-Press International (2007, pp. 549-557).

Polymer Nanocomposites Characterization by a Stochastic Multi-Scale Approach (with A. Kontsos, M. Esteva and A. Tamer), Proceedings of the Fifth International Conference on Computation Stochastic Mechanics, June 21-23, 2006, Rodos, Greece; publisher Mill-Press International (2007, pp. 393-400).

Determining Response Envelope Probability Densities for a Class of Nonlinear Oscillators Under Modulated Excitation (with A. Sofi and M. DiPaola), Proceedings of the Fifth International Conference on Computation Stochastic Mechanics, June 21-23, 2006, Rodos, Greece; publisher Mill-Press International (2007, pp. 603-612).

Efficiency Improvement of the Karhunen-Loéve Expansion of Stochastic Processes with Exponential Covariance (with M. Beer and J. Red-Horse), Proceedings of the Fifth International Conference on Computation Stochastic Mechanics, June 21-23, 2006, Rodos, Greece; publisher Mill-Press International (2007, pp. 81-88).

Simulation of Accelorgrams Compatible with the Euro-Code for Seismic Structural Analysis (with A. Giaralis), Proceedings of the International Conference on Earthquake Engineering, June 17-21, 2007, Thessaloniki, Greece, Paper No. 1319.

Joint Time-Frequency Algorithmic Options in Structural Dynamics Applications, (with A. Giaralis and N. Politis), Eighth HSTAM International Congress on Mechanics, Patras, July 12-14, 2007.

Response of a Nonlinear System with Damping Forces Governed by Fractional Derivatives – Monte Carlo Simulation and Statistical Linearization, (with GI Evangelatos), International Symposium on Recent Advances in Mechanics (structural/solid), Dynamical Systems (deterministic/stochastic), and Probability Theory (mathematical/applied) (MDP), Palermo, Italy, Patron Edition, pp. 579-592, 2007.

Evaluation of ARES-1 Control System Robustness to Uncertain Aerodynamics and Flex Dynamics, (with J-W Jang, C. Van Tassell, N. Bedrossian and C. Hall), AIAA Conference, 2008.

A Methodology for Derivation of Motions of Offshore Platforms from Accelerometers and GPS Field Measurements, (with V. Gkaras and H. Gupta), 2008-OTC Conference, Paper No. OTC-19477, Houston, Texas, May 2008.

Determination of Riser Tension Air Properties from Full-Scale Data, (with H. Gupta, V. Nava, H. Banon and V. Gkaras, Proceedings of OMAE 2008, June 15-20, 2008, Estoril, Portugal: Paper OMAE 2008-57791.

Effective Elastic Properties of Nanotube Reinforced Composites with Slightly Weakened Interfaces, (with M. Esteva), 2008 American Academy of Mechanics Conference, January 2008, Cancun, Mexico.

A Nonlinear model for Top Fuel Dragster Dynamic Performance Assessment, (with D. Hernandez and R. Tapia), SAE - Motorsports and Engineering Conference, 2008.

Effective Elastic Properties of Nanotube Reinforced Composites with Slightly Weakened Interfaces, (with M. Esteva), Journal of Mechanics of Materials and Structures, Volume 4, Number 5, pp. 887-900, 2009.

Effect of Stochastic Nanotube Waviness on the Elastic and Thermal Properties of Nanocomposites by Fiber Embedment in Finite Elements (with M. Esteva), Journal of Computational Theoretical Nanoscience, Volume 6, pp. 1-17, 2009.

Modeling of Nanoindentation Data and Characterization of Polymer Nanocomposites by a Multiscale Stochastic Finite Element Method, (with A. Kontsos), Journal of Computational and Theoretical Nanoscience, Volume 6, pp. 1-10, 2009.

Ground Vibrations Induced by Vehicles Moving on Elevated-Roads: Random Vibration Model and Experimental Data, (with L. Chang, M. Yan, M. Ren and FL Zhou), Environmental Vibration: Prediction, Monitoring and Evaluation (ISEV), 2009.

Synthesis of accelerograms compatible with the Chinese GB 50011-2001 design spectrum via harmonic wavelets: artificial and historic records, (with A. Giaralis and J. Li), Earthquake Engineering and Vibration, Vol. 8, No. 2, pp. 189-206, 2009.

A neural network approach for simulating stationary stochastic processes, (with M. Beer), Structural Engineering and Mechanics, Vol. 32, No. 1, pp. 71-94, 2009.

An approximate approach for nonlinear system response determination under evolutionary stochastic excitation, (with IA Kougioumtzoglou), Current Science, Vol. 97, No. 8, pp. 1203-1211, 2009.

Ground Vibrations Induced by Vehicles Moving on Elevated-Roads: Random Vibration Model and Experimental Data, (with L. Chang, WM Yan, M. Ren and FL Zhou), ISEV 2009 - Environmental Vibration: Prediction, Monitoring and Evaluation.

Determination of design spectrum compatible evolutionary spectra via Monte Carlo peak factor estimation, (with A. Giaralis), Proceedings of the 7th International Probabilistic Workshop, Delft, The Netherlands , November 25-26, 2009, pp. 129-143, 2009.

On the determination of the power spectrum of randomly excited oscillators via stochastic averaging: An alternative perspective, (with IA Kougioumtzoglou and C. Soize), Proceedings of the International Conference on Stochastic Methods in Mechanics: Status and Challenges, Warsaw, Poland, September 28-30, 2009.

Absolute Stability Analysis of a Phase Plane Controlled Spacecraft, (with JW Jang, M. Plummer, N. Bedrossian, C. Hall and M. Jackson, Proceedings of the American Institute of Aeronautics and Astronautics Space Flight Mechanics Meeting, San Diego, CA, February 14-18, 2010.

An Approximate Approach for Nonlinear System Response Evolutionary Spectrum Determination via Wavelets, (with I. Kougioumtzoglou), International Union of Theoretical and Applied Mechanics (IUTAM), Hangzhou, China, May 10-14, 2010.

Determination of random wave forces on a thick finite plate, (with Malara G, Arena F), Proc. of the 6th Computational Stochastic Mechanics Conference, Rodhos, Greece, 13-16 June, 2010.

Derivation of Eurocode 8 Spectrum-Compatible Time-Histories from Recorded Seismic Accelerograms via Harmonic Wavelets, (with A. Giaralis), Proceedings of the 9th HSTAM International Congress on Mechanics (HSTAM 9), July 12-14, 2010, Limassol, Cyprus, pp. 669-677, 2010.

An Approximate Approach for a Nonlinear System Evolutionary Response Spectrum Determination via Wavelets, UITAM Symposium on Nonlinear Stochastic Dynamics, Hangzhou, China, 2010.

Response and first-passage analysis of nonlinear oscillators under evolutionary excitation by a path integral approach (with IA Kougioumtzoglou), Proceedings of the International Conference of the Engineering Mechanics Institute (EMI 2010), August 8-11, Los Angeles, California USA, 2010.

Galerkin scheme based determination of first-passage probability of nonlinear system response (with IA Kougioumtzoglou), Proceedings of the International Symposium on Reliability Engineering and Risk Management (ISRERM 2010), September 23-26, 2010, Shanghai, China, 2010 (keynote lecture).

A Stochastic Approach for Deriving Effective Linear Properties of Bilinear Hysteretic Systems Subject to Design Spectrum Compatible Strong Ground Motions (with A. Giaralis and I. Kougioumtzoglou), Eurodyn, 2011.

Dynamics and Hydrodynamics of a Moored Floating Rectangular Structure Under the Action of Random Sea Waves (with F. Arena and G. Malara), Proceedings of the ASME 2011 International Conference on Ocean Offshore and Arctic Engineering, June 19-24, 2011, Rotterdam, The Netherlands, OMAE 2011-49486.

Harmonic wavelet-based statistical linearization of the Bouc-Wen hysteretic model (with IA Kougioumtzoglou), Proceedings of the 11th International Conference on Applications of Statistics and

Probability in Civil Engineering (ICASP 11), August 1-4, 2011, Zurich, Switzerland, pp. 2649-2656, Taylor and Francis Group, 2011.

Electric Power Transmission Tower Under Dynamic Stochastic Wind Loading (with D. Wang and J. Li), Proceedings of the 6th Annual Conference on Computational Stochastic Mechanics (CSM6), Rodos, Greece, pp. 582-593, 2011.

Stochastic Analysis of Motorcycle Dynamics (with A. Pirrotta, F. Marino and LA Robledo Ricardo), Proceedings of the 6th Annual Conference on Computational Stochastic Mechanics (CSM6), Rodos, Greece, pp. 543-551, 2011.

Determination of Random Wave Forces on a Thick Finite Plate (with G. Malara and F. Arena), Proceedings of the 6th Annual Conference on Computational Stochastic Mechanics (CSM6), Rodos, Greece, pp. 390-401, 2011.

A Wiener Path Integral Method for Non-Stationary Response Determination of Nonlinear Oscillators Under Random Loading (with IA Kougioumtzoglou), Proceedings of the 6th Annual Conference on Computational Stochastic Mechanics (CSM6), Rodos, Greece, pp. 371-380, 2011.

Non-Stationary Moment Determination via the Probability Density Evolution Equation (with F. Kong), Proceedings of the 6th Annual Conference on Computational Stochastic Mechanics (CSM6), Rodos, Greece, pp. 361-370, 2011.

Determination of non-stationary stochastic processes compatible with seismic response/design spectra (with A. Giaralis), Proceedings of the 6th International Conference on Computational Stochastic Mechanics (CSM6), June 13-16, 2010, Rodos, Greece, pp. 269-281, 2011.

Derivation of Non-Stationary Stochastic Processes Compatible with Seismic Response/Design Spectra (with A. Giaralis), Proceedings of the 6th Annual Conference on Computational Stochastic Mechanics (CSM6), Rodos, Greece, pp. 269-281, 2011.

A Multi-Quadrics Approach in Stochastic Meshless Elastostatics Using Polynomial Chaos Expansion (with GI Evangelatos), Proceedings of the 6th Annual Conference on Computational Stochastic Mechanics (CSM6), Rodos, Greece, pp. 237-251, 2011.

Response and First-Passage Analysis of Nonlinear Oscillators under Evolutionary Excitation by a Path Integral Approach (with IA Kougioumtzoglou), Proceedings of the 4th Serbian-Greek Symposium "Recent Advances in Mechanics," Vlasina Lake, Serbia, July 9-10, 2011.

A response spectrum based stochastic approach to estimate the peak response of structures subject to seismic pounding (with A. Giaralis), Proceedings of the 11th International Conference on Applications of Statistics and Probability in Civil Engineering (ICASP 11), August 1-4, 2011, Zurich, Switzerland, (Eds. MH Faber, J. Kohler and K. Nishijima), CRC Press, London, pp. 1572-1579, 2011.

A stochastic approach for deriving effective linear properties of bilinear hysteretic systems subject to design spectrum compatible strong ground motions (with A. Giaralis and IA Kougioumtzoglou), Proceedings of the 8th International Conference on Structural Dynamics (Eurodyn 2011), July 4-6, 2011), KU Leuven, Leuven, Belgium, (Eds. G. de Roeck, G. Degrande, G. Lombaert and G. Muller), paper MS16-391, pp. 2819-2826, 2011.

An Accelerated Newmark Scheme for Integrating the Equation of Motion of Nonlinear Systems

Compromising Restoring Elements Governed by Fractional Derivatives (with GI Evangelatos), "Recent Advances in Mechanics," Kounadis, AN and Gdoutos EE (eds.), Springer, New York, NY, ISBN #978-94-007-0056-2, pp. 159-177, 2011.

On the determination of the power spectrum of randomly excited oscillators via stochastic averaging: An alternative perspective (with IA Kougioumtzoglou and C. Soize), Probabilistic Engineering Mechanics, Volume 26, No. 1, pp. 10-15, 2011.

Some observations on wavelets based evolutionary power spectrum estimation (with IA Kougioumtzoglou, F. Kong and J. Li), Proceedings of the Stochastic mechanics Conference (SM12), Ustica, Italy, June 7-10, 2012, Meccanica dei Materiali e delle Strutture, Volume 3, pp. 37-44, 2012.

Non-Stationary stochastic response determination of nonlinear systems: An analytical Wiener path integral formalism (with IA Kougioumtzoglou), Proceedings of the 11th ASCE Joint Specialty Conference on Probabilistic Mechanics and Structural Reliability (EMI/PMC 2012), June 17-20, University of Notre Dame, USA, 2012.

Harmonic wavelets based identification of nonlinear and time-variant systems (with IA Kougioumtzoglou), Proceedings of the 6th International Conference on Scalable Uncertainty Management (SUM 2012), September 17-20, 2012, Marburg, Germany, Huellermeier et, al. (Eds.), Springer-Verlag, 2012.

Estimating the 'in-service' modulus of elasticity and length of polyester mooring lines via a nonlinear viscoelastic model governed by fractional derivatives (with G. Evaggelatos), Proceedings of the ASME 2012 International Mechanical Engineering Congress and Exposition, (IMECE 2012), Houston, Texas, November 9-15, 2012.

A Wiener path integral technique for non-stationary stochastic response determination of nonlinear MDOF structural systems (with IA Kougioumtzoglou), Proceedings of the 10th HSTAM International Congress on Mechanics (HSTAM 2013), May 25-27, Chania, Crete, Greece, 2013.

Derivation of equivalent linear properties of Bouc-Wen hysteretic systems for seismic response spectrum analysis via statistical linearization (with A. Giaralis), Proceedings of the 10th HSTAM International Congress on Mechanics (HSTAM 2013) May 25-27, Chania, Crete, Greece, 2013.

Efficient dynamic analysis of floating bodies nonlinear behavior in wave energy conversion (with A. Richichi and F. Arena), Proceedings of the ASME 2013 32nd International Conference on Ocean, Offshore and Arctic Engineering (OMAE 2013), Nantes, France, June 9-14, 2013.

A Wiener path integral technique for determining the response of a bending beam with random material properties (with IA Kougioumtzoglou), Proceedings of the 11th International Conference on Structural Safety and Reliability (ICOSSAR 2013), Columbia University, New York, NY USA, June 16-20, pp. 1-8, 2013.

Stochastic Analysis of a Nonlinear Energy Harvester Model (with A. Richichi, F. and F. Arena), Proceedings of the ASME 2014 33rd International Conference on Ocean, Offshore and Arctic Engineering, Journal of Offshore Mechanics and Arctic Engineering (OMAE 2013), Nantes, France, June 9-14, 2013.

Q-method extended Kalman filter (with T. Ainscough and J. Christian), The American Institute of Aeronautics and Astronautics (AIAA) Conference and Exposition, 2013.

Rendezvous and Proximity Operations at the Earth-Moon L2 Lagrange Point: Navigation Analysis for

Preliminary Trajectory Design (with K. Mand, D. Woffinden and R. Zanetti), 2014 Space Flight Mechanics Conference (AAS/AIAA, Santa Fe, New Mexico, January 26-30, 2014.

Stochastic Analysis of a Nonlinear Energy Harvester Model (with A. Richichi, F. and F. Arena), Proceedings of the ASME 2014 33rd International Conference on Ocean, Offshore and Arctic Engineering, Journal of Offshore Mechanics and Arctic Engineering (OMAE 2014), San Francisco, California, June 8-13, 2014.

Harmonic Wavelets Based Response Evolutionary Power Spectrum Determination of Linear and Nonlinear Oscillators with Fractional Derivative Elements (with I. Kougioumtzoglou), Proceedings of the 7th Annual Conference on Computational Stochastic Mechanics (CSM7) Santorini, Greece, pp. 367-376, June 15-18, 2014

Nonlinear Random Vibrations of Beams with Fractional Derivative Elements (with G. Malara), Proceedings of the 7th Annual Conference on Computational Stochastic Mechanics (CSM7) Santorini, Greece, pp. 408-419, June 15-18, 2014

Reliability Assessment of Nonlinear MDOF Systems Subject to Evolutionary Stochastic Excitation (with I. Metseas, I. Kougioumtzoglou, M. Beer) Proceedings of the 7th Annual Conference on Computational Stochastic Mechanics (CSM7) Santorini, Greece, pp. 421-431, June 15-18, 2014

Probabilistic Determination of Thermal Conductivity of Nanocomposites via Multi-Phase Homogenization (with J. Decklever, A. Tamer), Proceedings of the 7th Annual Conference on Computational Stochastic Mechanics (CSM7) Santorini, Greece, pp. 640-653, June 15-18, 2014

An Integral Transform Approach for Solving Partial Differential Equations with Stochastic Excitation (with W. Xie), Proceedings of the 7th Annual Conference on Computational Stochastic Mechanics (CSM7) Santorini, Greece, pp762-772, June 15-18, 2014

Piezoelectric Nanocomposites Properties Estimation by Finite-Element Discretization and Monte Carlo Simulation (with T. Koenck and J. Declever), Proceedings of the 7th Annual Conference on Computational Stochastic Mechanics (CSM7) Santorini, Greece, , June 15-18, 2014

A Wiener Path Integral technique for non-stationary response determination on nonlinear oscillators with fractional derivatives elements, (with I Kougioumtzoglou, et al) 2014, ASCE-ICVRAM, Liverpool, UK, 13-16 July;

Galerkin Scheme Based Determination of First Passage Probability of Bilinear System with Fractional Derivative Element, (with A. Di Matteo and A. Pirrotta) 2016, SM16, Capri, Italy, 12-15 June.

Stochastic Dynamic Analysis of U-OWC Wave Energy Converters (with F. Strati, G. Malara, F. Arena), Proceedings of the 36th International Conference on Ocean, Offshore and Artic Engineering (OMAE 2017) Trondheim, Norway, June 25-30, 2017

Nonlinear Rocking of Rigid Blocks on Flexible Foundation: Analysis and Experiments (with A. Di Matteo, A. Pirrotta, M Di Paola), 2017, X International Conference on Structural Dynamics, (Eurodyn 2017) Procedia Engineering

Random Field Modeling of Soil Deposit Properties (with Q. Ue, A. H-S Ang), Proceedings of the IASSAR conference, Vienna, Austria, August 2017

Approximate Determination of Survival Probability of Preisach Hysteretic Systems with a Fractional Derivative, (with A. Di Matteo and A. Pirrotta) 2017, ICOSSAR 2017, 6-10 August, Wien, Austria.

Approximate Determination of Survival Probability of Bouc-Wen Hysteretic Systems with a Fractional Derivative Element (with A. Di Matteo, A. Pirrotta) Proceedings of the XXIII Conference of the Italian Association of Theoretical and Applied Mechanics, Salerno, Italy, September 4-7, 2017

Backward Whirl Testing and Modeling with Realistic Borehole Contacts for Enhanced Drilling Tool Reliability (with T. Popp, H. Stibbe, D. Heinisch, H. Rechmann), Proceedings of the IADC/SPE Drilling Conference and Exhibition, Fort Worth, TX, , March 6-8, 2018

Improved Random Field Simulation of Soil Deposits by a Potent Autocorrelation Model, (with Q. Yue and A. H-S Ang) Proceedings of the 6th International Symposium on Reliability Engineering and Risk Management, May 31-Jun 01, 2018. NUS, Singapore.

Monte Carlo Simulation of Stochastic Rocking Nonlinear Foundation, (with A. Di Matteo, A. Pirrotta) 2018, CSM 8, 10-13 June, Paros, Greece.

Optimal Multi-Variable Multi-Constraint Spacecraft GN&C Requirement Derivation, (with D. Woffinden, S. Bhatt and D. Kirkpatrick) 41st Annual AAS Guidance and Control Conference, 2018, 1-7 February, Breckenridge, CO.

Harmonic and Random Rocking of Blocks on Nonlinear Flexible Foundation, (with A. Di Matteo, A. Pirrotta) 2019, NODYCON 2019, 17-20 February, Rome, Italy.

Random rocking of blocks on nonlinear flexible foundation, (with A. Di Matteo, A. Pirrotta) 2019, International Conference on Nonlinear Solid Mechanics - ICoNSoM 2019, 2019, 16-19 June, Rome, Italy.

EV-GDEE Approach for Response Statistics Determination of Offshore Platform Subjected to Morison-Type Wave Loads, (with Y. Luo, J. Chen) 7th International Symposium on Reliability Engineering and Risk Management, 2020, 5-8 June, Beijing, China.

Efficient analyses of stochastic responses of multi-dimensional nonlinear systems endowed with fractional derivative elements by the GE-GDEE, (with Y. Luo, J. Chen) 13th International Conference on Structural Safety and Reliability, 2021, 21-25 June, Shanghai, P.R. China

Evolutionary power spectral density estimation using energy spectrum equation, (with A. Di Matteo, H. Zhang, Q. Yue, A. Pirrotta) The 13th International Conference on Structural Safety and Reliability - ICOSSAR 2021, 2021, 13-17 September, Shanghai, P.R. China

Energy Spectrum-based estimation of Evolutionary Seismic Power Spectra, (with A. Di Matteo, H. Zhang, A. Pirrotta) Italian National Conference XXV Congresso dell'Associazione Italiana di Meccanica Teorica e Applicata - AIMETA 2022, 2022, 4-8 September, Palermo, Italy

Stochastic response of nonlinear systems with fractional elements, (with B. Pomaro) TAMEST 2023 Annual Conference (Protégé Poster Challenge 2023), 2023, 23-25 May, Houston, Texas, USA

Rocking of rigid blocks on flexible foundations: modeling and experimental assessment, (with A. Di Matteo, A. Pirrotta) Third International Nonlinear Dynamics Conference - NODYCON 2023, 2023, 18-22 June, Rome, Italy

Bivariate processes evolutionary power spectral density estimation using energy spectrum equations, (with A. Di Matteo, H. Zhang, Q. Yue, A. Pirrotta) Twelfth International Conference on Structural Dynamics - EURODYN 2023, 2023, 2-5 July, Delft, Netherlands

Time-Varying Statistics of Oscillators Endowed with Fractional Derivative Elements, (with Y. Luo) 14th International Conference on Applications of Statistics and Probability in Civil Engineering, ICASP14, 2023, 9-13 July, Dublin, Ireland

Parameter estimation of stochastic fractional dynamic systems using recursive nonlinear filtering system identification methods, (with A. Di Matteo, K. Erazo) Engineering Mechanics Institute 2023 International Conference – EMI 2023 IC, 2023, 27-30 August, Palermo, Italy

A perspective on conditional spectrum-based determination of response statistics of nonlinear systems: stationary and non-stationary cases, (with B. Pomaro) Proceedings: Engineering Mechanics Institute (EMI) International Conference 2023, 27-30 August, Palermo, Italy

Combination of Statistical Linearization and Harmonic Balance for non-stationary random vibration analyses, (with B. Pomaro) Proceedings: Engineering Mechanics Institute (EMI) Conference 2023, 6-9 September, Atlanta, Georgia, USA

Determination of nonstationary stochastic response of nonlinear oscillators endowed with fractional derivative elements, (with A. Di Matteo, A. Pirrotta) The 4th International Conference on Vulnerability and Risk Analysis and Management – ICVRAM 2024, 2024, 25-28 April, Shanghai, P.R. China (Submitted)

Analysis of fractional dynamical systems using recursive Bayesian estimation methods and response data, (K. Erazo, A. Di Matteo) Engineering Mechanics Institute 2024 – EMI 2024, 2024, 28-31 May, Chicago, USA (Submitted)

CONSULTING ACTIVITIES

PROJECTS

Apparatus for Automatic Making of V-Groove Insulation
ARMA Algorithms for Simulation of Seismic Loads
Aseismic Design of Mechanical and Electrical Equipment
Assessment of Earthquake Design Procedures of Space Shuttle Launching Facilities
Bottom Hole Assembly of Drilling Systems for Oil Wells
Buckling of Marine Risers
Country Club Reverberation
Drilling Bit Dynamics Algorithm - Intellectual Property Aspects
Drilling Rig Vibrations – Safety Aspects
Dynamic Characteristics of a Mechanical Heart Valve
Dynamic Design of Modern Chariots
Dynamic Response of Flexible Structures Due to Blast Loads
Dynamics of Systems with Random Parameters
Dynamic Behavior of Air Bags
Earthquake Engineering Research Priorities
Earthquake Resistant Design of Liquid Containers
Fatigue Analysis of All-Terrain Vehicles
Fatigue Analysis of Marine Seismic Data Acquisition Systems
Federal Court Master
Fiber Optics Switch Dynamics
Intellectual Property Issues of Directional Drilling Equipment
Intellectual Property Issues of Drill Bits
Intellectual Property Issues of Scrubbers (Environmental Filters)
Intellectual Property Issues of Concrete Post Tensioning Equipment
Low Cycle Fatigue Analysis of Marine Risers
Marine Cable Dynamics
Modal Analysis of Domes
Multi-body Algorithms for Vehicle Dynamics
Nondestructive Failure Prediction of Generator Intake Vane-Blade
Nonlinear Dynamics of Optical Switches
Nonlinear Oscillations of Drill Strings
Pile Driving Equipment Vibrations
Power Spectrum Analysis of Equipment in Nuclear Power Plants
Probabilistic Models of Biological Growth
Qualification Analysis of Aircraft Power Assembly
Random Analysis of Marine Pipelines

Random Vibration Analysis of Space Shuttle Engines
Seismic Qualification of Electric Power Transformers
Seismic Risk Assessment
Seismic Response of Nonlinear Structures
Seismic Fragility Curves
Seismic Spectrum Compatible Accelerograms Synthesis
Simulation of Probe Landing on Mars
Space Shuttle Dynamics
Spar Offshore Structures
Stability of Radio Station Antenna
Stochastic Dynamic Stability of Ships
Stabilization of a Floating Magnetometer
Statistical Forecasting of Bridge Traffic
Steerable Drilling Tools
Stochastic Dynamics
Stochastic Stability Analysis of a New Class of Marine Vessels
Stress Qualification of a Marine Engine-Generator Assembly
Structural Dynamics of Tension Leg Platforms
Textbooks and Monographs in Dynamics
Truck Suspension Analysis
Underwater Robots
Vibration Analysis of an Electronic Component Housing Assembly
Whirling of a Turbine Spacer

RICE ACTIVITIES

Seminars Coordinator, Mechanical Engineering Department, 1984-1991.

Seminars Organizer (occasional), Civil Engineering Department, 1984-1991.

Member, Graduate Admissions Committee, Mechanical Engineering Department, 1985-1991.

Brown College Associate and Undergraduate Student Advisor, 1985-1987.

Member, Undergraduate Admissions Committee, 1986.

Member, Graduate Studies Committee, Civil Engineering Department, 1986 -

Recruiter for Students with Early Admission, 1986 -

Member, Dean of Engineering Search Committee, 1986-1988.

Member, Chairman of Civil Engineering Search Committee, 1987-1989.

Chairman, School of Engineering Curriculum Committee, 1989-1992.

Member, Recruitment Committees for several positions in the Department of Civil Engineering and the Department of Mechanical Engineering.

Director, Division of Mechanics and Structures, Energy and Environmental Systems Institute, 1989 – 2005

Member Rice University Committee on President's Lecture Series, 2004 – 2008

Member Promotion and Tenure Committee, 2005-2009

PROFESSIONAL SOCIETIES / SCIENTIFIC ACTIVITIES

Organized/chaired numerous sessions for technical meetings of the divisions of Engineering Mechanics, Geotechnical, Structural, and Aerospace of the American Society of Civil Engineers; and the divisions of Applied Mechanics, Aerospace, Petroleum, Dynamic Systems and Control, and Design Engineering of the American Society of Mechanical Engineers. Organized/chaired a plethora of sessions for international societies/unions such as the International Association for Structural Safety and Reliability, Euromech, International Union of Theoretical and Applied Mechanics, etc.

Since 1991, organizes on a quadrennial basis, a series of conferences on Computational Structural Mechanics; Corfu, Greece (1990); Athens, Greece (1994); and Santorini, Greece (1998), Kerkyra (2002), Rodos, Greece (2006), and Rodos (2010).

Has served as News Correspondent, Representative to the U.S. National Committee of Theoretical and Applied Mechanics, Secretary and Chair of the Executive Committee, and as Member and Chair of the Advisory Board of the Engineering Mechanics Division of the American Society of Civil Engineers.

Member of the Executive Committee of the Applied Mechanics Division of the American Society of Mechanical Engineers July 1, 1999 – June 30, 2004; Chair 07/01/2003 – 06/30/2004.

Member, External Promotion and Tenure Review Committee, of numerous American universities and tenths of major foreign universities.

Past Member of the Advisory Board of the Education Foundation, Spring Independent School District - Member of the Advisory Board of the Education Foundation.

Past Member of the Advisory Board, Texas Sea Grant Program, 06/01/2003 – present.

Past Chair, Peer Committee, Mechanical Engineering Section, National Academy of Engineering (NAE)

Past Member of the Review Committee for Review and Assessment of the Reusable Booster System for the National Research Council

Past Member of the Committee for The National Academies Press for Reviewing High-Performance Bolting Technology for Offshore Oil and Natural Gas Operations

Member of the Committee for Independent Assessment of Science and Technology for the Department of Energy’s Defense Environment Cleanup Program, Nuclear and Radiation Status Board, 2018, In press

Member of NASA/NAS Standing Committee on Biological and Physical Sciences in Space

Allegato 2

Motivazione per la richiesta del conferimento del titolo di Dottore di Ricerca in Scienze Fisiche e Chimiche, honoris causa, al Prof Pol D. Spanos.

Pol D. Spanos, nato a Messínî (Grecia) il 18 Febbraio 1950, è attualmente Lewis B. Ryon Professor in Mechanical & Civil Engineering, Materials Science and NanoEngineering presso la Rice University (Houston, Texas). Laureato alla Varvakeios High School for Advanced Students, ha conseguito un diploma quinquennale in Mechanical Engineering and Engineering Science presso la National Technical University di Atene, Grecia. Ha conseguito un Master of Science in Civil Engineering presso il California Institute of Technology (CALTECH) e un dottorato di ricerca in Applied Mechanics con specializzazione in Applied Mathematics e in Business Economics and Management. Nel corso della sua carriera accademica, il Prof. Spanos ha svolto numerosissimi insegnamenti, negli Stati Uniti e all'estero, fra i quali Structural Dynamics, Deterministic and Random Vibrations (NASA), Applied Random Vibration (Università di Palermo), ed è stato tutor di oltre cento studenti di dottorato e master.

Il Prof. Spanos ha condotto un'intensa attività di ricerca multi- e inter-disciplinare nel campo delle proprietà di materiali avanzati (nanocompositi, ecc.) e degli algoritmi di elaborazione del segnale per gli effetti dinamici in numerose applicazioni (aerospaziali, biomediche, ingegneria marina, petrolifera, sismica. Ha sviluppato metodi analitici e numerici che coinvolgono equazioni differenziali deterministiche e stocastiche e approcci di simulazione Monte Carlo casuale insieme a tecniche avanzate per l'elaborazione del segnale con filtri digitali e trasformazioni wavelet/chirplet. Le sue ricerche sono state pubblicate in circa 400 articoli scientifici e più di 20 libri e volumi di conferenze. Secondo la banca dati Scopus, consultando il profilo del Prof. Panos, ad oggi risultano oltre **10000 citazioni**, e un **h-index 53**.

Il Prof. Spanos fa parte di prestigiose associazioni fra le quali: Alexander von Houmboldt Association of America, Earthquake Engineering Research Institute, International Association for Structural Safety and Reliability, American Society of Engineering Education e American Association for the Advancement of Science. Da più di tre decenni ricopre il ruolo di editor-in-chief per l'International Journal of Non-Linear Mechanics e Probabilistic Engineering Mechanics. Ha ricevuto numerosi premi fra cui: ASCE's Huber Prize, A. M. Freudenthal Medalist, Research Award for Senior Scientists dall'Humboldt Foundation in Germania, Stochastic Dynamics Research Prize, Newmark Medalist, Theodore Von Karman Medalist, ASME's Richards Award. Fra i riconoscimenti è importante citare il titolo "Palermo University Prize", conferito nel 2016 e riservato a studiosi, italiani e stranieri, che abbiano collaborato con l'Università degli Studi di Palermo, accrescendone la rinomanza culturale e la competitività scientifica a livello nazionale e internazionale. Inoltre, nel 2024 il Prof. Spanos ha ricevuto la medaglia Blaise Pascal in onore del matematico, fisico e filosofo francese che sviluppò una prima versione di una calcolatrice meccanica.

A nome del Collegio del Dottorato in Scienze Fisiche e Chimiche di cui sono Coordinatore, sono onorato di proporre il conferimento del titolo di **Dottore di Ricerca Honoris Causa al Prof. Pol D. Spanos**, in riconoscimento del suo straordinario contributo alla ricerca scientifica, all'innovazione tecnologica e alla formazione accademica internazionale. Il Prof. Spanos ha lavorato in ambiti che si allineano perfettamente con le **tematiche di ricerca del Dottorato in Scienze Fisiche e Chimiche**. Le sue competenze nelle tecnologie avanzate come nanomateriali, e materiali intelligenti sono rilevanti per le ricerche nel campo

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della scienza dei materiali e delle nanotecnologie, tematiche cardine per l'evoluzione delle scienze fisiche e chimiche. La sua esperienza nella gestione di dati complessi, come quelli utilizzati in big data e analisi avanzata, ha un impatto diretto sulle tecniche moderne di simulazione e modellizzazione utilizzate in astrofisica, fisica delle particelle e nell'analisi dei sistemi complessi. Inoltre, le sue ricerche si estendono anche alla caratterizzazione dei materiali e al monitoraggio strutturale, un campo cruciale per la protezione e la conservazione del patrimonio storico e culturale.

Un aspetto davvero peculiare di tutta l'attività del Prof Spanos è stato l'equilibrio perfetto tra accademia e industria, tra le numerose collaborazioni con i colleghi di università italiane e straniere con cui ha lavorato ai fondamenti teorici, alle ottimizzazioni e alle valutazioni delle tecniche proposte, e lo sviluppo di progetti industriali per l'implementazione di sistemi basati sulle applicazioni dei risultati teorici.

I risultati ottenuti dal Prof Spanos, dimostrano in modo esemplare la sua capacità di innovare e il raggiungimento degli obiettivi del nostro Dottorato, ossia: i) l'acquisizione delle conoscenze propedeutiche allo sviluppo delle tematiche di ricerca con un approccio multidisciplinare; ii) la capacità di orientare ed organizzare la ricerca, tenendo conto dello stato dell'arte, delle prospettive e dei costi; iii) la capacità di sviluppare soluzioni innovative e l'acquisizione di metodologie per l'analisi dei risultati delle ricerche; iv) la capacità di lavorare in una prospettiva internazionale.

Per i succitati motivi, il Collegio che oggi rappresento è orgoglioso della proposta per il conferimento del titolo di Dottore di Ricerca al Prof. Pol D. Spanos e sono lieto di invitare la commissione qui riunita ad approvare questo conferimento.

A supporto di questa proposta, desidero inoltre evidenziare di seguito alcuni punti chiave che sottolineano l'importanza e il valore del conferimento del titolo di Dottore di Ricerca honoris causa al Prof. Pol Spanos:

1. Riconoscimento dell'Eccellenza Accademica e Scientifica

- Il Prof. Pol D. Spanos è un **leader di fama internazionale** nel campo della Scienza e Ingegneria dei Materiali. La sua carriera accademica, caratterizzata da contributi fondamentali alla ricerca, ha avuto un impatto profondo su numerose aree ingegneristiche e scientifiche, e il suo contributo teorico e sperimentale è ampiamente riconosciuto a livello globale. Assegnargli un titolo honoris causa non solo onora la sua carriera, ma espande ulteriormente, la connessione diretta tra l'Università di Palermo e una delle voci più autorevoli nella sua disciplina.

2. Opportunità di Collaborazione Internazionale

- **Il titolo honoris causa** offre un'opportunità per stabilire e rafforzare la **collaborazione internazionale** tra l'Università di Palermo e istituzioni prestigiose come la **Rice University** (dove il Pol D. Spanos è professore). Tali collaborazioni accademiche internazionali sono fondamentali per espandere la visibilità e il riconoscimento dell'Università di Palermo nel panorama scientifico globale. La presenza del Prof. Pol D. Spanos nella comunità accademica dell'Ateneo contribuirà ad **accrescere il prestigio internazionale** dell'Università stessa.

3. Promozione della Ricerca Interdisciplinare

- Il Prof. Pol D. Spanos ha contribuito a **diverse aree della scienza e dell'ingegneria**, tra cui la **dinamica strutturale**, la sicurezza strutturale e l'**analisi stocastica**. Questo approccio multidisciplinare è estremamente vantaggioso per un'università che vuole **promuovere la ricerca interdisciplinare e transdisciplinare, incubatrice dell'innovazione**. Con il suo ampio ventaglio di competenze, il Prof. Pol D. Spanos è nella posizione ideale per **favorire l'integrazione tra diversi ambiti scientifici** all'interno dei programmi di dottorato dell'Università di Palermo.

4. Ispirazione per le Nuove Generazioni di Ricercatori

- La **testimonianza diretta** del Prof. Pol D. Spanos sul proprio cammino accademico e professionale sarebbe una **grande fonte di ispirazione** per gli studenti dell'Università di Palermo. Le sue storie di successo, i suoi approcci innovativi alla ricerca e il suo **impegno verso l'eccellenza** rappresentano un esempio per i giovani ricercatori, incoraggiandoli a perseguire una carriera di ricerca internazionale di successo. La sua presenza darebbe inoltre **visibilità** all'università, attraendo studenti e ricercatori provenienti da tutto il mondo.

5. Incoraggiamento alla Mobilità Accademica e alla Creazione di Reti

- Il riconoscimento onorifico permetterebbe di **rafforzare i legami** con altre università e istituzioni accademiche di prestigio, creando così un ambiente di **scambio e crescita reciproca**. Il Prof. Pol D. Spanos ha una rete internazionale di collaborazioni che potrebbe essere **utile per l'Università di Palermo** in termini di accesso a **nuove risorse**, **conoscenze** e **opportunità di collaborazione internazionale**.

Conclusione:

Il conferimento del titolo honoris causa al Prof. Pol D. Spanos rappresenterebbe una scelta strategica che porta **benefici tangibili e intangibili** all'Università di Palermo, al **corso di dottorato in Scienze Fisiche e Chimiche** e alla comunità accademica in generale. Non solo si riconosce l'eccezionale carriera di un individuo che ha contribuito immensamente alla scienza, ma si investe anche nel **futuro della ricerca** e nello sviluppo di una **realtà accademica internazionale** di alto livello.

Palermo
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Prof. Marco Cannas
Coordinatore del Collegio dei Docenti

Marco Cannas

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