CURRICULUM VITAE

Satish Nagarajaiah, *Ph.D.*
United States Citizen

Fellow. U. S. National Academy of Inventors
Distinguished Member of ASCE, Medalist
Satishnagarajaiah.rice.edu; (Wikipedia page)

Professor of Civil Eng., Professor of Mechanical Eng. (&MSNE Courtesy)
Satish.Nagarajaiah@rice.edu
Dept. of Civil & Env. Eng.
Dept. of Mech. Eng. & Dept. Mat. Sc. Nano Eng.
MS318, 6100 Main St., Rice Univ., Houston, TX 77005

orcid.org/0000-0003-0088-1656; Google Scholar
Senior Editor Mech. Sys. & Signal Processing
Editor St. Control & Health Monitoring

EDUCATION

Ph.D.	*90*	*Structural Eng.*	*State Univ. of New York, Buffalo*
M.S.	*82*	*Structural Eng.*	*Indian Institute of Science, Bangalore*
B.S.	*80*	*Civil Eng. (Structures)*	*UVCE, Bangalore University, India*

EXPERIENCE

06 – present	*Prof. of Civil Eng. & Prof. Mech. Eng.* *Prof. of Material Science and Nano Eng.*	*Rice University, Houston, TX*
2005/06/07	*Associate Chairman, CEVE*	*Rice University, Houston, TX*
99 – 05	*Associate Prof. of Civil Eng. & Mech. Eng.*	*Rice University, Houston, TX*
93 – 98	*Assistant Prof. of Civil Eng.*	*Univ. of Missouri—Columbia (MU), MO*
90 – 93	*Post-Doc., Dept. of Civil Eng.*	*State Univ. of New York—Buffalo, NY*
87 – 90	*Grad. Res. Asst., Dept. of Civil Eng.*	*State Univ. of New York—Buffalo, NY*
82 – 86	*Lead Structural Engineer*	*Tata Consulting Eng., India*
80 – 82	*Grad. Res. Asst., Dept. of Civil Eng.*	*Indian Institute of Science*

HONORS AND AWARDS

- *2025 ASCE EMI George W. Housner Medal awarded by EMI (ASCE)*
- *2024, Who is Who in America Bibliographic Inclusion, The Marquis Who's who*
- *2023, Elected Member-Sigma Xi, Scientific Research Honor Society*
- *2022, Satish Dhawan Distinguished Visiting Chair Professor, IISc, Summer 2022 (IISC link)*
- *2021, Dist. M. ASCE, Elected Distinguished Member of ASCE - class of 2021 (ASCE News, UB News, Rice News)*
- *2020, ASCE Newmark Medal awarded by SEI & EMI (ASCE, UB News, Rice News)*
- *2019, F.NAI, Elected Fellow U. S. National Academy of Inventors (NAI Fellows, UB News, Rice SOE, Rice Honors)*
- *2019, Takuji Kobori Prize, awarded by Structural Control Health Monitoring & IASCM*
- *2017, Elected Fellow of ASCE - American Society of Civil Engineers (Rice News)*

- *2017, Raymond Reese Research Award by the ASCE (Rice News)*
- *2016, Among top 25 most cited researchers in Civil Engineering in the World in 2016 in a ranking by Elsevier and Shanghai Ranking Global (Rice News)*
- *2015, Leon S. Moisseiff Award for 2015 by the ASCE (Rice News)*
- *2014, Contact based distributed strain sensing using SWCNT nano-films, which was highlighted as one of the most cited papers in Nanotechnology journal in the 25th anniversary issue and web page of the Nanotechnology Journal (IOP-Link-visit 2004)*
- *2014, Optical near infrared spectroscopy based noncontact smart strain sensing skin highlighted in National Science Foundation Science 360 News*
- *2013, Invited Participant in grand challenges for engineering in the 21st century summit organized by the US-NAE, UK-RAE, & CAE, London (NAE Grand Challenges for Eng.)*
- *2012, Elected Fellow of the Structural Engineering Institute of ASCE (Rice News, ASCE)*
- *2010, Invited Participant in the Academy of Medicine, Eng., and Science (NAE, NAS, IOM) of Texas Annual Conference, San Antonio.*
- *2008, Invited Participant in the National Academies NAE India-US Symposium on Frontiers of Engineering, Beckman Center, Irvine, CA. (NAE link) (NAE FOE News)*
- *2007, Alfred Sloan Foundation recognition for underrepresented minority mentorship*
- *2004, Elected to Chi Epsilon Honor Society*
- *2000, Best Paper Presentation Award, American Control Conference, Chicago.*
- *1999 and 2000, Professor of the Year Award for exemplary undergraduate teaching, CEE, Rice.*
- *1999, National Science Foundation CAREER Award (Adaptive Stiffness Structures) (NSF, Rice SOE, Rice Honors)*
- *1980, Summa Cum Laude, Gold Medal, B.S., UVCE, Bangalore University, India.*

EDITORIAL POSITIONS IN INTERNATIONAL JOURNALS

- *Senior Editor, Mechanical Systems & Signal Processing, Elsevier International Journal (2017-2019,2024—present), (MSSP Link)*
- *Editor, Structural Control & Health Monitoring, Wiley International Journal (2008-2023;2024—present), (SCHM Link)*
- *Editor in Chief (Americas) Structural Monitoring & Maintenance, Techno-Press International Journal, 2014- 2024.*
- *Editorial advisory board member, International Journal of Engineering Structures, Elsevier 2004 – Present (ES Link)*
- *Editorial advisory board member, Earthquake Engineering & Structural Dynamics, Wiley International Journal, 2025 –Present (EESD Link)*
- *Editorial board member, Soil Dynamics & Earthquake Engineering, Elsevier, 2024 – Present*
- *Editorial board member, Journal of Infrastructure Intelligence & Resilience, Elsevier, 2022 – Present*
- *Managing Editor, Journal of Structural Eng., ASCE, October 1, 2011 – Jan. 31, 2018 (slated to become Editor-in-Chief but declined).*
- *Associate Editor, Mechanical Systems & Signal Processing, Elsevier, 2017-2019*
- *Associate Editor, Editorial Board, Journal of Structural Eng., ASCE, 2002 – 2006*

TEACHING ACTIVITIES

COURSES TAUGHT AT RICE UNIVERSITY

Regular teaching:	*Fall Semester:*	*3 credit Graduate Course*
2006 –Present		*1 credit Undergraduate Structures Lab*
	Spring Semester:	*4 credit Undergraduate Course + Lab*
1999-2006[+]	*Fall Semester:*	*3 credit Graduate Course*
	Spring Semester:	*3 credit Graduate Course*
		4 credit Undergraduate Course + Lab

Fall Semester:

CEVE/MECH 576*/476*[*]	***Structural Dynamic Systems*** *(**Graduate**/Senior Undergraduate)*
(3 credits)	*Fall Semester (yearly from 1999-2006 as CEVE/MECH 610, alternating year from 2006 to Present as CEVE/MECH 576)*

OR

CEVE 596*/496**	***System Identification with Machine Learning***
*MECH 566/566 **	*(**Graduate**/Senior Undergraduate)*
(3 credits)	
	Fall Semester (Alternating year 2018-present)

OR

[†]***CEVE/MECH 527****/427*.*	***Physics Guided Machine Learning – Data-Driven Modeling, FEM***
(3 credits)	*(**Graduate**/Senior Undergraduate)*
	Fall Semester (Alternating year 2021-)
	Computational Structural Mechanics and FEM
	Fall Semester (Alternating year 2006-2020)
	Spring Semester (yearly from 1999-2006)
CEVE 432 (1 credit)	*Concrete and Steel Structures Laboratory (**Undergraduate**)*
	Fall Semester (from 2006 to Present)

Spring Semester:

CEVE/MECH 311/312	***Mechanics of Solids—Strength of Materials Lab*** *(**Undergraduate**)*
(4 credit)	*Spring Semester (from 1999 to Present)*

* *Taught alternating years*

[+] *Taught one additional undergraduate course in the fall semester for four different years due to retirements/resignations*

Summer Courses: *Taught summer courses from 2009 to 2025 all over the world on Structural Control, Adaptive Structures, Sparse Structural System Identification, and Advanced Non-Contact Sensing*

RESEARCH ACTIVITIES

Contributions and Impact

Computational Techniques for Nonlinear Dynamic Analysis

Satish Nagarajaiah is the pioneering/original developer of advanced modeling and numerical techniques (that is widely used around the world in real projects and cited) for nonlinear dynamic analysis of three dimensional base isolated structures, stability of elastomeric bearings with under large lateral displacement and large axial load involving geometric and material nonlinearities, and smart base isolated benchmark problems.

Such pioneering development resulted in the widely known computer program 3D-BASIS that has been used for analysis and design of numerous base isolated structures within the United States and in many countries around the world. Landmark structures where 3D-BASIS was used are the New San Francisco International Airport, the San Francisco U.S. Court of Appeals, and many more recently, all of which are supported on friction pendulum isolation bearings.

Origins and development of 3D-BASIS (3-Dimensional BASe Isolated Structures) was initially envisioned by the need for an efficient tool for nonlinear dynamic analysis of three-dimensional base isolated structures, particularly in solving the highly nonlinear bidirectional stick-slip hysteretic response of a collection of sliding isolation bearings and the resulting response of the superstructure, as this was not available in 1988. The primary challenge was to solve the stick-slip behavior of friction bearings—modeled using differential equations to model hysteresis due to its efficiency in representing constant Coulomb friction or variable velocity-dependent friction by using a very small yield displacement during the stick phase, resulting in very high tangential stiffness followed by a very small tangential stiffness during the sliding phase—and the resulting stiff differential equations. A challenge that is compounded when biaxial-friction is modeled, wherein even the traditional method of using Gear's method to solve stiff differential equations breaks down—a problem that was vexing to solve in 1988. The answer was the development of a novel pseudo-force solution algorithm, along with a semi-implicit Runge-Kutta method, to solve the difficult problem. The efficient solution procedure is needed primarily for the nonlinear isolation system consisting of (1) sliding and/or elastomeric bearings, (2) fluid dampers, (3) other energy dissipation devices, while the superstructure is represented by a three-dimensional superstructure model appropriately condensed (where only master nodes at the center of mass of the floor are retained).

*3D-BASIS for Nonlinear Dynamic Analysis of Base Isolated Structures has been cited in several important code documents [FEMA 273/274 [39], FEMA 356, ATC 33, NEHRP, NIST, NCRG]. "The most widely used computer program for analyzing base isolated structures today is the 3D-BASIS suite of programs…" is a direct quote from the book on "Earthquake Resistant Design with Rubber" by Professor James M. Kelly, 1997 [2]—see page 234. (**NIST – NEHRP Nonlinear Structural Analysis for Seismic Design NIST GCR 10-917-5-15wux56**)*

3D-BASIS has been used for analysis and design of numerous projects around the world; the most important of which are listed below.

- *U. S. Court of Appeals, San Francisco, CA, 1993-96*
- *New San Francisco International Airport, CA, 1997-98*
- *Numerous base-isolated structures in the USA, Italy, Turkey, China, Japan, Korea, India, and other countries.*
- *For further detailed descriptions, visit:*
- *https://satishnagarajaiah.rice.edu/computational-structural-mechanics-seismic-isolation-3d-basis/3d-basis-used-for-analysis-and-design-around-the-world-recent-applications*

3D-BASIS, an open-source software for nonlinear dynamic analysis of three-dimensional base-isolated structures along with its novel biaxial friction mode, pseudo for the algorithm with semi-implicit methods, has been embedded in SAP 2000 and ETAB software by CSI Americas, Inc. San Francisco. SAP. Between 1998 and 2014, Nagarajaiah co-authored nine technical reports for UB's MCEER with Constantinou and Reinhorn on three different grants. Through his research with MCEER, Nagarajaiah developed the 3D-BASIS class of computer programs for the response-history analysis of seismically isolated buildings. These programs featured developments later adopted by Computers and Structures, Inc. for the SAP2000 and ETABS programs. SAP2000 and ETABS are both widely used by structural engineers to analyze structures equipped with seismic protective systems (Link).

Structural Control and Adaptive Stiffness Systems:

Satish Nagarajaiah is coauthor of a *seminal state-of-the-art paper on structural control in the Journal of Structural Engineering, ASCE (2003) (~2000 citation) (one of the most highly cited papers in the journal's history, as per Web of Science). Satish Nagarajaiah's research thrust in earthquake protection, seismic isolation, and advanced seismic protection, and structural control since the start of his academic career as an assistant professor (1993) has focused on adaptive stiffness structures and variable stiffness systems, a unique research direction in which he is currently considered as one of the foremost leaders in the world. He has performed widely cited research on adaptive stiffness structures, semi-active variable stiffness systems and smart tuned mass dampers. He has invented and developed semi-active variable stiffness systems (US patent awarded in 2000) and truly adaptive passive stiffness systems—particularly a negative stiffness system (US Patent awarded in 2014). He was awarded the prestigious NSF CAREER award in 1998-99, and ASCE awarded the Moissieff award in 2015, and IASCM awarded the Kobori Prize in 2019 for his research on negative stiffness structural systems. His ideas of tuned mass dampers with variable stiffness springs in vibration control of tall buildings and towers subject to wind and earthquake forces have been adopted in China. His invention of the negative stiffness device (NSD) is being tested for adoption in tall buildings with outriggers in China. NSD with dampers is found to be very efficient in reducing stay cable vibrations due to rain and wind-induced vibrations; hence, it is being tested for adoption in stay cables of long-span cable-stayed bridges in China.*

Sparse Structural System Identification:

Satish Nagarajaiah has made seminal contributions to the development of structural system identification techniques/algorithms since 1995, based on sparsity and low rank methods, time-frequency, wavelets, sparse regularization, statistical learning, filtering (Interaction Matrix formulation with input-error function, Kalman Filter, Unscented Kalman Filter), Bayesian identification, Physics Guided Machine Learning. His research thrust in structural monitoring, output-only system identification, and damage detection has centered on the development of new low-rank, sparse, compressive sensing, time-frequency algorithms, based on statistical learning, blind source separation, filtering, advanced signal processing techniques, and vision-based sensing techniques. His algorithms have been used worldwide in real structures, for example, the Donghai River Cable Stayed bridge in Shanghai, and for the identification of force in stay cables (long span) cable stayed bridges in China and worldwide. His papers on this topic have been cited widely. His team of research collaborators was awarded the 2017 Raymond C. Reese Research Prize for sparse structural identification and the IASCM Kobori Prize for 2019 for the identification of highly nonlinear hysteretic negative stiffness systems. A recent paper of entitled "Review of Bridge Structural Health Monitoring Aided by Big Data and Artificial Intelligence: From Condition Assessment to Damage Detection," Journal of Structural Engineering, ASCE is highly cited paper as per web of science (~900 citations)

Smart Strain Sensing Skin for Noncontact Strain Maps:

Satish Nagarajaiah is a pioneering inventor (US Patent awarded in 2004) and developer of smart strain-sensing skin using nanomaterials–both contact and noncontact laser-based–in an institute/center funded by NASA (Texas Institute of Intelligent Bio-Nano Materials and Structures for Aerospace Vehicles—co-principal investigator, Rice News). His seminal two journal papers on strain sensing using nanofilm (based on single wall carbon nanotubes) published in 2004 (Nanotechnology Journal and Advanced Materials Journal) are the earliest and most cited papers in this field. His team has conducted widely cited research on nanocomposite-based strain sensing in the AFOSR-funded study. At Rice, they have recently developed and demonstrated laser-based non-contact smart strain-sensing skin (US Patent awarded in 2016) with funding from the Office of Naval Research. This unique invention has recently been shown to produce two-dimensional strain maps, which are vital for the detection of stress-strain concentration at crack tips and around holes. In computational mechanics, this is one of the central problems that is hard to verify using current experimental techniques, except for Digital Image Correlation (which has limits near the crack tip)—smart strain-sensing skin is an answer to this pressing need. This research has received wide attention, including a highlight on the webpage of the National Science Foundation 360 as a novel invention. The smart sensing skin is being evaluated for adoption by Airbus Europe/America. In 2024, he and three co-founders founded a startup, Lumi-Strain Inc., to propagate this technology in aerospace, civil, and mechanical engineering applications (Link).

CONSULTING ACTIVITIES

Nagarajaiah served as a structural design engineer at TATA Consulting Engineers in India for 4 years (1982-1986) before pursuing his Ph.D. in the United States of America, followed by a distinguished academic/consulting career. He has served as a structural engineer and expert consultant in significant engineering projects involved in analysis, design, and construction:

- *Expert consultant for Vibration Isolation of Nanotechnology Lab NMTC (12 m underground to mitigate train-induced vibrations), CMTI, Bangalore, Federal Nano-Manufacturing Technology Center Laboratories in India, completed in 2010-2019 with Prakash Vinod. Included initial monitoring of the site response in 2010 and measurement of actual metro-borne vibrations 200m from the New Delhi Metro Rail, as the Bangalore Metro did not exist in this part of the city. Expert consultant for analysis and design of the NMTC with Sterling Engineers, Bangalore, and part of the inspection team during construction and completion. Careful design to accommodate vibration-sensitive parts and incorporation of vibration isolation where needed in the Electron Microscopy Lab, etc. Remeasuring the response after the construction of the Bangalore Metro, 200m from the NMTC Laboratory, and certification of operational readiness by NABL. NMTC Bangalore is now fully functional while meeting the highest/stringent standards of vibration isolation in the Nanotechnology Laboratory. 2010-2019.*
- *Optimal Tethering of Ships, Shell Technology, Offshore Division, Houston, Texas (with Steve Wilkerson).*
- *Nonlinear Analysis of Tension Leg Offshore Platforms, McDermott, Houston, Texas.*
- *Structural Monitoring of Fixed Offshore Structures, Shell Technology, Houston, Texas.*
- *Riser Vibrations and Measurements, Intecsea Engineering, Worley, Houston, Texas*
- *Rise Vibrations and Monitoring, RPSEA/DOE, Houston, Texas, 2010-2019.*
- *Consultant to Seismic Base Isolation Analysis Projects in the USA (LA, SF) using 3D-BASIS (primary developer), 1990-1998, Turkey (Ankara), and India, 1990 to date.*
- *Design and construction of thermal power stations, TATA Consulting Engineers, India, 1982-1986.*
- *Designed turbogenerator vibration isolation (GERB vibration isolation) in a thermal power station in Bombay, TATA Consulting Engineers, India, 1984-1986.*
- *Design and inspection of caisson foundations for offshore Jetty at a thermal power station, Trombay, Bombay, TATA Consulting Engineers, India, 1985-86.*
- *Design and inspection of the construction of an offshore jetty, including pile foundations, to support 3m diameter pipelines for cooling water supply to a thermal power station, TATA Consulting Engineers, India, 1985-1986.*

RESEARCH ACTIVITIES

RESEARCH GRANTS

- *Total Funding to Date (1993-2026) -- **$24.35M;** PI/Co-PI Funding (1993-2026) -- **$9.35M***
- *Funding from the following is gratefully acknowledged:*
  - NSF, NASA, DOE, ONR, AFRL, CSMIP
  - Rice, UMC (MU), UMR, MCEER, MATC
  Private Industry (Airbus Europe, Shell, McDermott, Fugro, IntecC Eng. Worley, etc.)
- *Link to all NSF grants at nsf.gov for Satish Nagarajaiah*
  (Includes NSF-CAREER and NSF-NEESR grants and NSF I-Corp grants)
- *Overseas Funding from SPARC IIT-Kgp, IISc Bangalore (Satish Dhawan Distinguished Visiting Chair), SERB-DST India, Vajra_DST, Tongji Univ. China, IIT-Kanpur & Rice funding for international collaboration, KISR-Kuwait.*
- *International Post-Doctoral and Doctoral Fellowships Grants from DST & SERB India & Rice, Fellowship from China.*

PI/Co-PI/Grant / Title / Sponsor / Duration of Funding

- PI, "System Identification and Performance Assessment of base-isolated buildings instrumented by CSMIP in Los Angeles: Post-earthquake evaluation," California Department of Conservation, CSMIP, Award No. 1024-004, 11/1/2024 to 12/31/2026.

- PI, "Strain-Sensing Smart Skin, a New Industrial Technology – NSF I-Corps", Rice Project No. A22-0329, NSF-2227454, National Science Foundation, 6/15/2022 - 5/31/2023 (with Prof. Bruce Weisman, Chemistry).

- Co-PI, "Strain-Sensing Smart Skin Aerospace Wing Performance Testing," Airbus Inc./ Americas/UK/Canada, Master Agreement reference OTT-MRA-24-004, 6/1/2025 to 5/31/2026 (with Professor Bruce Weisman, Chemistry).

- Co-PI, "Strain-Sensing Smart Skin Enhancement and Performance in Aerospace Testing," Airbus Inc./Americas/UK/Canada, Master Agreement reference OTT-MRA-24-004, 08/25/2024 to 5/31/2025 (with Professor Bruce Weisman, Chemistry).

- PI, "Wind turbine blade structural health monitoring, data fusion and digital twin," IIT Kanpur-Rice Strategic Collaboration Fund, Rice University, 07/01/23 to 07/31/25.

- Co-PI, "Use Case Demonstration of S4 Strain Mapping" Airbus Inc./UK, 4/11/2023 to 5/31/2024 (with Professor Bruce Weisman, Chemistry).

- PI, **Department of Science and Technology, Government of India, Rice-SERB**, R96704-246000, 1/1/2019 to 9/31/2023 (with Professor Seichii Matsuda, Chemistry).

- PI, "Strain Sensing Smart Skin with SWCNT—Noncontact Optical Laser Sensing of Cement/Concrete,' Kuwait Institute for Scientific Research, 8/1/2019 to 3/31/2022 (with Prof. Bruce Weisman, Chemistry).

- PI, **Department of Science and Technology, Government of India, Rice-SERB**, R96702-246000, 1/1/2018 to 9/31/2022 (with Professor Seichii Matsuda, Chemistry).

- Co-PI, Airbus Americas, "Developing a Roadmap for CNT Spectral Strain Sensing Smart Skin," Airbus Inc./Europe, 6/1/2019 to 7/31/2020 (with Professor Bruce Weisman, Chemistry).

- PI, Tongji University International Grant "Theoretical and experimental research on environmental uncertainties lattice structure towering cross wind dynamic influence on the structure of blind source separation," Tongji University; SLDRCE13-MB-01, R96210-722000, 1/1/2015 to 12/31/2019 (With Prof. Limin Sun of Tongji University).

- PI, **Department of Science and Technology, Government of India, Rice-SERB** R96701-246000, 1/1/2018 to 9/31/2022 (with Professor Seichii Matsuda, Chemistry).

- PI, Simons Foundation, "Intelligent Pulmonary Artery Band for Patients with Congenital Heart Disease", Rice R0320R 772000, 11/1/2016 to 12/31/2018 (with Drs. Broda, Mery and Spinner, Texas Children's Hospital, Houston, TX).

- PI, **Department of Science and Technology, Government of India, Rice-SERB**, R96700-246000, 1/1/2017 to 12/31/2021 (with Professor Seichii Matsuda, Chemistry).

- Co-PI, Carbon Nanotube "**Strain Paint" Research for Non-Contact Structural Health Monitoring, Office of Naval Research, ONR N00014-14-1-0013**, Rice R18270-416000, 10/01/2013 to 12/31/2016 (with Prof. Bruce Weisman, Chemistry).

- PI, "Prototyping, Lab Tests for Structural Health Monitoring for Pipes, Bridges Project (168)," Texas Instruments Grant G84040/ G83198, 01/01/14-12/31/16. (with Prof. Baraniuk, ECE).

- PI, **NEESR-SG: Development of Next Generation Adaptive Seismic Protection Systems NSF-CMMI-0830391**, **Rice R3B590-722000**, 9/1/08–3/31/14.

- PI, Robotic MFL Sensor for Monitoring and Inspection of Deepwater Risers –DOE, RPSEA: 10/14/08 – 06/01/12.

- PI, Fugro Industry Grant for Monitoring of Soils—6/1/10 –12/1/2014.

- PI, **Collaborative Research: Development of an Innovative Multi-Functional Smart Vibration Platform NSF-DUE 0717834**, 10/1/07–10/31/11.

- Co-PI: Development for Advanced Nanocomposites –AFRL_09-S568-065-01-C1, Rice R7D033 726000 UTC, 3/1/09 – 2/28/11 (with PI, Prof. Enrique Barrera, Material Science and Nano Eng.).

- PI, **Collaborative Research: Robust linear parameter varying control methods for precise compensation of hysteresis NSF-CMMI 0601672--NSF** --6/23/06–9/30/10.

- Co-PI, **Workshop on Future Directions Smart Structures Technology & Experimental Benchmark: Fifth International Workshop on Structural Control and Monitoring NSF-CMMI- 0833997--NSF** --5/1/08–03/30/10.

- Co-PI: Vibration monitoring and Marine control of offshore platforms and floating wind turbines—Inst. of Ireland—04/29/08 – 12/1/08 (with Professor Basu, Trinity College, Dublin).

- Co-PI, "Texas Institute for Intelligent Bio-Nano Materials and for Aerospace Vehicles" **NASA-URETI Center, TAMU, Rice, UH, $15 Million Center Grant—NASA Cooperative Agreement No. NCC-1-02038--NASA**-- 8/19/02-8/19/08 – ***Rice News*** (with many collaborators at Rice, TAMU, UH).

- PI, "CAREER Industry Matching: Smart Isolation Systems and dampers" EPS, DIS, SEP, Taylor Devices, NSF-CAREER: 1/1/99-2/28/06.

- PI, **NSF CAREER grant "CAREER Semi-active control with independently variable stiffness and damping systems: Analytical and Experimental Studies" NSF-CMS-9996290, CAREER Award**, 1/1/99-2/28/06.

- PI, **"Semi-active control of variable stiffness systems in building structures" NSF-CMS-9996244--NSF** 9/1/99-8/31/01.

- PI, "**CAREER Semi-active control with independently variable stiffness and damping systems" NSF-CMS-9733962--NSF**--5/20/98-12/30/98.

- PI, "**Semi-active control of variable stiffness systems in building structures" NSF-CMS-9625979--NSF**--5/17/96-12/30/98.

- PI, "Innovative Techniques for Earthquake Protection of Bridges" Mid-America Transportation Center, University of Nebraska, Lincoln, and Earthquake Protection Systems, CA --MATC--9/1/96 - 8/31/98.

- PI, "Stability of Elastomeric Seismic Isolation Bearings: Phase II" Multidisciplinary Center for Earthquake Engineering Research (NSF Center) --MCEER 3/1/96-8/31/97.

- PI, "Semiactive continuous variable stiffness control for earthquake protection of building structures," Research Board, University of Missouri, UMC, 8/1/96-7/1/97.

- Co-PI, "BEST: A Learning Env. for Engineering Dynamics," UM Inst. for Instructional Development, Instructional Design and Development Awards, UM (PI - Prof. Ralph Flori, Basic Eng., UM-Rolla) UM--6/1/95 - 5/31/97.

- PI, "Stability of Elastomeric Seismic Isolation Bearings: Phase I" Multidisciplinary Center for Earthquake Engineering Research (NSF Center) --MCEER 3/1/95-2/28/96.

- PI, "Response of base isolated buildings during the Northridge Earthquake: A post-earthquake evaluation," **California Strong Motion Instrumentation Program, CSMIP, 6/01/94-12/30/95.**

- PI, "Analytical Models for Sliding Isolated Structures with Uplift," Multidisciplinary Center for Earthquake Engineering Research (NSF Center)-MCEER, 9/1/93 - 8/31/94.

RESEARCH GROUP

FACULTY, POST-DOC., GRADUATE STUDENT MENTORSHIP – *Summary*

Current Group Members

Aniruddha Das, *Ph.D. Student, "Building and Bridge Resilience, Monitoring, and Integrity/Loss Assessment." B.S., IIT Roorkee, India.*
https://scholar.google.com/citations?hl=en&user=V6PN76MAAAAJ

Clayton Waski (27'), *B.S. Student, Rice University, Combined Undergraduate-MCEE track, Working with the group on structural dynamic analysis and sensing.*

Senior Members/Post-Docs in advisory roles in the group:

Dr. Wei Meng, CEO, 2024-Present, Lumi Strain Inc.
Former Post-Doc, 2022-2023, Ph.D. & M.S student from group
https://scholar.google.com/citations?hl=en&user=xAaR5AIAAAAJ

FORMER GROUP MEMBERS

Former Post-Doctoral Researchers (14 total to date)

- *Dr. Ashish Pal, Post-Doc (2024 August to December), Ph.D. Dissertation, CEVE, Rice University, MTech/BTech Indian Institute of Technology-Kanpur, India.*
- *Dr. Wei Meng, Post-Doc (2022-2024), Ph.D. Dissertation, CEVE, Rice University, M.S. Rice, M.S. and B.S., China Petroleum University, China.*
- *Dr. Sudheendra Herkal, Ph.D., Rice Univ. (2023 May), Post-Doc/lecturer (2023 from July to December), Ph.D. Dissertation, CEVE, Rice University, M.S. and B.S., Indian Institute of Technology, Madras (Chennai).*
- *Dr. Sutanu Bhowmick, Post-Doc (2021-2022), Ph.D. Rice University, M.S., IIT-K, B.S. Jadavpur University, India.*
- *Dr. Venkata Srivishnu Mohan Vemuru, Post-Doc, 2016-2018, Ph.D. and M.S., Rice University, B.S. NIT India.*
- *Dr. Kalil Erazo, Post Doc, 2015-2017, Ph.D. Civil Engineering, University of Vermont 2015, M.S. Georgia Tech 2011. Currently, Assistant Teaching Professor, Rice University, 2022-present. 2017-2019, Research Professor, Institute of Santo Domingo (INTEC), Dominican Republic*
- *Dr. Yongchao Yang, Post Doc, 2014-2015, Ph.D. Civil Engineering, Rice 2014, B.S. Harbin Institute of Technology*
- *Dr. Chao Sun, Post Doc, 2014-2015, Ph.D. Civil Engineering, Rice 2013. M.S., Tongji Univ., B.S., Shanghai Jiao Tong University*
- *Dr. Dharap Prasad, Post Doc, 2006 – 2007, Ph.D. Civil Engineering, Rice, 2006, M.S. IIT Bombay, B.S. VJIT, Bombay, India*
- *Dr. Li Zhiling, Post Doc, 2006 – 2007, Ph.D. Civil Engineering, Rice, 2006, M.S. & B.S. Tsinghua University, China*
- *Dr. Steve Wilkerson, Post Doc, 2005 – 2006, Ph.D. Civil Engineering, Rice, 2005, M.S. & B.S. Rice University*
- *Dr. Sriram Narasimhan, Post Doc, 2005 – 2006, Ph.D. Civil Engineering, Rice, 2005, M.S. Louisiana State University, B.S. Osmania University, India*
- *Dr. Bong Hwan Koh, Post-doc, 2003-2004, Ph.D. Mechanical Engineering, Dartmouth College, 2003, M.S. & B.S. Sung Kyun Kwan University, Korea. Currently, 2005-present, Associate Professor, Dept. of Mech. Engineering, Dongguk University, Seoul, Korea.*
- *Dr. Sanjay Sahasrabudhe, Post Doc, 2001 – 2002, Ph.D. Civil Engineering, Rice, 2001, M.S. & B.S. Pune University, India*

Former Ph.D. students – 34
(advised-graduated + co-advised)

Includes Primary(+) and Secondary Advisor roles

34. + *Ashish Pal, Ph.D., Rice Univ. (2024 August), Post-doc*
https://scholar.google.com/citations?user=b6f3ZOEAAAAJ&hl=en
33. + *Sudheendra Herkal, Ph.D., Rice Univ. (2023 May), Post-Doc and Lecturer*

https://scholar.google.com/citations?hl=en&user=seX-WoYAAAAJ

32. + Wei Meng, Ph.D., Rice Univ. (2022 Aug), CEO, Lumi-strain Inc., https:/lumi-strain.com https://scholar.google.com/citations?hl=en&user=xAaR5AIAAAAJ
31. + Debasish Jana, Ph.D., Rice Univ. (2021 Dec), Post-Doc, UCLA, USA. https://orcid.org/0000-0003-2368-6394
30. Liangkun Wang, Ph.D., Tongji Univ., (Jointly with Prof. Ying Zhou, Tongji University) Currently Assistant Professor, Tongji University, Shanghai, China. https://orcid.org/0000-0003-3426-4023
29. Meng Wang, Ph.D., Tongji Univ., (Jointly with Prof. Fei Fei Sun, Tongji University) Currently Professor, Beijing University of Technology, Beijing, China https://orcid.org/0000-0003-0432-8313
28. + Prabhas Hundi (Final year advisor, with former Colleague Rouzbeh Shahsavari), Ph.D. Rice (2021), Data Scientist, Corteva Agriscience Houston, TX https://repository.rice.edu/items/a89232f2-45fc-4f34-9760-b489e83ee154
27. + Sutanu Bhowmick, Ph.D. Rice (2021), Research engineer, Home Dept AI, D.C. https://orcid.org/0000-0001-9350-4803
26. + Debarshi Sen, Ph.D. Rice (2018), Currently Assistant Professor, Southern Illinois University, Carbondale, 2018-2020, Post-doc, MIT, and 2020-2022, Post-doc, Lehigh Univ., PA. https://orcid.org/0000-0002-6475-4659
25. + Zhilu Lai, Ph.D. Rice (2018) Currently Assistant Professor, HKUST-Guangzhou, https://orcid.org/0000-0001-6227-6123
24. + Peng Sun, Ph.D. Rice (2017) Currently Assistant Professor, University of Central Florida. https://www.patrick-sun.com/, https://orcid.org/0000-0002-1227-5533 Post-doc, 2018-2022, Univ. of Michigan, MI.
23. Tong Sun, Ph.D. DUT (2017) (Jointly with Prof. Hong-Nan Li, Dalian Univ. of Tech.—DUT, Shenyang Jianzhu Univ—SJZU project), Currently Assistant Prof., Shenyang Jianzhu Univ., China https://publons.com/author/1322887/tong-sun#profile
22. Zhan Shu, Ph.D. UCLA (2015) (Jointly with UCLA Prof. Zhang in NSF-NEES project) Currently, Associate Professor, Shanghai University, China. https://www.researchgate.net/profile/Zhan_Shu10, https://orcid.org/0000-0002-1374-1698
21. Navid Attary, Ph.D. RPI (2015) (Jointly with RPI Prof. Symans in NSF-NEES project), Currently Senior Research Scientist, FM Global, Boston. https://orcid.org/0000-0003-4092-8244
20. Apostolos Sarlis, Ph.D. UB (2015) (Jointly with UB Prof. Constantinou in NSF-NEES project), currently Research Engineer, Exxon Mobil, Houston, TX (Google ScholarLINK)
19. Lin Chen, Ph.D. Tongji (2015) (Jointly with Tongji Prof. Limin Sun in a Tongji Sponsored Research project), Currently Associate Professor, Tongji Univ., Shanghai, China https://chenllab.com https://orcid.org/0000-0002-3570-234X (Google Scholar Link).
18. + Keguan Zou, Ph.D. Rice (2015), currently Structural Eng., New York City, New York

(*Google Scholar Link*), *https://orcid.org/0000-0002-1345-2474*

17. ⁺ *Yongchao Yang, Ph.D. Rice (2014), Post-doc Rice (2014-2015), Currently Associate Professor, EIT, Ningbo, China, formerly Assistant Professor, Aug 2019-Present, Michigan Tech. University, Houghton, Michigan, https://www.mtu.edu/mechanical/people/faculty/yang-y/ formerly, 2017-2019, Technical Staff Member at Argonne National Laboratory, IL, 2015-2017, Director Post-doc, Los Alamos National Laboratory.* *https://orcid.org/0000-0003-1776-3306*
16. ⁺ *Srivishnu Mohan Venkata Vemuru, Ph.D. Rice (2014), Post-Doc Rice Univ. 2016-2018., Currently a Senior Data Scientist, Orsted, Austin, TX.* *https://orcid.org/0000-0002-1577-6608* (*Google Scholar Link*)
15. *Kaveh Karami, Ph.D. IUST (2013), Visiting student from Iran University of Science and Technology (IUST), Joint supervision with Professor Fereidoun Amini, IUST, currently, associate professor, University of Kurdistan, Sanandaj, Iran, https://eng.uok.ac.ir/Ka.Karami/Biography.html; https://orcid.org/0000-0002-9519-2855*
14. *Tathagata Ray, Ph.D. UB (2013), (Jointly with UB Prof. Reinhorn in NSF-NEES project) formerly Assistant Professor, Morgan State University.* *https://orcid.org/0000-0002-3939-0638*
13. ⁺ *Chao Sun, Ph.D. Rice (2013), currently, Associate Professor, Louisiana State University, LA* *https://www.lsu.edu/eng/cee/people/Sun.php* *https://orcid.org/0000-0003-3909-0325*
12. ⁺ *Chaojun Huang, Ph.D. Rice (2013) currently, Subsea Riser Engineer, 2H Offshore Inc., Houston, TX. (Google Scholar Link)*
11. ⁺ *Dharma Theja Reddy Pasala, Ph.D. Rice (2013), currently Riser Engineer, IntecSea Inc., Worley, Houston, TX. https://orcid.org/0000-0003-0689-2364*
10. ⁺ *Ertan Sonmez, Ph.D. Rice (2011), Assistant Professor, Ankara, Turkey* *https://www.atilim.edu.tr/en/ce/page/2242/academic-staff*
9. ⁺*Michael Contreras, Ph.D., Rice (2010), currently President (Founder), Ensemble, Washington D.C., https://ensembleconsultancy.com, https://scholarship.rice.edu/handle/1911/64407*
8. ⁺ *Chen Bilei, Ph.D. Rice (2008), currently Reearch Structural Engineer, Shell, Houston, TX.* *https://scholarship.rice.edu/handle/1911/22279,*
7. ⁺ *Zhiling li, Ph.D. Rice (2006), currently Floating Systems Engineer, BP, Houston, TX.* *https://scholarship.rice.edu/handle/1911/18939*
6. ⁺ *Dharap Prasad, Ph.D. Rice (2006) is currently a structural engineer at SBM, Houston, TX. (Google Scholar Link)*
5. ⁺ *Steven M. Wilkerson, Ph.D. Rice (2005), currently Associate Professor of Practice, PVAMU, https://www.pvamu.edu/sites/hb2504/cvs/All/smwilkerson.pdf* *https://scholarship.rice.edu/handle/1911/18838*
4. ⁺ *Nadathur Varadarajan, Ph.D. Rice (2005), Research Engineer, Shell Technology Center, Houston, TX. https://scholarship.rice.edu/handle/1911/18829*

3. ⁺ *Sriram Narasimhan, Ph.D. Rice (2004), currently (2021 – present)* ***Professor UCLA (Link)*** *Department of Civil Engineering, formerly (2006-2020) Canada Research Chair, Professor, University at Waterloo, Canada. (ORCiD link) (Google Scholar Link)*
2. ⁺ *Sanjay Sahasrabudhe, Ph.D. Rice (2001) is currently a Structural Engineer and Finance Manager at Chevron, Houston, TX. https://scholarship.rice.edu/handle/1911/18128*
1. *Ravi Subramaniam, Ph.D. UB (1994) (Jointly with Professor Andrei Reinhorn, University at Buffalo), Distinguished Technologist at Hewlett Packard Inc., SF, CA. https://www.linkedin.com/in/ravi-subramaniam-53ab169*

Details of Former Graduate Students

(Served as primary Advisor and Mentor):

2024

Dr. Ashish Pal, *Ph.D. Student, August 24, "Data fusion, inverse modeling, and System Identification using measured data and mechanics." B.S and M.S., IIT Kanpur, India.*

2023

Dr. Sudheendra Herkal, *Ph.D. Student, August 23, "Novel Negative Stiffness Structures and Architectured Materials," **Ph.D. Dissertation,** CEVE, Rice University, M.S. and B.S., Indian Institute of Technology, Madras (Chennai).*

2022

Dr. Wei Meng*, Ph.D. Student, August 22 "Next-Generation 2D Optical Strain Mapping: Strain-Sensing Smart Skin vs. Digital Image Correlation," **Ph.D. Dissertation,** CEVE, Rice University, M.S. Rice, M.S. and B.S., China Petroleum University, China.*

2021

Dr. Debashish Jana*, Ph.D. Student, December 21 "Vision and Learning based Sensing for Structural Health Monitoring" **Ph.D. Dissertation,** CEVE, Rice University, M.S. IIT Kanpur, IIEST. Shibpur, India.*

Dr. Sutanu Bhowmick*, Ph.D. Student, May 2021 "Vision-Based Full-Field Sensing for Condition Assessment of Structural Systems," **Ph.D. Dissertation,** CEVE, Rice University, M.S. IIT Kanpur, B. S. Jadavpur University, India.*

Dr. Prabhas Hundi, *Final Year Ph.D. Student, May 2021, "Studies on the use of machine learning algorithms for analysis and design of materials at multiple length scales," **Ph.D. Dissertation,** CEVE, Rice University, M.S. & B.S., IIT Madras, India. (**Final year Primary advisor and mentor; former Colleague Dr. Rouzbeh Shahsavari was the primary advisor for the first 3 years**).*

2020

Ray Buttgen*, M.S. Student, May 2020, "Analytical and Experimental Study of Negative Stiffness Brace and its Effectiveness in a Scaled Two Story Model," M.S. Thesis (submitted as an*

MCEE Report and graduated due to Covid Pandemic beginning in March 2020), CEVE, Rice University, B.S., Rice University.

2018

***Dr. Debarshi Sen**, Ph.D. Student, May 2018, "Applications of Statistical Learning and Stochastic Filtering for Damage Detection in Structural Systems," **Ph.D. Dissertation,** CEVE, Rice University, B.S. and M.S., IIT Kharagpur. India.*

***Dr. Zhilu Lai**, Ph.D. Student, May 2018, "Sparse Structural System Identification And Damage Detection," **Ph.D. Dissertation,** CEVE, Rice University, M.S. Hong-Kong-Polytech, B.S. Xiamen University, China*

***Wei Meng,** M.S. Student, May 2018, "Analysis on Dynamic Response of a Tension-leg Platform Riser System" M.S. Thesis, CEVE, Rice University B.S. and M.S., China Petroleum University, China.*

***Kiachun Yang,** M.S. Student, May 2018, "Development of Multifunctional Laser-Induced Graphene Composites and Devices", M.S. Thesis, CEVE, Rice University, B.S., Harbin Institute of Technology, currently, Ph.D student Duke, Mechanical Eng. and Material Science.*

2017

***Dr. Peng (Patrick) Sun,** Ph.D. Student, May 2017, "Strain-Sensing Smart Skin for Structural Health Monitoring" Ph.D. Dissertation, CEVE, Rice University, M.S., B.S. Southeast University, China.*

2016

***Sam Wang**, M.S. Student, May 2016, "Smart Skin for Measuring Fracture and Fatigue" M.S. Thesis, CEVE, Rice University, B.S. Taiwan.*

2015

***Dr. Keguan Zou**, Ph.D. Student, May 2015, "Study of Adaptive Passive Stiffness Systems with Nonlinear Vibrations: New Analytical and Computational Techniques," **Ph.D. Dissertation**, CEVE, Rice University, Dec. 2014, M.S., Southeast Univ., China, B.S., Tsinghua Univ., China*

2014

***Dr. Yongchao Yang**, Ph.D. Student, May 2014, "Harnessing data structure for health monitoring and assessment of civil structures: sparse representation and low-rank structure" **Ph.D. Dissertation,** CEVE, Rice University, B.S. Harbin Institute of Technology, China*

***Dr. Srivishnu Venkata Mohan Vemuru**, Ph.D. Student, May 2014, "Dynamic Stability of elastomeric seismic isolation bearings and seismic protection using enhanced adaptive negative*

*stiffness system." **Ph.D. Dissertation**, CEVE, Rice University, M.S. Rice, B.S. NIT- Surtkal, India*

***Dr. Chao Sun**, Ph.D. Student, May 2014, "Structural Vibration Control of Nonlinear Systems Using the Smart Tuned Mass Damper (STMD) and the Nonlinear Tuned Mass Damper (NTMD)." **Ph.D. Dissertation**, CEVE, Rice University, M.S. Tongji University, China, B.S. Shanghai Jaio Tong University, China*

2013

***Dr. Dharma Theja Reddy Pasala**, Ph.D. Student, May 2013, "Seismic response control of structures using novel adaptive-passive and semi-active variable stiffness and negative stiffness devices" **Ph. D. Dissertation**, CEVE, Rice University, M.S. Rice, B.S., IIT - Guwahati, India.*

***Dr. Chaojun Huang**, Ph.D. Student, May 2013, "Structural Health Monitoring System for Deepwater Risers with Vortex-induced Vibration: Nonlinear Modeling, Blind Identification, Fatigue/Damage Estimation & Vibration Control" **Ph. D. Dissertation**, CEVE, Rice University, M.S. Tsinghua University, China, B.S. Tsinghua University, China.*

2012

***Dr. Michael Contreras,** Ph.D. Student, May 2012, "Neural Network based real time structural damage monitoring and fault detection and control" **Ph. D. Dissertation**, CEVE, Rice University (**First Hispanic-American Student**). M.S. UCLA, B.S. UCLA.*

2011

***Dr. Ertan Sonmez,** Ph.D. Student, May 2011, "Deterministic and Stochastic Responses of Smart Variable Stiffness and Damping Systems and Smart Tuned Mass Dampers," **Ph.D. Dissertation**, CEVE, Rice University. M.S. Vanderbilt University, B.S. Middle Eastern University, Turkey.*

2010

***Srivishnu Mohan**, M.S. Student, May 2010, "Dynamic Response of Multi-Degree of Freedom Structure with Sliding Isolation System and Uplift" M.S. Thesis, CEVE, Rice University, B.S. NIT- Surtkal, India.*

2009

***Dharma Theja Reddy Pasala**, M.S. Student, May 2009, "Repetitive Control of Hysteretic Systems Using Robust H-infinity Controller" M.S..Thesis, CEVE, Rice University, B.Tech, IIT-Guwhati, India.*

2008

***Dr. Chen Beili**, Ph.D. Student, May 2008, "Detection Filter-based Method for Robust Structural Damage Detection," **Ph.D. Dissertation**, CEVE, Rice University. M.S. Tsinghua University, China, B.S. Tsinghua University, China.*

2007

Ike Akinwande, *M.S. Student, May 2007, "Nanocomposite strain sensors: A study of electrical and thermal properties" M.S. Thesis, CEVE, Rice University (**First African American Student**). B.S. Rice University.*

2006

Dr. Li Zhiling, *Ph.D. Student, May 2006, "Methods for real-time actuator-sensor failure and structural damage detection," **Ph.D. Dissertation**, CEVE, Rice University. M.S. Tsinghua University, China, B.S. Tsinghua University, China.*

Dr. Dharap Prasad, *Ph.D. Student, May 2006, "Real-time structural damage monitoring using interaction matrix formulation and observers," **Ph.D. Dissertation**, CEVE, Rice University. M.S. IIT-Bombay, India, B.S. VJIT, Bombay, India.*

2005

Dr. Steve Wilkerson, *Ph.D. Student, May 2005, "An optimization algorithm for minimum weight design of steel structures with non-smooth stress constraints," **Ph.D. Dissertation**, **CEVE, Rice University. M.S. Rice University, B.S. Rice University***

Dr. Nadathur Varadarajan, *Ph.D. Student, May 2005, "Novel Smart Variable Stiffness Tuned Mass Damper and its Real Time Identification and Control using Time-frequency Techniques," **Ph.D. Dissertation**, Rice University, **Best graduate student award,** CEVE. M.S. BITS-Pilani, India, B.S. BITS-Pilani.*

Michael Sullivan, *M.S. Student, May 2005, "State Estimation of International Space Station Centrifuge Rotor with Incomplete Knowledge of Disturbance Inputs," M.S. Thesis, **Dept. of Mech. Eng. & Mat. Sc.,** Rice University, (Draper Fellow).*

2004

Dr. Sriram Narasimhan, *Ph.D. Student, May 2004, "Control of smart base isolated buildings with new semiactive devices and novel H_2/LQG, H_∞, and time-frequency controllers," **Ph.D. Dissertation**, CEVE, Rice University., M.S. Rice, M.S. Louisiana State University, B.S. Osmania University, India.*

Jeffery Dyck (Late), *M.S. Student, May 2017, "Experimental and analytical study of variable fluid damper and stiffness device" M.S. Thesis, CEVE, Rice University. B.S. Texas A&M University.*

2003

Dr.Ashutosh Agrawal, *"Response of semiactive variable stiffness and damping systems to pulse type excitations: Analytical and experimental study" M.S. Thesis, CEVE, Rice University, B.S. IIT-Bombay, India. (Went on to get Ph.D. from UCBerkeley, currently Associate Professor at University of Houston, Texas).*

2002

Mao, Yuqing, *"Sliding mode control and nonlinear spectra of smart base isolated structures," M.S. Thesis, CEVE, Rice University, B.S. Tongji University, China.*

Criste, Erin, *"Testing and analysis of a prototype fluid damper," M. S. Thesis, Rice University, B.S. Vanderbilt University (**Third Female Graduate Student**).*

2001

Dr. Sahasrabudhe, Sanjay*, Ph.D. Student, May 2001, "Semi-active control of sliding base isolated buildings and bridges with variable stiffness and damping systems," **Ph.D. Dissertation**, CEVE, Rice University. M.S. Pune University, India, B.S. Pune University, India.*

1998—University of Missouri-Columbia

Iyer, Ravi*, "Experimental study of a 1:20 scale bridge model with sliding isolation system and innovative dampers," M.S.Thesis, CEE, University of Missouri-Columbia. B.S. VJIT, Bombay, India.*

Ma, Xiaojiang*, "System identification of an 8 story base isolated building using earthquake data," M.S.Thesis, CEE, University of Missouri-Columbia. B.S. Tongji University.*

Mate, Datta*, "Experimental and analytical study of semi-active variable stiffness control system," M.S. Thesis, CEE, University of Missouri-Columbia. B.S. Pune University.*

Sunan, Wang*, "Predictive control algorithms for semi-active variable stiffness systems in building structures," M.S. Thesis, (**Second Female Graduate Student)** CEE, University of Missouri-Columbia. B.S. Tongji University.*

1996—University of Missouri-Columbia

Wei, Wu, *"Application of partitioned predictor corrector algorithms in nonlinear structural analysis and optimal control", M.S. Project, University of Missouri-Columbia. B.S. Tianjin University.*

Keith, Ferrell*, "Stability of elastomeric seismic isolation bearings in buildings", M.S.Thesis, CEE, University of Missouri-Columbia. B.S. University of Missouri-Columbia.*

***Sun, (Tracy) Xiahong**, "Response of base isolated structures to Northridge Earthquake including pounding," M.S. Thesis, (**First Female Graduate Student),** CEE, University of Missouri-Columbia. B.S. Tsinghua University.*

1994—State University of New York at Buffalo

***Dr. Subramaniam, R. S.,** "Application of fuzzy set theory to the active control of base-isolated structures," **Ph.D. Dissertation**, CEE, SUNY at Buffalo (Co-advisor with Prof. Andrei Reinhorn). M.S. IIT-Madras, B.S. IIT-Madras.*

1991—State University of New York at Buffalo

***Dr. Tsopelas, P.,** "Nonlinear dynamic analysis of multiple building base isolated structures," M.S. thesis, CEE, SUNY at Buffalo, (with Prof. Constantinou). B.S. NTU, Athens, Greece.*

Former Group Members in Faculty Positions around the World

(total 16 to date - Advisor and Mentor)

- *Dr. Debashish Jana, Ph.D. (2021). Assistant Professor (August 2025-present), Colorado State University, Fort Collins, 2021-2025 Post Doc., UCLA.*
  https://scholar.google.com/citations?hl=en&user=b6f3ZOEAAAAJ
  https://www.engr.colostate.edu/ce/people/debasish-jana/

- *Dr. Ashish Pal, Ph.D. (2024). Assistant Professor (January 2025-present), Indian Institute of Technology, Bombay (Mumbai), 2024 Post-Doc, Rice University,*
  https://scholar.google.com/citations?hl=en&user=b6f3ZOEAAAAJ
  https://www.civil.iitb.ac.in/faculty/details/prof-ashish-pal

- *Dr. Sudheendra Herkal, Ph.D. (2023). Assistant Professor (January 2025-present), Indian Institute of Technology, Madras (Chennai), 2023 Post-Doc, Rice University,*
  https://civil.iitm.ac.in/faculty/sudheendra/
  https://scholar.google.com/citations?hl=en&user=seX-WoYAAAAJ

- *Dr. Zhilu Lai, Ph.D. (2016). Assistant Professor (August 2022-present), Internet of Things Thrust, Information Hub, The Hong Kong University of Science and Technology (Guangzhou campus), https://zlaidyn.github.io, 2018-2022 Post-Doc, ETH, Zurich*
  https://scholar.google.com/citations?user=LuwuuVQAAAAJ&hl=en

- *Dr. Debarshi Sen, Ph.D. (2018). Assistant Professor (July 2022-present), CEIE, Southern Illinois University, Carbondale, https://engineering.siu.edu/civil/faculty-staff/faculty/*

2018-2020 Post-Doc, MIT, Post-Doc 2020-2022 / Lehigh University https://orcid.org/0000-0002-6475-4659

- *Dr. Meng Wang, Ph.D. (2021) Secondary Advisor Jointly with Primary Advisor Prof. Fei Fei Sun, Tongji University), Currently Professor (2024 to present) at Beijing University of Technology, Beijing, China https://orcid.org/0000-0003-0432-8313*

- *Dr. Peng Sun, Ph.D. Rice (2017), Assistant Professor (2020-present) https://www.patrick-sun.com/, CEE, University of Central Florida, Orlando, Post-Doc Univ. of Michigan, Ann Arbor (2018-2020) https://orcid.org/0000-0002-1227-5533*

- *Dr. Yongchao Yang, Currently Associate Professor, EIT, Ningbo, formerly Assistant Professor at Michigan Technological University, Houghton, MI; Post Doc, 2014-2015, Ph.D., Rice 2014, B.S. Harbin Institute of Technology, formerly, 2017-2019, Technical Staff Member at Argonne National Laboratory, Chicago, IL, 2015-2017, Director Post-doc, Los Alamos National Laboratory, Albuquerque, New Mexico. https://orcid.org/0000-0003-1776-3306*

- *Dr. Kalil Erazo, Currently Assistant Teaching Professor, Rice University, (2022 – present), 2017-2019, Research Professor, Institute of Santo Domingo (INTEC), Dominican Republic, Post Doc, 2015-2017. https://orcid.org/0000-0002-5890-7073 https://scholar.google.com/citations?user=TtmEUHYAAAAJ&hl=en&authuser=2*

- *Dr. Tong Sun, Ph.D. (2017) Secondary Advisor Jointly with Primary Advisor Prof. Hong-Nan Li, DUT, SJZU project, Currently Assistant Prof., Shenyang Jianzhu University, China https://publons.com/author/1322887/tong-sun#profile*

- *Dr. Lin Chen, Ph.D. (2015) Secondary Advisor Jointly with Primary Advisor Prof. Limin Sun Tongji University in a Tongji Sponsored Research project, https://scholar.google.com/citations?user=X5-zCpEAAAAJ&hl=en Currently Associate Professor, Tongji University, Shanghai, China. https://chenllab.com https://orcid.org/0000-0002-3570-234X*

- *Dr. Ertan Sonmez, Ph.D., Rice (2011), Currently, 2017-present, Assistant Professor, Dept. of Civil Engineering, Atlim University, Ankara, Turkey https://www.atilim.edu.tr/en/ce/page/2242/academic-staff https://orcid.org/0000-0002-1399-1646*

- *Dr. Chao Sun, Post Doc, 2014-2015, Ph.D., Rice (2013), Currently, Associate Professor, Dept. of Civil Engineering, Louisiana State University, https://www.lsu.edu/eng/cee/people/Sun.php https://orcid.org/0000-0003-3909-0325*

- *Dr. Sriram Narasimhan, Post Doc, 2005 – 2006, Ph.D. Rice (2005), Currently **Professor at UCLA (Link)** Department of Civil Engineering (2021-present); Formerly (2006-2020) Canada Research Chair, Professor, University at Waterloo, Canada (Google Scholar Link)*

- *Dr. Steven M. Wilkerson, Ph.D., M.S., B.S. Rice (2005). currently Associate Professor of Practice, PVAMU, https://www.pvamu.edu/sites/hb2504/cvs/All/smwilkerson.pdf*

- *Dr. Bong Hwan Koh, Post-doc (2003-2004), Currently 2005-present Professor, Department of Mechanical Engineering, Dongguk University, Seoul, Korea (formerly Ph.D. from Dartmouth). https://www.dongguk.edu/eng/main; https://www.dongguk.edu/eng/dandae/79#; https://scholar.google.com/citations?user=qqcrl0IAAAAJ&hl=en&authuser=2*

Visiting Professors

- *Asst. Prof. Yi Zhao, Assistant Professor, School of Civil Engineering and Architecture, Guangxi University, 2024-present*
- *Prof. Beom-Seon Jang, Seoul National University, 2014-2016*
- *Prof. J. Chang, Suzhou University of Science and Technology, China, 2014-2015*
- *Prof. Srinivasan, Mechanical Eng., Lamar/TAMU/IISc, Fall 2012*
- *Prof. Biswajit Basu, Trinity College, Dublin, Ireland, 2006 (on sabbatical), 2005 (summer), and 2004 (summer)*
- *Prof. Sriram Narasimhan, University of Waterloo, 2007 (on sabbatical)*
- *Prof. N. Sundararajan, Electrical Eng., Nanyang Tech. University, Singapore, 2004*

Visiting Students/Post-Docs

- *Dr. Himanshu Singh, Dept. of Material Science, IIT-Kharagpur, 2024*
- *Pranath Kumar Gourishetty, Ph.D. Student, La Sapienza, Rome, 2024-2025*
- *Parnjal Chechni, Ph.D. Student, Indian Institute of Science, Bangalore, 2024*
- *Hao Wang, Ph.D. Student, Dept. of Civil Engineering, Hong-Kong Poly, 2024*
- *Liangkun Wang, Ph.D. Student, Dept. of Civil Engineering, Tongji Univ, 2019-2021*
- *Meng Wang, Ph.D. Student, Dept. of Civil Engineering, Tongji Univ, 2018-2020*
- *Zhao Hanwei, Ph.D. Student, Dept. of Civil Engineering, Southeast University, 2017-18*
- *Wei Zhang, Ph.D. Student, Dept. of Civil Engineering, Tongji University, 2016*
- *Tong Sun, Collaborative Ph.D. Student, B.S., M.S., Dalian Univ. of Technology, 2014-2016*
- *Yuyi Beasho, University of Tokyo, 2015-2016*
- *Lin Chen, Collaborative PhD. Student, Dept. of Civil Eng., Tongji University, 2012-2014*
- *Kaveh Karami, PhD. Student, Dept. of Civil Eng., Iran Univ. of Science and Technology, Tehran, Iran, Spring 2013*
- *Yudong Shi, PhD. Student, Dept. of Civil Eng., Kyoto University, Spring 2012*

Undergraduate Students

- *Clayton Waski, Rice University, 2025-present*
- *Connor Bird (Research Assistant), Rice University, 2024-2025*

- *Ray Butgen (Research Assistant), Rice University, 2016-2018*
- *Jackie Zhao (Research Assistant), Rice University, 2014-present*
- *Jihoon Kim (Research Assistant), Rice University, 2012-2014*
- *Dan Sloat (Research Assistant), Rice University, 2010-2012*
- *Peter Fobel (Research Assistant), Rice University, 2011-2012*
- *Eastman Landry (Research Assistant), Rice University, 2008-09*
- *Jeffery Haydon ((Research Assistant), Rice University, 2007-08*
- *Ike Akinwande (Research Assistant), Rice University, 2003-04*
- *Ryan Kent Giles (Research Assistant), Rice University, 2002-03*
- *Daniel Arizpe Rizzo (Research Assistant), Rice University, 2000-01*
- *Jose De La Pena (Research Assistant), Rice University, 99-2000*
- *Carlos Alvarez (Research Assistant), Rice University, 99-2000*
- *Sabrina Macedo Moran (Research Assistant), Cornell University, 99-2000*
- *Tyson Newhouse (Research Assistant), Univ. of Missouri, prior to 96-97*
- *Pulliam, John, E. (Research Assistant), Univ. of Missouri, prior to 96-97*
- *Hendrix, Rick (Research Assistant), Univ. of Missouri, prior to 95-96*
- *Stone, David (Research Assistant), Univ. of Missouri, 94-95*
- *Ferrell, Keith (Research Assistant), Univ. of Missouri, 93-94*
- *Gazdowski, Eric (Research Assistant), Univ. of Missouri, 93-94*

PUBLICATIONS

Summary*: 2 Books, 246 Journal Papers, 169 Conference Papers, 9 Technical Reports, 14 patent applications*

CITATIONS

Goggle Citations (>24,550 citations, H index 85)
http://scholar.google.com/citations?user=l_jZ3NgAAAAJ&hl=en
Web of Science SCIE (>14,700 citations, H index 68)
https://www.webofscience.com/wos/author/record/E-6291-2012
Scopus (>17,730 citations, H index 73)
http://www.scopus.com/authid/detail.url?authorId=7003411593
ORCID
http://orcid.org/0000-0003-0088-1656

BOOKS

1. *Loh, K. and Nagarajaiah, S. "Innovative Developments of Advanced Multifunctional Nanocomposites in Civil and Structural Engineering," Elsevier, Woodhead Publishing 2016. (PDF)*

2. *Cimellaro, G. P., Nagarajaiah, S., and Kunnath, S. "Computational Methods in Seismic Protection, Hybrid Testing and Resilience in Earthquake Engineering" Springer, Geotechnical, Geological and Earthquake Engineering Book Series, Vol. 33, 2015. (PDF)*

JOURNAL PUBLICATIONS

Summary *Published = 247 + several in review*
For a full list of papers, visit the following websites:
http://scholar.google.com/citations?user=l_jZ3NgAAAAJ&hl=en
http://orcid.org/0000-0003-0088-1656
https://www.webofscience.com/wos/author/record/661994
http://www.scopus.com/authid/detail.url?authorId=7003411593

J247. Wang, H., Pal, A., Nagarajaiah, S., Ke, S., Zhu, S. (2026) "Latching control: Experimental study on pendulum latched mass damper," Journal Engineering Structures, 361, 122745, https://doi.org/10.1016/j.engstruct.2026.122745.

J246. Das, A., Pal, A., Nagarajaiah, S., Sajeer, M.M., Mukhopadhyay, S. (2026). "Signal-based online acceleration and strain data fusion using B-splines and Kalman filter for full-field dynamic displacement estimation," Mechanical Systems and Signal Processing, 247, 113951, https://doi.org/10.1016/j.ymssp.2026.113951.

J245. Wang, M., Liu, X.H., Liu, C., Sun, F.F., Koetaka, Y., Nagarajaiah, S., Du, X.L. (2026). "Hierarchical Simulations and Seismic Performance Evaluation of Tall Buildings Equipped with Negative Stiffness Damped Outrigger with Damping Amplification," ASCE Journal of Structural Engineering, 152(3), 04025291, https://doi.org/10.1061/JSENDH.STENG-15224.

J244. Zhao, Y., Qin, Q., Li, H., Nagarajaiah, S. (2026)."Numerical Simulation Analysis of Large LNG Storage Tanks with Novel Seismic Mitigation Measures Based on Fluid–Structure Interaction," Soil Dynamics and Earthquake Engineering, 201, 109925, https://doig.org10.1016/j.soildyn.2025.109925.

J243.Herkal, S., Nagarajaiah, S. (2025)."Negative Stiffness Brace Device for Structural Systems: Analytical and Experimental Study," Journal of Structural Engineering, 151(10), 04025153, https://doi.org/10.1061/JSENDH.STENG-14076.

J242. Pal, A., Bhowmick, S., Nagarajaiah, S. (2025)."Physics-Informed AI and ML-Based Sparse System Identification Algorithm for Discovery of PDEs Representing Nonlinear Dynamic Systems," Mechanical Systems and Signal Processing, 238, 113238, https://doi.org10.1016/j.ymssp.2025.113238.

J241.Tang, Z.Y., Ma, Z.C., Li, J.Y., Wang, M., Nagarajaiah, S., Du, X.L. (2025)."Engineering Parameter Demand and Identification of Vertically Base-Isolated Buildings for Dual-Control of Earthquake and Metro-Induced Vibration," Journal of Building Engineering, 113711, https://doi.org/10.1016/j.jobe.2025.113711.

J240. Wang, M., Chen, J.L., Sun, F.F., Nagarajaiah, S., Du, X.L. (2025)."Root-Locus Optimal Formula for Seismic Control of Multi-Story Structures Equipped with Tuned Mass Damper–Inerter Enhanced by Negative Stiffness," Journal of Building Engineering, 103, 112203, https://doi.org/10.1016/j.jobe.2025.112203.

J239. Yang, D., Nagarajaiah, S., Chen, L., Sun, L., Basu, B. (2025)."Dynamic Response Reduction of Floating Offshore Renewable Energy Applications with a High-Damping Mooring System," Ocean Engineering, 324, 120609, https://10.1016/j.oceaneng.2025.12060.

J238. Singh, H., Santos, A.B., Das, D., Ambekar, R.S., Woellner, C.F., Nagarajaiah, S. (2025). "Zeolites Topology-Inspired Multi-Material 3D Printing of Porous Composite Structures with High Resilience," Progress in Additive Manufacturing, 1–13, https://doi.org10.1007/s40964-025-01103-7.

J237. Wang, M., Koetaka, Y., Sun, F.F., Liu, C., Nagarajaiah, S., Ashida, Y., Du, X.L. (2025). "Dynamic Test of Negative Stiffness Damped Outrigger with Damping Amplification," Earthquake Engineering & Structural Dynamics, 54(4), 1141–1155, https://doi.org/10.1002/eqe.4302.

J236. Li, B., Chen, L., Nagarajaiah, S., Sun, L. (2025). "Joint approximate diagonalization technique for modal identification of the Donghai Bridge, Advances in Bridge Engineering," 6 (1), 2, https://doi.org/10.1186/s43251-024-00148-y

J235. Wang, M., Koetaka, Y., Sun, F.F., Liu, C., Nagarajaiah, S., Ashida, Y., Du, X.L., (2025). "Dynamic Test of Negative Stiffness Damped Outrigger with Damping Amplification," Earthquake Engineering & Structural Dynamics, DOI: https://doi.org/10.1002/EQE.4302

J234. Xu, K. and Wang, H.S., Wang, M., Liu, B., Nagarajaiah, S. and Han, Q. (2025). "Dynamic Vibration Characteristics and Mitigation of the Stress-Ribbon Bridge by Using a Rail-Damper System," Structural Control and Health Monitoring, 1, 3296513, DOI: https://doi.org/10.1155/STC/3296513

J233. Wang, M., Chen, J.L., Sun, F.F., Nagarajaiah, S., Du, X.L. (2024). "Closed-form optimal solution of two-degree-of-freedom system with Inerter based on equal modal damping with potential application in non-structural elevator for seismic control," Earthquake Engineering & Structural Dynamics, 53(15), 4785—4805, DOI: https://doi.org/10.1002/EQE.4243

J232. Meng, W., Bachilo, S.M., Weisman, R B., Nagarajaiah, S. (2024). "A Review: Non-Contact and Full-Field Strain Mapping Methods for Experimental Mechanics and Structural Health Monitoring," Sensors, 24(20), 6573, DOI: https://doi.org/10.3390/S24206573

J231. Wang, M. Liu, C., Zhao, M., Sun, F.F. Nagarajaiah, S., Du, X.L. (2024). "Damping dissipation analysis of damped outrigger tall buildings with inerter and negative stiffness considering soil-structure-interaction," Journal of Building Engineering, 88, 109225, DOI: https://doi.org/10.1016/J.JOBE.2024.109225

J230. Pal, A., Nagarajaiah, S. (2024). "Data fusion based on short-term memory Kalman filtering using intermittent-displacement and acceleration signal with a time-varying bias," Mechanical Systems and Signal Processing, 216, 111482, DOI: http://doi.org/10.1016/J.YMSSP.2024.111482

J229. Pal, A., Nagarajaiah, S. (2024). "Sparsity promoting algorithm for identification of nonlinear dynamic system based on Unscented Kalman Filter using novel selective thresholding and penalty-based model selection," Mechanical Systems and Signal Processing, 212, 111301, DOI: https://doi.org/10.1016/J.YMSSP.2024.111301

J228. Advincula, P.A., Meng, W., Beckham, J.L., Nagarajaiah, S., Tour, J.M. (2024). "Conversion of CO2-Derived Amorphous Carbon into Flash Graphene Additives," Macromolecular Materials and Engineering, 309(2), 2300266, DOI: https://doi.org/10.1002/MAME.202300266

J.227. Pasala, D.T.R. and Sarlis, A.A., Nagarajaiah, S., Reinhorn, A. M., Constantinou, M.C, Taylor, D., Sen, D., Herkal, S. (2025). "Negative stiffness device for seismic protection of MDOF yielding fixed base structures: Experimental and analytical study," Earthquake Spectra, 14(1), 682 – 703, DOI: https://doi.org/10.1177/87552930241292348

J226. Advincula, P.A., Meng, W. Eddy, L.J., Scotland, P.Z., Beckham, J.L., Nagarajaiah, S. and Tour, J.M. (2023). "Replacement of Concrete Aggregates with Coal-Derived Flash Graphene," ACS Applied Materials and Interfaces, 16(1), 1474–1481, DOI: https://doi.org/10.1021/acsami.3c15156

J225. Wang, P.G., Lu, H.Q., Wang, M., Nagarajaiah, S., Du, X.L. (2023). " Experimental and numerical investigations on seismic responses of wind turbine structures with amplifying damping transfer system," Soil Dynamics an Earthquake Engineering, 175, 108277, DOI: https://doi.org/10.1016/J.SOILDYN.2023.108277

J224. Pal, A., Nagarajaiah, S., (2024). "Sparsity promoting algorithm for identification of nonlinear dynamic system based on Unscented Kalman Filter using novel selective thresholding and penalty-based model selection," Mechanical Systems and Signal Processing 2024, 212, 111301, DOI: https://doi.org/10.1016/j.ymssp.2024.111301

J223. Pal, A., Nagarajaiah, S., (2024). "Data fusion based on short-term memory Kalman filtering using intermittent displacement and acceleration signal with a time-varying bias," Mechanical Systems and Signal Processing, 2024, 216, 111482, DOI: http://doi.org/10.1016/j.ymssp.2024.111482

J222. Wang, M., Liu, C., Sun, F.F., Nagarajaiah, S., Du, X.L. (2024). "Damping dissipation analysis of damped outrigger tall buildings with inerter and negative stiffness considering soil-structure-interaction," Journal of Building Engineering, 2024, 88, 109225, DOI: http://doi.org/10.1016/j.jobe.2024.109225

J221. Wang, M., Lu, H.-Q., Wang, P.-G., Nagarajaiah, S., Du, X.-L. (2024). "Damping Enhancement Solution for Wind Turbines Through Amplifying Damping Transfer Systems," International Journal of Structural Stability and Dynamics, 2024, 24(9), 2450094, DOI: http://doi.org/10.1142/S0219455424500949

J220. Wen, Y., Chen, L., Nagarajaiah, S. (2023). "Generalized damped outrigger systems for suppressing multimode vibrations of tall buildings," International Journal of Structural Stability and Dynamics, 2450034. DOI: https://doi.org/10.1142/S0219455424500342

J219. Wyss, K. M., Li, J. T., Advincula, P. A., Bets, K. V., Chen, W., Eddy, L., ... & Tour, J. M. (2023). Upcycling of Waste Plastic into Hybrid Carbon Nanomaterials," Advanced Materials, 35(16), 2209621. DOI: https://doi.org/10.1002/adma.202209621

J218. Wang, P. G., Lu, H. Q., Wang, M., Nagarajaiah, S., Du, X. L. (2023). "Experimental and numerical investigations on seismic responses of wind turbine structures with amplifying damping transfer system," Soil Dynamics and Earthquake Engineering, 175, 108277. DOI: https://doi.org/10.1016/j.soildyn.2023.108277

J217. Wang, L., Zhou, Y., Nagarajaiah, S., Shi, W. (2023). "Bi-directional semi-active tuned mass damper for torsional asymmetric structural seismic response control," Engineering Structures, 294, 116744. DOI: https://doi.org/10.1016/j.engstruct.2023.116744

J216. Chen, L., Liu, Z., Zou, Y., Wang, M., Nagarajaiah, S., Sun, F.F., Sun, L. (2023). "Practical negative stiffness device with viscoelastic damper in parallel or series configuration for cable damping improvement," Journal of Sound and Vibration, 560, 117757. DOI: https://doi.org/10.1016/j.jsv.2023.117757

J215. Jana, D., Nagarajaiah, S. (2023). "Full-Field Vibration Response Estimation from Sparse Multi-Agent Automatic Mobile Sensors Using Formation Control Algorithm," Sensors, 23(18), 7848. DOI: https://doi.org/10.3390/s23187848

J214. Wang, M., Lu, H. Q., Wang, P. G., Nagarajaiah, S., Du, X. L. (2023). "Damping Enhancement Solution for Wind Turbines Through Amplifying Damping Transfer Systems," International Journal of Structural Stability and Dynamics, 2450094, 26. DOI: https://doi.org/10.1142/S0219455424500949

J213. Bhowmick, S., Nagarajaiah, S. (2023). "Physics-guided identification of Euler–Bernoulli beam PDE model from full-field displacement response with SimultaNeous basis function Approximation and Parameter Estimation (SNAPE)," Engineering Structures, 289, 116231. DOI: https://doi.org/10.1016/j.engstruct.2023.116231

J212. Pal, A., Meng, W., Nagarajaiah, S. (2023). "Deep Learning-Based Subsurface Damage Localization Using Full-Field Surface Strains," Sensors, 23(17), 7445. DOI: https://doi.org/10.3390/s23177445

J211. Wang, M., Sun, F. F., Koetaka, Y., Chen, L., Nagarajaiah, S., Du, X. L. (2023). "Frequency independent damped outrigger systems for multi-mode seismic control of super tall buildings with frequency independent negative stiffness enhancement," Earthquake Engineering & Structural Dynamics. DOI: https://doi.org/10.1002/eqe.3891

J210. Pal, A., Meng, W., Bachilo, S. M., Weisman, R. B., Nagarajaiah, S. (2023). "Subsurface damage detection via noncontact laser based surface level strain sensing smart skin with carbon nanotubes," Engineering Structures, 284, 116017. DOI: https://doi.org/10.1016/j.engstruct.2023.116017

J209. Advincula, P. A., Meng, W., Eddy, L. J., Beckham, J. L., Siqueira, I. R., Luong, D. X., Nagarajaiah, S., Tour, J. M. (2023). "Ultra-High Loading of Coal-Derived Flash Graphene Additives in Epoxy Composites," Macromolecular Materials and Engineering, 308(6), 2200640. DOI: https://doi.org/10.1002/mame.202200640

J208. Wang, L., Nagarajaiah, S., Zhou, Y., & Shi, W. (2023). "Experimental study on adaptive-passive tuned mass damper with variable stiffness for vertical human-induced vibration control," Engineering Structures, 280, 115714. DOI: https://doi.org/10.1016/j.engstruct.2023.115714

J207. Xiao, L., Bursi, O. S., Wang, M., Nagarajaiah, S., Sun, F.F., Du, X. L. (2023). "Metamaterial beams with negative stiffness absorbers and rotation: band-gap behavior and band-gap mergin,". Engineering Structures, 280, 115702. DOI: https://doi.org/10.1016/j.engstruct.2023.115702

J206. Bhowmick, S., Nagarajaiah, S., Kyrillidis, A. (2023). "Data-and theory-guided learning of partial differential equations using SimultaNeous basis function Approximation and Parameter Estimation (SNAPE)," Mechanical Systems and Signal Processing, 189, 110059 DOI: https://doi.org/10.1016/j.ymssp.2022.110059

J205. Herkal, S., Rahman, M.M., Nagarajaiah, S., Harikrishnan, V.V.J., Ajayan, P. (2023). "3D printed metamaterials for damping enhancement and vibration isolation: Schwarzites," Mechanical Systems and Signal Processing 185, 109819. DOI: https://doi.org/10.1016/j.ymssp.2022.109819

J204. Jana, D., Nagarajaiah, S., (2023). "Physics-Guided Real-Time Full-Field Vibration Response Estimation from Sparse Measurements Using Compressive Sensing," Sensors, 23(1), 384, DOI: https://doi.org/10.3390/s23010384

J203. Jana, D., Nagarajaiah, S., (2023). "Data-driven full-field vibration response estimation from limited measurements in real-time using dictionary learning and compressive sensing," Engineering Structures, 275, 115280. DOI: https://doi.org/10.1016/j.engstruct.2022.115280

J202. Pal, A., Meng, W., Nagarajaiah, S. (2022)."Hybrid method for full-field response estimation using sparse measurement data based on inverse analysis and static condensation," Journal of Infrastructure Intelligence and Resilience, 1(2), 100017, DOI: https://doi.org/10.1016/j.iintel.2022.100017

J201. Advincula, P.A., Meng, W., Eddy, L.J., Beckham, J. L., Siqueira, I.R., Luong, D.X., Chen, W., Pasquali, M., Nagarajaiah, S., Tour, J.M. (2022). "Ultra-High Loading of Coal-Derived Flash Graphene Additives in Epoxy Composites," Macromolecular Materials, and Engineering, DOI: https://doi.org/10.1002/mame.202200640

J200. Meng, W., Bachilo, S.M., Parol, J., Weisman, R. B., Nagarajaiah, S., (2022). "Noncontact strain sensing in cement-based material using laser-induced fluorescence from nanotube-based skin," Structural Monitoring and Maintenance, DOI: https://doi.org/10.12989/smm.2022.9.3.259

J199. Wang, L., Nagarajaiah, S., Shi, W., Zhou, Y. (2022). "Seismic performance improvement of base-isolated structures using a semi-active tuned mass damper," Engineering Structures 271, 114963, DOI: https://doi.org/10.1016/j.engstruct.2022.114963

J198. Chen, L., Liu, Z., Nagarajaiah, S., Sun, L., Zhao, L., Cui, W. (2022). "Vibration mitigation of long-span bridges with damped outriggers," Engineering Structures 271, 114873, DOI: https://doi.org/10.1016/j.engstruct.2022.114873

J197. Nagarajaiah, S., Zou, K., Herkal, S. (2022). "Reduction of Transmissibility and Increase in Efficacy of Vibration Isolation Using Negative Stiffness Device with Enhanced Damping," Structural Control and Health Monitoring, e3081, DOI: https://doi.org/10.1002/stc.3081

J196. Meng, W., Pal, A. Bachilo, S.M., Weisman, R. B., Nagarajaiah, S., (2022). "Next-Generation 2D Optical Strain Mapping with Strain-Sensing Smart Skin Compared to Digital Image Correlation," Nature - Scientific Reports, 12(1), 11226, DOI: https://doi.org/10.1038/s41598-022-15332-1

J195. Nagarajaiah, S., Chen, L., Wang, M. (2022). "Adaptive Stiffness Structures with Dampers: Seismic and Wind Response Reduction using Passive Negative Stiffness and Inerter Systems," Journal of Structural Engineering, 148 (11), 04022179, DOI: https://doi.org/10.1061/(ASCE)ST.1943-541X.0003472

J194. Wang, M., Nagarajaiah, S., Chen, L. (2022). "Adaptive passive negative stiffness and damping (NSD) for retrofit of existing tall buildings with tuned mass damper (TMD): TMD-NSD," Journal of Structural Engineering, 148 (11), 04022180, DOI: https://doi.org/10.1061/(ASCE)ST.1943-541X.0003474

J193. Wang, M., Li, Y.W., Nagarajaiah, S., Xiang, Y. (2022). "Effectiveness and robustness of braced-damper systems with adaptive negative stiffness devices in yielding structures," Earthquake Engineering & Structural Dynamics, 51 (11), 2648-2667, DOI: https://doi.org/10.1002/eqe.3693

J192. Wang, M., Du, X. L., Sun, F. F., Nagarajaiah, S., Li, Y. W. (2022). "Fragility analysis and inelastic seismic performance of steel braced-core-tube frame outrigger tall buildings with passive adaptive negative stiffness damped outrigger," Journal of Building Engineering, 52, 104428. DOI: https://doi.org/10.1016/j.jobe.2022.104428

J191.Wang, M., Sun, F. F., Nagarajaiah, S., Li, Y. W. (2022). "Frequency-dependency/independency analysis of damping magnification effect provided by tuned inerter absorber and negative stiffness

amplifying damper considering soil-structure interaction." Mechanical Systems and Signal Processing, 172, 108965 DOI: https://doi.org/10.1016/j.ymssp.2022.108965 (PDF)

J190. Wang, M., Nagarajaiah, S., Sun, F. F. (2022). "A novel crosswind mitigation strategy for tall buildings using negative stiffness damped outrigger systems," Structural Control and Health Monitoring, e2988. https://doi.org/10.1002/stc.2988 (PDF)

J189. Jana, D., Nagarajaiah, S., Yang, Y. (2022). "Computer vision-based real-time cable tension estimation algorithm using complexity pursuit from video and its application in Fred-Hartman cable-stayed bridge," Structural Control and Health Monitoring, e2985. DOI: https://doi.org/10.1002/stc.2985 (PDF)

J188. Dharap, P., Nagarajaiah, S., Li, Z. (2022). "Geometric nonlinear analysis of large rotation behavior of a curved SWCNT," International Journal of Smart and Nano Materials, 1-14. DOI: https://doi.org/10.1080/19475411.2022.2061077 (PDF)

J187. Meng, W., Bachilo, S.M., Parol, J., Nagarajaiah, S., Weisman, R. B. (2022). "Near-infrared photoluminescence of Portland cement," Nature - Scientific Reports, 12, 1197 DOI: https://doi.org/10.1038/s41598-022-05113-1 (PDF)

J186. Jana, D., Patil, J., Herkal, S., Nagarajaiah, S., Duenas-Osorio, L. (2022). "CNN and Convolutional Autoencoder (CAE) based real-time sensor fault detection, localization, and correction," Mechanical Systems and Signal Processing, 169, 108723. DOI: https://doi.org/10.1016/j.ymssp.2021.108723 (PDF)

J185. Chen, W., Jana, D., Singh, A., Jin, M., Cenedese, M., Kosova, G., Brake, M.R., Schwingshackl, C.W., Nagarajaiah, S., Moore, K.J. and Noël, J.P., (2022). "Measurement and identification of the nonlinear dynamics of a jointed structure using full-field data, Part I: Measurement of nonlinear dynamics," Mechanical Systems and Signal Processing, 166, 108401. DOI: https://doi.org/10.1016/j.ymssp.2021.108401 (PDF)

J184. Jin, M., Kosova, G., Cenedese, M., Chen, W., Singh, A., Jana, D., Brake, M.R., Schwingshackl, C.W., Nagarajaiah, S., Moore, K.J. and Noël, J.P., (2022). "Measurement and identification of the nonlinear dynamics of a jointed structure using full-field data; Part II-Nonlinear system identification," Mechanical Systems and Signal Processing, 166, p.108402. DOI: https://doi.org/10.1016/j.ymssp.2021.108402 (PDF)

J183. Jana, D., Nagarajaiah, S., Yang, Y., Li, S. (2022). "Real-time cable tension estimation from acceleration measurements using wireless sensors with packet data losses: analytics with compressive sensing and sparse component analysis," Journal of Civil Structural Health Monitoring, 1-19. DOI: https://doi.org/10.1007/s13349-021-00526-4 (PDF)

J182. Dharap, P., Nagarajaiah, S. (2021). "Tracking of Stiffness Variation in Structural Members Using Input Error Function Observers," Applied Sciences, 11(24), 11857. DOI: https://doi.org/10.3390/app112411857 (PDF)

J181. Huang, C., Nagarajaiah, S. (2021). "Output only system identification using complex wavelet modified second order blind identification method-A time-frequency domain approach," Structural Engineering and Mechanics, 78(3), 369-378. DOI: https://doi.org/10.12989/sem.2021.78.3.369 (PDF)

J180. Bhowmick, S., Nagarajaiah, S. (2021). "Data-Driven Theory-guided Learning of Partial Differential Equations using SimultaNeous Basis Function Approximation and Parameter Estimation (SNAPE), DOI: arXiv: https://arxiv.org/abs/2109.07471 (PDF)

J179.Bhowmick, S., Nagarajaiah, S. (2022). "Spatiotemporal compressive sensing of full-field Lagrangian continuous displacement response from optical flow of edge: Identification of full-field dynamic modes," Mechanical Systems and Signal Processing, 164, 108232. DOI: https://doi.org/10.1016/j.ymssp.2021.108232 (PDF)

J178. Sun, L., Sun, J., Nagarajaiah, S., & Chen, L. (2021). "Inerter dampers with linear hysteretic damping for cable vibration control. Engineering Structures," 247, 113069. DOI: https://doi.org/10.1016/j.engstruct.2021.113069 (PDF)

J177. Wang, M., Nagarajaiah, S., & Sun, F. F. (2021). "Optimal design of supplemental negative stiffness damped outrigger system for high-rise buildings resisting multi-hazard of winds and earthquakes," Journal of Wind Engineering and Industrial Aerodynamics, 218, 104761. DOI: https://doi.org/10.1016/j.jweia.2021.104761 (PDF)

J176. Wang, L., Nagarajaiah, S., Shi, W., & Zhou, Y. (2021). "Semi-active control of walking-induced vibrations in bridges using adaptive tuned mass damper considering human-structure-interaction," Engineering Structures, 244, 112743. DOI: https://doi.org/10.1016/j.engstruct.2021.112743 (PDF)

J175. Azizi, S., Karami, K., Nagarajaiah, S. (2021). "Developing a semi-active adjustable stiffness device using integrated damage tracking and adaptive stiffness mechanism," Engineering Structures, 238, 112036. DOI: https://doi.org/10.1016/j.engstruct.2021.112036 (PDF)

J174. Lai, Z., Mylonas, C., Nagarajaiah, S., Chatzi, E. (2021). "Structural Identification with Physics-informed Neural Ordinary Differential Equations," Journal of Sound and Vibration, 116196. DOI: https://doi.org/10.1016/j.jsv.2021.116196 (PDF)

J173. Li, Y., Sun, L., Zhang, W., Nagarajaiah, S. (2021). "Bridge damage detection from the equivalent damage load by multitype measurements," Structural Control and Health Monitoring, 28(5), e2709. DOI: https://doi.org/10.1002/stc.2709 (PDF)

J172. Jana, D., Nagarajaiah, S., (2021). "Computer vision-based real-time cable tension estimation in Dubrovnik cable-stayed bridge using moving handheld video camera," Structural Control Health Monitoring, 28.5 (2021): e2713 DOI: https://doi.org/10.1002/stc.2713 (PDF)

J171. Chen, L., Nagarajaiah, S., Sun, L. (2021). "A unified analysis of negative stiffness dampers and inerter-based absorbers for multimode cable vibration control," Journal of Sound and Vibration, 494, 115814. DOI: https://doi.org/10.1016/j.jsv.2020.115814 (PDF)

J170. Sun, F. F., Wang, M., Nagarajaiah, S. (2021). "Multi-objective optimal design and seismic performance of negative stiffness damped outrigger structures considering damping cost," Engineering Structures, 229, 111615. DOI: https://doi.org/10.1016/j.engstruct.2020.111615 (PDF)

J169. Bhowmick, S., Nagarajaiah, S., Veeraraghavan, A. (2020). "Vision and Deep Learning-Based Algorithms to Detect and Quantify Cracks on Concrete Surfaces from UAV Videos". Sensors, 20(21), 6299. DOI: https://doi.org/10.3390/s20216299 (PDF)

J168. Wang, M., Nagarajaiah, S., Sun, F. F. (2020). "Dynamic Characteristics and Responses of Damped Outrigger Tall Buildings Using Negative Stiffness," Journal of Structural Engineering 146 (12), 04020273. DOI: https://doi.org/10.1061/(ASCE)ST.1943-541X.0002846 (PDF)

J167. Wang, L., Nagarajaiah, S., Shi, W., Zhou, Y. (2020). "Study on adaptive-passive eddy current pendulum tuned mass damper for wind-induced vibration control," The Structural Design of Tall and Special Buildings 29 (15), e1793. DOI: https://doi.org/10.1002/tal.1793 (PDF)

J166. Bhowmick, S., Nagarajaiah, S. (2020). "Identification of full-field dynamic modes using continuous displacement response estimated from vibrating edge video," Journal of Sound and Vibration, 115657. DOI: https://doi.org/10.1016/j.jsv.2020.115657 (PDF)

J165. Bhowmick, S., Nagarajaiah, S. (2020). "Automatic detection and damage quantification of multiple cracks on concrete surface from video," International Journal of Sustainable Materials and Structural Systems, Inderscience Pub., 4 (2-4), 292-311. DOI: https://doi.org/10.1504/IJSMSS.2020.109097 (PDF)

J164. Nagarajaiah, S., Sen, D. (2020). "Apparent-weakening by adaptive passive stiffness shaping along the height of multistory building using negative stiffness devices and dampers for seismic protection," Engineering Structures 220, 110754. DOI: https://doi.org/10.1016/j.engstruct.2020.110754 (PDF)

J163. Bhowmick, S., Nagarajaiah, S., Lai, Z. (2020). "Measurement of full-field displacement time history of a vibrating continuous edge from video," Mechanical Systems and Signal Processing 144, 106847. DOI: https://doi.org/10.1016/j.ymssp.2020.106847 (PDF)

J162. Sun, L., Shang, Z., Xia, Y., Bhowmick, S., Nagarajaiah, S. (2020). "Review of Bridge Structural Health Monitoring Aided by Big Data and Artificial Intelligence: From Condition Assessment to Damage Detection," Journal of Structural Engineering 146 (5), 04020073. DOI: https://doi.org/10.1061/(ASCE)ST.1943-541X.0002535 (PDF)

J161. Wang, M., Sun, F. F., Nagarajaiah, S. (2019). Simplified optimal design of MDOF structures with negative stiffness amplifying dampers based on effective damping. The Structural Design of Tall and Special Buildings, 28(15), e1664. DOI: https://doi.org/10.1002/tal.1664 (PDF)

J160. Sen, D., Erazo, K., Zhang, W., Nagarajaiah, S., Sun, L. (2019). "On the effectiveness of principal component analysis for decoupling structural damage and environmental effects in bridge structures," Journal of Sound and Vibration, 457, 280-298. DOI: https://doi.org/10.1016/j.jsv.2019.06.003 (PDF)

J159. Sen, D., Aghazadeh, A., Mousavi, A., Nagarajaiah, S., Baraniuk, R., Dabak, A. (2019). "Data-driven semi-supervised and supervised learning algorithms for health monitoring of pipes," Mechanical Systems and Signal Processing 131, 524-537. DOI: https://doi.org/10.1016/j.ymssp.2019.06.003 (PDF)

J158. Lei, Y., Xia, D., Erazo, K., Nagarajaiah, S. (2019). "A novel unscented Kalman filter for recursive state-input-system identification of nonlinear systems, "Mechanical Systems and Signal Processing 127, 120-135. DOI: https://doi.org/10.1016/j.ymssp.2019.03.013 (PDF)

J157. Wang, M., Sun, F.F., Yang, J., Nagarajaiah, S. (2019). "Seismic protection of SDOF systems with a negative stiffness amplifying damper," Engineering Structures 190, 128-141. DOI: https://doi.org/10.1016/j.engstruct.2019.03.110 (PDF)

J156. Zhao, H., Ding, Y., Nagarajaiah, S., Li, A. (2019). "Longitudinal Displacement Behavior and Girder End Reliability of a Jointless Steel-Truss Arch Railway Bridge during Operation," Applied Sciences 9 (11), 2222. DOI: https://doi.org/10.3390/app9112222 (PDF)

J155. Erazo, K., Moaveni, B., Nagarajaiah, S. (2019). "Bayesian seismic strong-motion response and damage estimation with application to a full-scale seven story shear wall structure," Engineering Structures 186, 146-160. DOI: https://doi.org/10.1016/j.engstruct.2019.02.017 (PDF)

J154. Lai, Z., Sun, T. Nagarajaiah, S. (2019). "Adjustable template stiffness device and SDOF nonlinear frequency response," Nonlinear Dynamics 96 (2), 1559-1573. DOI: https://doi.org/10.1007/s11071-019-04871-4 (PDF)

J153. Sun, C., Nagarajaiah, S. (2019). "Study of a novel adaptive passive stiffness device and its application for seismic protection," Journal of Sound and Vibration 443, 559-575. DOI: https://doi.org/10.1016/j.jsv.2018.12.015 (PDF)

J152. Lai, Z., Nagarajaiah, S. (2019). "Semi-supervised structural linear/nonlinear damage detection and characterization using sparse identification," Structural Control and Health Monitoring 26 (3), e2306. DOI: https://doi.org/10.1002/stc.2306 (PDF)

J151. Karami, K., Manie, S., Ghafouri, K., Nagarajaiah, S. (2019). "Nonlinear structural control using integrated DDA/ISMP and semi-active tuned mass damper," Engineering Structures 181, 589-604. DOI: https://doi.org/10.1016/j.engstruct.2018.12.059 (PDF)

J150. Sun, P., Bachilo, S. M., Lin, C.W., Nagarajaiah, S., Weisman, R. B. (2019). "Dual-layer nanotube-based smart skin for enhanced noncontact strain sensing," Structural Control and Health Monitoring, DOI: 10.1002/stc.2279, e2279. DOI: https://doi.org/10.1002/stc.2279 (PDF)

J149, Lai, Z., Nagarajaiah, S. (2019) "Sparse structural system identification method for nonlinear dynamic systems with hysteresis/inelastic behavior," Mechanical Systems and Signal Processing, 117, pp. 813-842. DOI: https://doi.org/10.1016/j.ymssp.2018.08.033 (PDF)

J148. Erazo, K., Sen, D., Nagarajaiah, S., Sun, L. (2019). "Vibration-based structural health monitoring under changing environmental conditions using Kalman filtering," Mechanical Systems and Signal Processing, 117, pp. 1-15. DOI: https://doi.org/10.1016/j.ymssp.2018.07.041 (PDF)

J147. Sen, D., Aghazadeh, A., Mousavi, A., Nagarajaiah, S., Baraniuk, R. (2019). "Sparsity-based approaches for damage detection in plates," Mechanical Systems and Signal Processing 117, pp. 333-346. DOI: https://doi.org/10.1016/j.ymssp.2018.08.019 (PDF)

J146. Zhao, H.W., Ding, Y.L., Nagarajaiah, S., and Li, A.Q. (2019). "Behavior Analysis and Early Warning of Girder Deflections of a Steel-Truss Arch Railway Bridge under the Effects of Temperature and Trains: Case Study." Journal of Bridge Engineering, 24: 05018013. DOI: https://doi.org/10.1061/(ASCE)BE.1943-5592.0001327 (PDF)

J145. Sun, L. M., Zhang, W., and Nagarajaiah, S. (2019). "Bridge Real-Time Damage Identification Method Using Inclination and Strain Measurements in the Presence of Temperature Variation," ASCE Journal of Bridge Engineering, 24, 04018111 DOI: https://doi.org/10.1061/(ASCE)BE.1943-5592.0001325 (PDF)

J144. Sun, P., Bachilo, S. M., Lin, C.W., Nagarajaiah, S., Weisman, R. B. (2019). "Noncontact Strain Mapping Using Laser-Induced Fluorescence from Nanotube-Based Smart Skin," Journal of Structural Engineering, 145(1), 04018238. DOI: https://doi.org/10.1061/(ASCE)ST.1943-541X.0002227. (PDF)

J143. Erazo, K., Nagarajaiah, S. (2018). "Bayesian structural identification of a hysteretic negative stiffness earthquake protection system using unscented Kalman filtering," Structural Control and Health Monitoring, 25(9), e2203. DOI: https://doi.org/10.1002/stc.2203 (PDF)

J142. Cahill, P., Pakrashi, V., Sun, P., Mathewson, A., Nagarajaiah, S. (2018). "Energy harvesting techniques for health monitoring and indicators for control of a damaged pipe structure," Smart Structures and Systems, 21 (3), 287-303. DOI: https://doi.org/10.12989/sss.2018.21.3.287 (PDF)

J141. Li, H. N., Sun, T., Lai, Z., Nagarajaiah, S. (2018). "Effectiveness of Negative Stiffness System in the Benchmark Structural-Control Problem for Seismically Excited Highway Bridges,"Journal of Bridge Engineering, 23 (3), 04018001, DOI: https://doi.org/10.1061/(ASCE)BE.1943-5592.0001136 (PDF)

J140.Erazo, K. and Nagarajaiah, S., (2017). "An offline approach for output-only Bayesian identification of stochastic nonlinear systems using unscented Kalman filtering", Journal of Sound and Vibration, 397, 222-240, DOI: https://doi.org/10.1016/j.jsv.2017.03.001 (PDF)

J139.Sun, T., Li, H.-N., Lai, Z.-L., Nagarajaiah, S., (2017). "Study on structural vibration control using curve-based negative stiffness device," Journal of Vibration Engineering/Zhendong Gongcheng Xuebao, 30(3), pp. 449-4 DOI:https://doi.org/10.16385/j.cnki.issn.1004-4523.2017.03.013.html (PDF)

J138. Sun, T., Li, H., Nagarajaiah, S. (2017). "Optimal placement of negative stiffness device using genetic algorithm," Journal of Dalian University of Technology/ Dalian Ligong Daxue Xuebao, Volume 57, Issue 1, 1 January 2017, Pages 87-91, DOI: https://doi.org/10.7511/dllgxb201701012 (PDF)

J137. Sen, D., Erazo, K. and Nagarajaiah, S., (2017). "Bayesian estimation of acoustic emissions source in plate structures using particle-based stochastic filtering," Structural Control and Health Monitoring, 24(11), e2005. DOI: https://doi.org/10.1002/stc.2005 (PDF)

J136. Attary, N., Symans, M. and Nagarajaiah, S. (2017). "Development of a rotation-based negative stiffness device for seismic protection of structures", Journal of Vibration and Control, 23(5), 853-867, DOI: https://doi.org/10.1177/1077546315585435 (PDF)

J135. Shu, Z., Zhang, J. and Nagarajaiah, S., (2017). "Dimensional Analysis of Inelastic Structures with Negative Stiffness and Supplemental Damping Devices," Journal of Structural Engineering, 143(3), 04016184. DOI: https://doi.org/10.1061/(ASCE)ST.1943-541X.0001658 (PDF)

J134. Yang, Y., Sun, P., Nagarajaiah, S., Bachilo, S.M. and Weisman, B.R., (2017). "Full-field, high-spatial-resolution detection of local structural damage from low-resolution random strain field measurements," Journal of Sound and Vibration, 399, 75-85, DOI: https://doi.org/10.1016/j.jsv.2017.03.016 (PDF)

J133. Sen, D., Nagarajaiah, S. and Gopalakrishnan, S., (2017). "Harnessing sparsity in lamb wave-based damage detection for beams," Structural Monitoring and Maintenance, 4(4), 381-396, DOI: https://doi.org/10.12989/smm.2017.4.4.381 (PDF)

J132. Sun, T., Lai, Z.L., Nagarajaiah, S. and Li, H.N., (2017). "Negative stiffness device for seismic protection of smart base isolated benchmark building", Structural Control and Health Monitoring, 24(11), e1968. DOI: https://doi.org/10.1002/stc.1968 (PDF)

J131. Shi, X., Zhu, S.Y. and Nagarajaiah, S., (2017). "Performance Comparison between Passive Negative-Stiffness Dampers and Active Control in Cable Vibration Mitigation", Journal of Bridge Engineering, 22(9), 04017054. DOI: https://doi.org/10.1061/(ASCE)BE.1943-5592.0001088 (PDF)

J130. Satish, T., Balakrishnan, K., Gullapalli, H., Nagarajaiah, S., Vajtai, R. and Ajayan, P.M., (2017). "Strain sensing skin-like film using zinc oxide nanostructures grown on PDMS and reduced graphene oxide," Structural Monitoring and Maintenance, 4(2), 107-113, DOI: https://doi.org/10.12989/smm.2017.4.2.107. (PDF)

J129. Yang, Y., Dorn, C., Mancini, T., Talken, Z., Nagarajaiah, S., Kenyon, G., Farrar, C., and Mascarenas, D., (2017). "Blind identification of full-field vibration modes of output-only structures from uniformly-sampled, possibly temporally-aliased (sub-Nyquist), video measurements," Journal of Sound and Vibration, 390, 232-256, DOI: https://doi.org/10.1016/j.jsv.2016.11.034 (PDF)

J128. Nagarajaiah, S., and Yang, Y., (2017). "Modeling and harnessing sparse and low-rank data structure: a new paradigm for structural dynamics, identification, damage detection, and health monitoring," Structural Control and Health Monitoring, 24(1), e1851 DOI: https://doi.org/10.1002/stc.1851 (PDF)

J127. Yang, Y., and Nagarajaiah, S., (2017). "Robust data transmission and recovery of images by compressed sensing for structural health diagnosis," Structural Control and Health Monitoring, 24(1), e1856. DOI: https://doi.org/10.1002/stc.1856 (PDF)

J126. Nagarajaiah, S., Chen, B. (2016). "Output only structural modal identification using matrix pencil method," Structural Monitoring and Maintenance, techno press, 3 (4), 395-406. DOI: http://dx.doi.org/10.12989/smm.2016.3.4.395 (PDF)

J125. Chen, L., Sun, L.M., and Nagarajaiah, S., (2016). "Cable vibration control with both lateral and rotational dampers attached at an intermediate location," Journal of Sound and Vibration, 377, 38-57, DOI: https://doi.org/10.1016/j.jsv.2016.04.028 (PDF)

J124. Zou, K.G., and Nagarajaiah, S., (2016). "Closed-form criterion for convergence and stability of pseudo-force method for nonlinear dynamic analysis," Nonlinear Dynamics, 86(2), 1035-1046, DOI: https://doi.org/10.1007/s11071-016-2944-5 (PDF)

J123. Vemuru, V.S.M., Nagarajaiah, S., and Mosqueda, G., (2016). "Coupled horizontal-vertical stability of bearings under dynamic loading," Earthquake Engineering and Structural Dynamics, 45(6), 913-934, DOI: https://doi.org/10.1002/eqe.2691 (PDF)

J122. Karami, K., Nagarajaiah, S., and Amini, F., (2016). "Developing a smart structure using integrated DDA/ISMP and semi-active variable stiffness device," Smart Structures and Systems, 18(5), 955-982, DOI: https://doi.org/10.12989/sss.2016.18.5.955 (PDF)

J121. Yang, Y., and Nagarajaiah, S., (2016). "Dynamic Imaging: Real-Time Detection of Local Structural Damage with Blind Separation of Low-Rank Background and Sparse Innovation," Journal of Structural Engineering, 142(2), 04015144. DOI: https://doi.org/10.1061/(ASCE)ST.1943-541X.0001334 (PDF)

J120. Yang, Y., and Nagarajaiah, S., (2016). "Harnessing data structure for recovery of randomly missing structural vibration responses time history: Sparse representation versus low-rank structure," Mechanical Systems and Signal Processing, 74, 165-182, DOI: https://doi.org/10.1016/j.ymssp.2015.11.009 (PDF)

J119. Chang, J., Liu, W.B., Hu, H., and Nagarajaiah, S., (2016). "Improved independent component analysis based modal identification of higher damping structures," Measurement, 88, 402-416, DOI: https://doi.org/10.1016/j.measurement.2016.03.021 (PDF)

J118. Fujino, Y., and Nagarajaiah, S., (2016). "Kobori award winner 2012," Structural Control and Health Monitoring, 23(2), 196-197, DOI: https://doi.org/10.1002/stc.1827 (PDF)

J117. Sarlis, A.A., Pasala, D.T.R., Constantinou, M.C., Reinhorn, A.M., Nagarajaiah, S., and Taylor, D.P. (2016). "Negative Stiffness Device for Seismic Protection of Structures: Shake Table Testing of a Seismically Isolated Structure," Journal of Structural Engineering, 142(5), 04016005. DOI: https://doi.org/10.1061/(ASCE)ST.1943-541X.0001455 (PDF)

J116. Chang, J., and Nagarajaiah, S. (2016). "Quantum-Behaved Particle Swarm Optimization-Based Structural Modal Parameter Identification Under Ambient Excitation," International Journal of Structural Stability and Dynamics, 16(05), 1550008. DOI: https://doi.org/10.1142/S021945541550008X (PDF)

J115. Dinh, V.N., Basu, B., and Nagarajaiah, S. (2016). "Semi-active control of vibrations of spar type floating offshore wind turbines," Smart Structures and Systems, 18(4), 683-705, DOI: https://doi.org/10.12989/sss.2016.18.4.683 (PDF)

J114. Nagarajaiah, S. and Erazo, K. (2016). "Structural monitoring and identification of civil infrastructure in the United States," Structural Monitoring and Maintenance, 3(1), 51-69, DOI: http://dx.doi.org/10.12989/smm.2016.3.1.051 (PDF)

J113. Sun, P., Bachilo, S.M., Nagarajaiah, S. and Weisman, R.B. (2016). "Toward Practical Non-Contact Optical Strain Sensing Using Single-Walled Carbon Nanotubes," ECS Journal of Solid State Science and Technology, 5(8), M3012-M3017, DOI: https://doi.org/10.1149/2.0031608jss (PDF)

J112. Sonmez, E., Nagarajaiah, S., Sun, C., and Basu, B. (2016). "A study on semi-active Tuned Liquid Column Dampers (sTLCDs) for structural response reduction under random excitations," Journal of Sound and Vibration, 362, 1-15, DOI: https://doi.org/10.1016/j.jsv.2015.09.020 (PDF)

J111. Li, H.N., Qu, C., Huo, L.S., and Nagarajaiah, S., (2016). "Equivalent bilinear elastic single degree of freedom system of multi-degree of freedom structure with negative stiffness," Journal of Sound and Vibration, 365, 1-14, DOI: https://doi.org/10.1016/j.jsv.2015.11.005 (PDF)

J110. Yang, Y., Li, S., Nagarajaiah, S., Li, H., and Zhou, P. (2016). "Real-Time Output-Only Identification of Time-Varying Cable Tension from Accelerations via Complexity Pursuit," Journal of Structural Engineering, 142(1), 04015083. DOI: https://doi.org/10.1061/(ASCE)ST.1943-541X.0001337 (PDF)

J109. Zou, K., and Nagarajaiah, S., (2015) "An analytical method for analyzing symmetry-breaking bifurcation and period doubling bifurcation," Communications in Nonlinear Science and Numerical Simulation, 22(1-3), 780-792, DOI: https://doi.org/10.1016/j.cnsns.2014.08.015 (PDF)

J108. Pasala, D.T.R., Sarlis, A.A., Reinhorn, A.M., Nagarajaiah, S., Constantinou, M.C., and Taylor, D. (2015). "Apparent Weakening in SDOF Yielding Structures Using a Negative Stiffness Device: Experimental and Analytical Study," Journal of Structural Engineering, 141(4), 04014130. DOI: https://doi.org/10.1061/(ASCE)ST.1943-541X.0001077 (PDF)

J107. Zou, K., Nagarajaiah, S., and Dick, A.J. (2015). "Asymmetric Solutions of SDOF System with Wire Rope Vibration Isolator Subjected to Harmonic Excitation," International Journal of Structural Stability and Dynamics, 15(06), 1450089. DOI: https://doi.org/10.1142/S0219455414500898 (PDF)

J106. Nagarajaiah, S. and Yang, Y. (2015). "Blind modal identification of output-only non-proportionally-damped structures by time-frequency complex independent component analysis," Smart Structures and Systems, 15(1), 81-97. DOI: http://dx.doi.org/10.12989/.2015.15.1.081 (PDF)

J105. Chen, L., Sun, L., and Nagarajaiah, S., (2015). "Cable with discrete negative stiffness device and viscous damper: passive realization and general characteristics," Smart Structures and Systems, 15(3), 627-643. DOI: https://doi.org/10.12989/sss.2015.15.3.627 (PDF)

J104. Sun, P., Bachilo, S., Weisman, M., and Nagarajaiah, S. (2015). "Carbon nanotubes as non-contact optical strain sensors in smart skins," Journal of Strain Analysis for Engineering Design, 50(7), 505-512, DOI: https://doi.org/10.1177/0309324715597414 (PDF)

J103. Yang, Y., Nagarajaiah, S., and Ni, Y.Q., (2015). "Data compression of very large scale structural seismic and typhoon responses by low-rank representation and with matrix reshape," Structural Control and Health Monitoring, 22(8), 1191-1131, DOI: https://doi.org/10.1002/stc.1737 (PDF)

J102. Attary, N., Symans, M., Nagarajaiah, S., Reinhorn, A.M., Constantinou, M.C., Sarlis, A.A., Pasala, D.T.R., and Taylor, D., (2015). "Experimental Shake Table Testing of an Adaptive Passive Negative Stiffness Device within a Highway Bridge Model," Earthquake Spectra, 31(4), 2163-2194, DOI: https://doi.org/10.1193/101913EQS273M (PDF)

J101. Attary, N., Symans, M., Nagarajaiah, S., Reinhorn, A.M., Constantinou, M.C., Sarlis, A.A., Pasala, D.T.R., and Taylor, D., (2015). "Numerical simulations of a highway bridge structure employing passive negative stiffness device for seismic protection," Earthquake Engineering and Structural Dynamics, 44(6), 973-995, DOI: https://doi.org/10.1002/eqe.2495 (PDF)

J100. Yang, Y. and Nagarajaiah, S. (2015). "Output-only modal identification by compressed sensing: Non-uniform low-rate sampling," Mechanical Systems and Signal Processing, 56-57, 15-34, DOI: https://doi.org/10.1016/j.ymssp.2014.10.015 (PDF)

J99. Attary, N., Symans, M., Nagarajaiah, S., Reinhorn, A.M., Constantinou, M.C., Sarlis, A.A., Pasala, D.T.R., and Taylor, D., (2015). "Performance Evaluation of Negative Stiffness Devices for Seismic Response Control of Bridge Structures via Experimental Shake Table Tests," Journal of Earthquake Engineering, 19(2), 249-276, DOI: https://doi.org/10.1080/13632469.2014.962672 (PDF)

J98. Eason, R. P., Sun, C., Dick, A. J., and Nagarajaiah, S. (2015). "Steady-state response attenuation of a linear oscillator-nonlinear absorber system using an adjustable-length pendulum in series: Numerical and experimental results," Source: Journal of Sound and Vibration, 344, 332-344, DOI: https://doi.org/10.1016/j.jsv.2015.01.030 (PDF)

J97. Zou, K. and Nagarajaiah S. (2015). "Study of a piecewise linear dynamic system with negative and positive stiffness," Communications in Nonlinear Science and Numerical Simulation, 22(1-3), 1084-1101, DOI: https://doi.org/10.1016/j.cnsns.2014.08.016 (PDF)

J96. Zou, K. and Nagarajaiah S. (2015)."The solution structure of the Duffing oscillator's transient response and general solution," Nonlinear Dynamics, 81(1-2), 621-639, DOI: https://doi.org/10.1007/s11071-015-2015-3 (PDF)

J95. Sun, C., Nagarajaiah, S., and Dick, A. J. (2014). "Experimental investigation of vibration attenuation using nonlinear tuned mass damper and pendulum tuned mass damper in parallel," Nonlinear Dynamics, 78(4), 2699-2715. DOI: https://doi.org/10.1007/s11071-014-1619-3 (PDF)

J94. Vemuru, V., Nagarajaiah, S., Masroor, A., and Mosqueda, G. (2014). "Dynamic Lateral Stability of Elastomeric Seismic Isolation Bearings," Journal of Structural Engineering, 140(8), A4014014. DOI: https://doi.org/10.1061/(ASCE)ST.1943-541X.0000955 (PDF)

J93. Huang, C. and Nagarajaiah, S., (2014), "Output-Only Structural Health Monitoring for Deepwater Risers: Experimental Study of Wavelet Modified SOBI and Distributed Force Index Algorithm," International Journal of Structural Stability and Dynamics, 14(05), 1440010. DOI: https://doi.org/10.1142/S0219455414400100 (PDF)

J92. Yang, Y., Nagarajaiah, S., (2014), "Blind identification of damage in time-varying system using independent component analysis with wavelet transform," Mechanical Systems and Signal Processing, 47(1-2), 3-20. DOI: https://doi.org/10.1016/j.ymssp.2012.08.029 (PDF)

J91. Huang, C. and Nagarajaiah, S., (2014), "Experimental study on bridge structural health monitoring using blind source separation method: arch bridge," Structural Monitoring and Maintenance, 1(1), 69. DOI: http://dx.doi.org/10.12989/smm.2014.1.1.069 (PDF)

J90. Yang, Y. and Nagarajaiah, S., (2014), "Data Compression of Structural Seismic Responses via Principled Independent Component Analysis," Journal of Structural Engineering, 140(7), 04014032. DOI: https://doi.org/10.1061/(ASCE)ST.1943-541X.0000946 (PDF)

J89. Yang, Y., Nagarajaiah, S., (2014), "Structural damage identification via blind feature extraction and sparse representation classification," Mechanical Systems and Signal Processing, 45(1), 1-23. DOI: https://doi.org/10.1016/j.ymssp.2013.09.009 (PDF)

J88. Pasala, D., Sarlis, A., Reinhorn, A., Nagarajaiah, S., Constantinou, M., and Taylor, D., (2014), "Simulated Bilinear-Elastic Behavior in a SDOF Elastic Structure Using Negative Stiffness Device: Experimental and Analytical Study," Journal of Structural Engineering, 140(2), 04013049. DOI: https://doi.org/10.1061/(ASCE)ST.1943-541X.0000830 (PDF)

J87. Arrigan, J., Huang, C., Staino, A., Basu, B., and Nagarajaiah, S., (2014), "A frequency tracking semi-active algorithm for control of edgewise vibrations in wind turbine blades," Smart Structures and Systems, 13(2), 177-201. DOI: https://doi.org/10.12989/sss.2014.13.2.177, 13(2), 177-201 (2014) (PDF)

J86. Li, Zhiling, and Satish Nagarajaiah. "Actuator and sensor failure detection using direct approach." Structural Monitoring and Maintenance 1, no. 2 (2014): 213-230. DOI: https://doi.org/10.12989/smm.2014.1.2.213 (PDF)

J85. Nagarajaiah, S., and Jung, H-J., (2014), "Smart tuned mass dampers: recent developments," Smart Structures and Systems, 13(2), 173-176. DOI: https://doi.org/10.12989/sss.2014.13.2.173, 13(2), 173-176 (2014) (PDF)

J84. Yang, Y., Nagarajaiah, S., (2014), "Blind denoising of structural vibration responses with outliers via principal component pursuit," Structural Control and Health Monitoring, 21(6), 962-978. DOI: https://doi.org/10.1002/stc.1624 (PDF)

J83. Eason, R. P., Dick, A. J., Nagarajaiah, S., (2014), "Numerical investigation of coexisting high and low amplitude responses and safe basin erosion for a coupled linear oscillator and nonlinear absorber system" Journal of Sound and Vibration, 333(15), 3490-3504. DOI: https://doi.org/10.1016/j.jsv.2014.03.039 (PDF)

J82. Pasala, D. T. R., and Nagarajaiah, S., (2014), "Adaptive-length pendulum smart tuned mass damper using shape-memory-alloy wire for tuning period in real time," Smart Structures and Systems, 13(2), 203-217. DOI: https://doi.org/10.12989/sss.2014.13.2.203, 13(2), 203-217 (2014) (PDF)

J81. Sun, C., and Nagarajaiah, S., (2014), "Study on semi-active tuned mass damper with variable damping and stiffness under seismic excitations," Structural Control and Health Monitoring, 21(6), 890-906. DOI: https://doi.org/10.1002/stc.1620 (PDF)

J80. Sun, C., Nagarajaiah, S. and Dick, A. J., (2014), "Family of smart tuned mass dampers with variable frequency under harmonic excitations and ground motions: closed-form evaluation," Smart Structures and Systems, 13(2), 319-341. DOI: https://doi.org/10.12989/sss.2014.13.2.319, 13(2), 319-341 (2014) (PDF)

J79. Contreras, M.T., Pasala, D. T. R. and Nagarajaiah, S., (2014), "Adaptive length SMA pendulum smart tuned mass damper performance in the presence of real time primary system stiffness change," Smart Structures and Systems, 13(2), 219-233. DOI: https://doi.org/10.12989/sss.2014.13.2.219, 13(2), 219-233 (2014) (PDF)

J78. Chen, B., and Nagarajaiah, S., (2013), "Flexibility-based structural damage identification using Gauss–Newton method," Sadhana, 38(4), 557-569. DOI: https://doi.org/10.1007/s12046-013-0151-3, 38(4), 557-569 (2013) (PDF)

J77. Ray, T., Reinhorn, A. M., Nagarajaiah, S., (2013), "Nonlinear elastic and inelastic spectra with inherent and supplemental damping", Earthquake Engineering and Structural Dynamics, DOI: 10.1002/eqe.2318, 42(14): 2151 - 2165 DOI: https://doi.org/10.1002/eqe.2318 (PDF)

J76. Yang, Y., and Nagarajaiah, S., (2013), "Time--frequency Blind Source Separation Framework Using Independent Component Analysis for Output-only Modal Identification of Highly-Damped-damped Structures," Journal of Structural Engineering, ASCE, 139(10), 1780-1793. DOI: https://doi.org/10.1061/(ASCE)ST.1943-541X.0000621 (PDF)

J75. Nagarajaiah, Satish, Dharma TR Pasala, Andrei Reinhorn, Michael Constantinou, Apostolos A. Sirilis, and Douglas Taylor. "Adaptive negative stiffness: a new structural modification approach for

seismic protection," In Advanced Materials Research, vol. 639, pp. 54-66. Trans Tech Publications Ltd, 2013. DOI: https://doi.org/10.4028/www.scientific.net/AMR.639-640.54 (PDF)

J74. Yang, Y., Nagarajaiah, S., (2013), "Blind modal identification of output-only structures in time-domain based on complexity pursuit," Earthquake Engineering and Structural Dynamics, 42(13):1885–1905 (2013). DOI: https://doi.org/10.1002/eqe.2302 (PDF)

J73. Yang, Y., Nagarajaiah, S., (2013), "Output-only modal identification with limited sensors using sparse component analysis," Journal of Sound and Vibration, 332(19), 4741-4765 DOI: https://doi.org/10.1016/j.jsv.2013.04.004 (PDF)

J72. Sarlis, A.A., Pasala, D.T.R., Constantinou, M.C., Reinhorn, A.M., Nagarajaiah, S., and Taylor, D., (2013), "Negative stiffness device for seismic protection of structures," Journal of Structural Engineering, ASCE, 139(7), 1124-1133. DOI: https://doi.org/10.1061/(ASCE)ST.1943-541X.0000616 (PDF)

J71. Pasala, D.T.R., Sarlis, A.A., Nagarajaiah, S., Reinhorn, A.M., Constantinou, M.C. and Taylor, D., (2013), "Adaptive Negative Stiffness: A New Structural Modification Approach for Seismic Protection", Journal of Structural Engineering, ASCE, 139(7), 1112-1123. DOI: https://doi.org/10.1061/(ASCE)ST.1943-541X.0000615 (PDF)

J70. Sun, C., Eason, R.P., Nagarajaiah, S., Dick, A.J., (2013), "Hardening Düffing oscillator attenuation using a nonlinear TMD, a semi-active TMD and multiple TMD," Journal of Sound and Vibration, 332(4), 674-686. DOI: https://doi.org/10.1016/j.jsv.2012.10.016 (PDF)

J69. Eason, R.P., Sun, C., Dick, A.J., Nagarajaiah, S., (2013), "Attenuation of a linear oscillator using a nonlinear and a semi-active tuned mass damper in series," Journal of Sound and Vibration, 332(1), 154-166. DOI: https://doi.org/10.1016/j.jsv.2012.07.048 (PDF)

J68. Chen, B. and Nagarajaiah, S., (2013), "Observer-based structural damage detection using genetic algorithm," Structural Control and Health Monitoring, 20(4), 520-531. DOI: https://doi.org/10.1002/stc.512 (PDF)

J67. Huo, L., Song, G., Nagarajaiah, S. and Li H., (2012), "Semi-active vibration suppression of a space truss structure using a fault tolerant controller," Journal of Vibration and Control, 18(10), 1436-1453; DOI: https://doi.org/10.1177/1077546311421514 (PDF)

J66. Suresh S., Narasimhan S., and Nagarajaiah S., (2012), "Direct adaptive neural controller for the active control of earthquake-excited nonlinear base-isolated buildings," Structural Control & Health Monitoring, 19(3), 370-384. DOI: https://doi.org/10.1002/stc.437 (PDF)

J65. Withey, P.A., Vemuru, V.S.M., Bachilo, S. M., . and Nagarajaiah, S. and Weisman, R. B., (2012), "Strain Paint: Noncontact Strain Measurement Using Single-Walled Carbon Nanotube Composite Coatings," Nano Letters, ACS, 12(7), 3497-3500. DOI: https://doi.org/10.1021/nl301008m (PDF)

J64. Pasala, D. T. R., Nagarajaiah, S., and Grigoriadis, K. M., (2012), "Tracking Control of Variable Stiffness Hysteretic-Systems Using Linear-Parameter-Varying Gain-Scheduled Controller," Smart Structures and Systems, 9(4), 373-392 (2012). DOI: http://dx.doi.org/10.12989/sss.2012.9.4.373 (PDF)

J63. Arrigan, J., Prakash, V., Basu, B. and Nagarajaiah, S., (2011), "Control of Flapwise Vibrations in Wind Turbine Blades using semi-active tuned mass dampers," Structural Control & Health Monitoring, 18(8), 840-851. DOI: https://doi.org/10.1002/stc.404 (PDF)

J62. Contreras, M., Nagarajaiah, S. and Narasimhan, S., (2011), "Real time detection of stiffness change using a radial basis function augmented observer formulation," Smart Materials and Structures, 20(3), 035013. DOI: https://doi.org/10.1088/0964-1726/20/3/035013 (PDF)

J61. Srivastava R. K.,. Vemuru V. S. M., Zeng Y., Vajtai R., Nagarajaiah S., Ajayan P.M., Srivastava A., (2011), " The strain sensing and thermal–mechanical behavior of flexible multi-walled carbon nanotube polystyrene composite films," Carbon, 49(12), 3928-3936, (2011). DOI: https://doi.org/10.1016/j.carbon.2011.05.031 (PDF)

J60. Suresh, S., Narasimhan, S., Nagarajaiah, S., and Sundararajan, N., (2010), "Fault-tolerant adaptive control of nonlinear base isolated buildings using EMRAN,". Engineering Structures, 32(8), 2477-2487. DOI: https://doi.org/10.1016/j.engstruct.2010.04.024 (PDF)

J59. Hemtej, G., Vemuru, V. S. M., Kumar, A., Botello-Mendez, A., Vajtai, R., Terrones, M., Nagarajaiah S., Ajayan, P. M., (2010), "Flexible Piezoelectric ZnO-paper Nanocomposite Strain Sensor," Small, 6(15), 1641-1646. DOI: https://doi.org/10.1002/smll.201000254 (PDF)

J58. Basu, B. and Nagarajaiah, S., (2010), "A Multi-Scale Wavelet-LQR Controller for Linear Time Varying Systems," Journal of Engineering Mechanics, ASCE, 136(9), 1143-1151. DOI: https://doi.org/10.1061/(ASCE)EM.1943-7889.0000162 (PDF)

J57. Nagarajaiah, S., (2009), "Adaptive Passive, Semiactive, Smart Tuned Mass Dampers: Identification and Control using Empirical Mode Decomposition, Hilbert transform, and Short-Term Fourier transform," Structural Control & Health Monitoring, 16(7-8), 800-841. DOI: https://doi.org/10.1002/stc.349 (PDF)

J56. Agarawal, A., Tan, P., Nagarajaiah, S., and Zhang, J., (2009), "Benchmark structural control problem for a seismically excited highway bridge - Part I: Phase I Problem definition," Structural Health Monitoring and Control, 16(5), 509-529. DOI: https://doi.org/10.1002/stc.301 (PDF)

J55. Nagarajaiah, S., Narasimhan, S., Agrawal, A.K., and Ping, T., (2009), "Benchmark structural control problem for a seismically excited highway bridge - Part III: Phase II Sample controller for the fully base-isolated case," Structural Control and Health Monitoring, 16(5), 549-563. DOI: https://doi.org/10.1002/stc.293 (PDF)

J54. Agarawal, A., Nagarajaiah, S., (2009), "Benchmark structural control problem for a seismically excited highway bridge: Phase I and II," Structural Control & Health Monitoring, 16(5), 530-548. DOI: https://doi.org/10.1002/stc.300 (PDF)

J53. Wilkerson, S., and Nagarajaiah, S., (2009), "Optimal Offloading Configuration of Spread-Moored FPSO," Journal of Offshore Mechanics and Arctic Engineering, ASME, 131(2). DOI: https://doi.org/10.1115/1.2783886 (PDF)

J52. Nagarajaiah, S., and Basu, B., (2009), " Output only Modal Identification and Structural Damage Detection using Time Frequency & Wavelet Techniques," Earthquake Engineering and Engineering Vibration, 8(4), 583-605. DOI: https://doi.org/10.1007/s11803-009-9120-6 (PDF)

J51. Vemuru, S. M., Wahi, R., Nagarajaiah, S. and Ajayan, P.M., (2009), "Strain sensing using a multiwalled carbon nanotube film," Journal of Strain Analysis for Engineering Design, 44(7), 555-562. DOI: https://doi.org/10.1243/03093247JSA535 (PDF)

J50. Nagarajaiah, Satish, Shirley Dyke, Jerome P. Lynch, Andrew Smyth, Anil Agrawal, Michael Symans, and Erik Johnson., (2008), "Current directions of structural health monitoring and control in USA," Advances in Science and Technology, vol. 56, pp. 277-286. Trans Tech Publications Ltd, 2008. DOI: https://doi.org/10.4028/www.scientific.net/AST.56.277 (PDF)

J49. Contreras, Michael, Satish Nagarajaiah, and Sriram Narasimhan., (2008), "Fault tolerant neural aided controller for multi degree of freedom structures experiencing online sensor failure," In Advances in Science and Technology, vol. 56, pp. 247-252. Trans Tech Publications Ltd, 2008. DOI: https://doi.org/10.4028/www.scientific.net/AST.56.247 (PDF)

J48. Basu, B. and Nagarajaiah, S., (2008), "A wavelet-based time-varying adaptive LQR algorithm for structural control," Engineering Structures, 30(9), 2470-2477. DOI: https://doi.org/10.1016/j.engstruct.2008.01.011 (PDF)

J47. Chen, B. and Nagarajaiah, S., (2008), "H_/H_inf structural damage detection filter design using iterative LMI approach," Smart Materials and Structures, 17(3), 035019. DOI: https://doi.org/10.1088/0964-1726/17/3/035019 (PDF)

J46. Narasimhan, S. Suresh, S., Nagarajaiah, S. and Sundararajan, N., (2008), "On-Line Learning Failure-Tolerant Neural-Aided Controller for Earthquake Excited Structures," Journal of Engineering Mechanics, ASCE, 134(3), 258-268. DOI: https://doi.org/10.1061/(ASCE)0733-9399(2008)134:3(258) (PDF)

J45. B. Basu, S. Nagarajaiah, A. Chakraborty, (2008), "Online Identification of Linear Time-Varying Stiffness of Structural Systems by Wavelet Analysis," Structural Health Monitoring, 7(1), 21-36. DOI: https://doi.org/10.1177/1475921707081968 (PDF)

J44. Koh, B.H., Nagarajaiah, S., and Phan, M.Q., (2008), "Reconstructing structural changes in a dynamic system from experimentally identified state-space models," Journal of Mechanical Science and Technology, 22(1), 103-112. DOI: https://doi.org/10.1007/s12206-007-1012-y (PDF)

J43. Narasimhan, S., Nagarajaiah, S. and Johnson, E., (2008), " Smart Base Isolated Benchmark Building Part IV: Phase II Sample Controllers for Nonlinear Isolation Systems," Structural Control & Health Monitoring, 15(5), 657-672. DOI: https://doi.org/10.1002/stc.267 (PDF)

J42. Nagarajaiah, S., Narasimhan, S. and Johnson, E., (2008), " Structural Control Benchmark Problem: Phase II Nonlinear Smart Base Isolated Building subjected to Near Fault Earthquakes," Structural Control & Health Monitoring, 653-656. DOI: https://doi.org/10.1002/stc.280 (PDF)

J41. Chen, B. and Nagarajaiah, S., (2008), "Structural damage detection using decentralized controller design method," Smart Structures and Systems, 4(6), 779-794 (2008). DOI: https://doi.org/10.12989/sss.2008.4.6.779 (PDF)

J40. Li, Z., Koh, B. H., and Nagarajaiah, S., (2007), "Detecting sensor failure via decoupled error function and inverse input-output model," Journal of Engineering Mechanics, ASCE,133 (11), 1222 – 1228, DOI: https://doi.org/10.1061/(ASCE)0733-9399(2007)133:11(1222) (PDF)

J39. Chen, B., and Nagarajaiah, S., (2007), "Linear Matrix Inequality based robust fault detection and isolation using the eigenstructure assignment method," Journal of Guidance, Control, and Dynamics, AIAA, DOI: https://doi.org/10.2514/1.27417 (PDF)

J38. Nagarajaiah, S. and Narasimhan, S., (2007), "Seismic control of smart base isolated buildings with new semiactive variable damper," Earthquake Engineering and Structural Dynamics, DOI: https://doi.org/10.1002/eqe.650 (PDF)

J37. Nagarajaiah, S., and Sonmez, E., (2007), "Structures with semiactive variable stiffness multiple tuned mass dampers under harmonic forces," Journal of Structural Engineering, ASCE, 133(1), 67-77, DOI: https://doi.org/10.1061/(ASCE)0733-9445(2007)133:1(67) (PDF)

J36. Nagarajaiah S., Mao, Y. Q. and Sahasrabudhe, S., (2006), "Nonlinear, seismic response spectra of smart sliding isolated structures with independently variable MR dampers and variable stiffness SAIVS system," Structural Engineering and Mechanics, 24 (3), 375-393 (2006). DOI: http://dx.doi.org/10.12989/sem.2006.24.3.375 (PDF)

J35. Dharap, P., Koh, B.H., and Nagarajaiah, S., (2006), "Structural health monitoring using ARMarkov observers," Journal of Intelligent Material Systems and Structures, 17(6), 469-481. DOI: https://doi.org/10.1177/1045389X06058793 (PDF)

J34. Narasimhan, S., and Nagarajaiah, S., (2006), "Smart base isolated buildings with variable friction systems: H∞ controller and SAIVF device," Earthquake Engineering and Structural Dynamics, 35(8), 921-942. DOI: https://doi.org/10.1002/eqe.559 (PDF)

J33.Nagarajaiah, S. (2005), "Structural Control Benchmark Problem: Smart Base Isolated Building Subjected to Near Fault Earthquakes," Structural Control & Health Monitoring, 13: 571-572. DOI: https://doi.org/10.1002/stc.98 (PDF)

J32. Nagarajaiah, S., and Narasimhan, S., (2006), "Smart base isolated benchmark building Part II: Phase I Sample controllers for linear isolation system," Structural Control & Health Monitoring, 13(2-3), 589-604. DOI: https://doi.org/10.1002/stc.100 (PDF)

J31. Narasimhan, S., Nagarajaiah, S., Gavin, H., Johnson, E. A.,(2006), "Smart Base Isolated Benchmark Building Part I: Problem definition," Structural Control & Health Monitoring, 13(2-3), 573-588. DOI: https://doi.org/10.1002/stc.99 (PDF)

J30. Nagarajaiah, S. and Sahasrabudhe, S., (2006), "Seismic response control of smart sliding isolated buildings using variable stiffness systems: Experimental and numerical study," Earthquake Engineering and Structural Dynamics Journal, 35(2), 177-197. DOI: https://doi.org/10.1002/eqe.514 (PDF)

J29. Sahasrabudhe, S. S., & Nagarajaiah, S. (2005). "Semi-active control of sliding isolated bridges using MR dampers: an experimental and numerical study," Earthquake engineering & structural dynamics, 34(8), 965-983. DOI: https://doi.org/10.1002/eqe.464 (PDF)

J28. Sahasrabudhe, S. and Nagarajaiah, S., (2005), "Effectiveness of variable stiffness systems in base isolated bridges subjected to near fault earthquakes: Experimental study," Journal of Intelligent Material Systems and Structures, 16(9), 743-756. DOI: https://doi.org/10.1177/1045389X05054999 (PDF)

J27. Koh, B.H., Li, Z., Dharap, P., Nagarajaiah, S., and Phan, M.Q., (2005), "Actuator Failure Detection through Interaction Matrix Formulation," Journal of Guidance, Control, and Dynamics, AIAA, 28(5), 895-901. DOI: https://doi.org/10.2514/1.11932 (PDF)

J26. Koh, B.H., Dharap, P., Nagarajaiah, S., and Phan, M.Q., (2005), "Real-time Structural Damage Monitoring by Input Error Function," AIAA Journal, 43(8), 1808-1814. DOI: https://doi.org/10.2514/1.14008 (PDF)

J25. Sahasrabudhe, S. and Nagarajaiah, S., (2005), "Experimental study of sliding isolated buildings with MR dampers in near fault earthquakes," Journal of Structural Engineering, ASCE, 131(7), 1025-1034. DOI: https://doi.org/10.1061/(ASCE)0733-9445(2005)131:7(1025) (PDF)

J24. Li, Z., Dharap, P., Sharma, P., Nagarajaiah, S. and Yakobson, B., (2005), "A continuum field model of defect formation in single walled carbon nanotubes," Journal of Applied Physics, 97(7), 074303. DOI: https://doi.org/10.1063/1.1870102 (PDF)

J23. Narasimhan, S., and Nagarajaiah, S., (2005), "STFT Algorithm for Semiactive Control of Base Isolated Buildings with Variable Stiffness Isolation Systems Subjected to Near Fault Earthquakes," Engineering Structures, 27(4), 514-523. DOI: https://doi.org/10.1016/j.engstruct.2004.11.010 (PDF)

J22. Nagarajaiah, S. and Varadarajan, N., (2005), "Short time Fourier transform algorithm for wind response control of buildings with variable stiffness TMD," Engineering Structures, 27(3), 431-441. DOI: https://doi.org/10.1016/j.engstruct.2004.10.015 (PDF)

J21. Li, Z., Dharap, P., Nagarajaiah, S., Nordgren, R., and Yackobson, B., (2004), "Nonlinear Analysis of a SWNT over a Bundle of Nanotubes", Int. Journal of Solids and Structures, 41(24-25), 6925-6936. DOI: https://doi.org/10.1016/j.ijsolstr.2004.05.043 (PDF)

J20. Nagarajaiah, S. and Li, Z., (2004), "Time segmented least squares identification of base isolated buildings," Soil Dynamics and Earthquake Engineering Journal, 24(8), 577-586. DOI: https://doi.org/10.1016/j.soildyn.2004.04.004 (PDF)

J19. Prasad, D., Li, Z., Nagarajaiah, S., and Barrera, E., (2004), "Flexural Strain Sensing using Carbon Nanotube film," Sensor Review Journal, 24(3), 271-273. DOI: https://doi.org/10.1108/02602280410545399 (PDF)

J18. Varadarajan, N. and Nagarajaiah, S., (2004), "Wind response control of building with variable stiffness tuned mass damper using empirical mode decomposition and Hilbert Transform," Journal of Engineering Mechanics, ASCE, 130(4), 451-458. DOI: https://doi.org/10.1061/(ASCE)0733-9399(2004)130:4(451) (PDF)

J17. Li, Z., Dharap, P., Nagarajaiah, S., Barrera, E., and Kim, J. D., (2004), "Carbon Nanofilm Sensor," Advanced Materials Journal, 16(7), 640-643. DOI: https://doi.org/10.1002/adma.200306310 (PDF)

J16. Dharap, P., Li, Z., Nagarajaiah, S., and Barrera, E., (2004), "Nanotube film based on SWNT for macrostrain sensing," Nanotechnology Journal, 15(3), 379 - 382, Top 100 most highly downloaded articles in 2004. DOI: https://doi.org/10.1088/0957-4484/15/3/026 (PDF)

J15. Nagarajaiah, S. and Dharap, P., (2003), "Reduced order observer based identification of base isolated buildings," Earthquake Engineering and Engineering Vibration, 2(2), 237-244. DOI: https://doi.org/10.1007/s11803-003-0007-7 (PDF)

J14. Spencer, B., and Nagarajaiah, S., (2003), "State of the art of structural control," Journal of Structural Engineering, Invited Paper, ASCE, 129(7), 845-856. DOI: https://doi.org/10.1061/(ASCE)0733-9445(2003)129:7(845) (PDF)

J13. Buckle, I. G., Nagarajaiah, S., and Ferrell, K., (2002), "Stability of elastomeric isolation bearings: Experimental study," Journal of Structural Engineering, ASCE, 128(1), 3-11. DOI: https://doi.org/10.1061/(ASCE)0733-9445(2002)128:1(3) (PDF)

J12. Nagarajaiah, S., and Sun, X., (2001), "Base Isolated FCC building: Impact Response in Northridge Earthquake," Journal of Structural Engineering, ASCE, 127(9), 1063-1075. DOI: https://doi.org/10.1061/(ASCE)0733-9445(2001)127:9(1063) (PDF)

J11. Nagarajaiah, S., and Sun, X., (2000), "Response of base isolated USC hospital building in Northridge Earthquake," Journal of Structural Engineering, ASCE, 126(10), 1177-1186. DOI: https://doi.org/10.1061/(ASCE)0733-9445(2000)126:10(1177) (PDF)

J10. Nagarajaiah, S., and Ferrell, K., (1999), "Stability of elastomeric seismic isolation bearings " Journal of Structural Engineering, ASCE, 125(9), 946-954. DOI: https://doi.org/10.1061/(ASCE)0733-9445(1999)125:9(946) (PDF)

J9. Riley, M., Reinhorn, A., and Nagarajaiah, S., (1998), "Implementation issues and testing of a hybrid sliding isolation system," Engineering Structures, 20(3), 144-154. DOI: https://doi.org/10.1016/S0141-0296(97)00079-5 (PDF)

J8. Subramaniam, R., Reinhorn, A., Riley, M., and Nagarajaiah, S., (1996), "Hybrid control of structures using fuzzy logic," Computer-Aided Civil and Infrastructure Engineering, 11(1), 1-17. DOI: https://doi.org/10.1111/j.1467-8667.1996.tb00305.x (PDF)

J7. Tsopelas, P., Nagarajaiah, S., Constantinou, M. C., and Reinhorn, A. M., (1994), "Nonlinear dynamic analysis of multiple building base isolated structures," Computers and Structures, 50(1), 47-57. DOI: https://doi.org/10.1016/0045-7949(94)90436-7 (PDF)

J6. Nagarajaiah, S., Riley, M. A., and Reinhorn, A. M., (1993), "Control of sliding isolated bridges with absolute acceleration feedback," Journal of Engineering Mechanics, ASCE, 119(11), 2317-2332. DOI: https://doi.org/10.1061/(ASCE)0733-9399(1993)119:11(2317) (PDF)

J5. Nagarajaiah, S., Feng, M. Q., and Shinozuka, M., (1993), "Control of structures with friction controllable sliding bearings," Soil Dynamics and Earthquake Engineering, 12(2), 103-112. DOI: https://doi.org/10.1016/0267-7261(93)90049-W (PDF)

J4. Nagarajaiah, S., Reinhorn, A. M., and Constantinou, M. C., (1993), "Torsion in base isolated structures with elastomeric isolation systems," Journal of Structural Engineering, ASCE, 119(10), 2932-2951. DOI: https://doi.org/10.1061/(ASCE)0733-9445(1993)119:10(2932) (PDF)

J3. Nagarajaiah, S., Reinhorn, A. M., and Constantinou, M. C., (1993), "Torsional coupling in sliding base isolated structures," Journal of Structural Engineering, ASCE, 119(1), 130-149. DOI: https://doi.org/10.1061/(ASCE)0733-9445(1993)119:1(130) (PDF)

J2. Nagarajaiah, S., Reinhorn, A. M., and Constantinou, M. C., (1992), "Experimental study of sliding isolated structures with uplift restraint," Journal of Structural Engineering, ASCE, 118(6), 1666-1682. DOI: https://doi.org/10.1061/(ASCE)0733-9445(1992)118:6(1666) (PDF)

J1. Nagarajaiah, S., Reinhorn, A. M., and Constantinou, M. C., (1991) "Nonlinear dynamic analysis of 3D-base isolated structures," Journal of Structural Engineering, ASCE, 117(7), 2035-2054. DOI: https://doi.org/10.1061/(ASCE)0733-9445(1991)117:7(2035) (PDF)

CONFERENCE PUBLICATIONS

Summary: Published / Presented = 171

(Plenary & Keynote Lectures 24)

C171. Nagarajaiah, S. (2026), Sparse Structural System Identification Algorithms: Data Driven and Physics Informed Models, Proceedings of 1st Qian Weichang International Summit, Hong Kong Polytech, Hong Kong (***Keynote Lecture***).

C170. Nagarajaiah, S. (2025), Nonlinear Dynamic Analysis of Three-Dimensional Base Isolated Structures - 3D-BASIS Revisited: Novel Formulation Enhancements Incorporating Lateral, Vertical and Rocking, Uplift Behavior, Proceedings of 19th World Conference on Seismic Isolation, Energy Dissipation and Active Vibration Control of Structures, UC Berkeley, CA (***Invited Lecture***).

C169. Herkal, S., Nagarajaiah, S. (2025), Negative Stiffness Wall (NSD) and Negative Stiffness Brace (NSB) with Enhanced Damping for Adaptive Structural Seismic-Wind Protective Systems, Proceedings of 19th World Conference on Seismic Isolation, Energy Dissipation and Active Vibration Control of Structures, UC Berkeley, CA.

C168. Nagarajaiah, S. (2024), Adaptive Passive Negative-Positive Structural Systems for Enhanced Non-Resonant and Damped Response Control," Proceedings of 1st International Conference on Engineering Structures (Organized by Engineering Structures Journal, Elsevier), Guangzhou, China (***Keynote Lecture***).

C167. Weisman, R.B., Bachilo, S.M., Meng, W., Nagarajaiah, S. (2024), A New Technology for Industrial Strain Mapping Using Single-Wall Carbon Nanotube Sensors, Electrochemical Society Meeting Abstracts 245, MIT, Boston, 1165-1165 (***Plenary Lecture delivered by Prof. Weisman***).

C166. Weisman, R.B., Cherukuri, T., Bachilo, S.M., Meng, W., Nagarajaiah S., (2023), Advanced Carbon Nanotube Fluorescence Spectrometry for Novel Applications, Electrochemical Society Meeting Abstracts 243, MIT, Boston, 1181-1181, (Invited).

C165. Pal, A., Meng, W., Nagarajaiah, S. (2022), Deep Learning for Image Segmentation and Subsurface Damage Detection Based on Full-Field Surface Strains, Society for Experimental Mechanics Annual Conference and Exposition, Austin, 127-132.

C164. Meng, W., Pal, A., Bachilo, S.M., Weisman, R.B., Nagarajaiah, S. (2022), Next-Generation Non-contact Strain-Sensing Method Using Strain-Sensing Smart Skin (S4) for Static and Dynamic Measurement, Society for Experimental Mechanics Annual Conference and Exposition, Austin, 153-159.

C163. Weisman, R.B., Bachilo, S.M., Meng, W., Nagarajaiah, S. (2022), Camera-Based Strain Visualization Using Carbon Nanotube Fluorescence, Electrochemical Society Meeting Abstracts 241, 754-754 (***Invited Lecture***).

C162. Kosova, G., Jin, M., Cenedese, M., Nagarajaiah, S. (...), Moore, K.J., Noël, J.-P. (2021), Nonlinear system identification of a jointed structure using full-field data: Part II Analysis. Conference Proceedings of the Society for Experimental Mechanics Series, pp. 185-188.

C161. Meng, W., Bachilo, S. M., Nagarajaiah, S., Weismanm R. "Progress in Using Carbon Nanotube Spectra for Mechanical Strain Sensing," Proceedings ECS Meeting Abstracts, MA2021-01 568 https://doi.org/10.1149/MA2021-0111568mtgabs (2021) ***(Invited Lecture)****.*

C160. Kosova, G., Jin, M., Cenedese, M., Nagarajaiah, S. (...), Moore, K.J., Noël, J.-P. (2021), Nonlinear system identification of a jointed structure using full-field data: Part II Analysis. Conference Proceedings of the Society for Experimental Mechanics Series, pp. 185-188.

C159. Erazo K., Nagarajaiah S. Recursive Nonlinear Identification of a Negative Stiffness Device for Seismic Protection of Structures with Geometric and Material Nonlinearities. In: Mao Z. (eds) Model Validation and Uncertainty Quantification, Volume 3. Conference Proceedings of the Society for Experimental Mechanics Series. Springer, Cham. https://doi.org/10.1007/978-3-030-47638-0_34 (2020) ***(Invited Lecture)****.*

C158. Potenza F., Gattulli V., Nagarajaiah S. "Seismic Response Prediction of Multiple Base-Isolated Structures for Monitoring, " In: Lacarbonara W., Balachandran B., Ma J., Tenreiro Machado J., Stepan G. (eds) Nonlinear Dynamics and Control. Springer, Cham. https://doi.org/10.1007/978-3-030-34747-5_4 (2020).

C157. Nagarajaiah, S. "Smart Strain Sensing Skin for 2D-Strain Mapping using Laser-Induced Fluorescence from Single Walled Nanotubes," Intl. Conf. Expt. Vib. Anal. EVACES 2019, Southeast Univ., Nanjing, China, Sept 6, 2019 ***(Keynote/Invited Lecture)****.*

C156. Nagarajaiah, S. "Sparse structural system identification,", ASEM/Structures 18, Incheon, Korea, August (2018) ***(Keynote Lecture)****.*

C155. Nagarajaiah, S. "Sparse structural system identification of Linear and Nonlinear Systems,", Seventh World Conference on Structural Control and Monitoring, Qingdao, China, July (2018) ***(Keynote Lecture).***

C154. Nagarajaiah, S. "Structural Monitoring, System Identification, Integrity Assessment of Transportation Infrastructure,", World Transportation Convention, Beijing, China, June (2018) ***(Keynote Lecture)****.*

C153. Nagarajaiah. S., Weisman, R., Sun, P., Bachilo, S. "Noncontact laser-based strain sensing skin," Structures Congress, Fort-Worth, Texas (2018).

C152. Nagarajaiah. S., Bhowmick, S. "UAV based structural damage detection," Structures Congress, Fort-Worth, Texas (2018).

C151. Nagarajaiah, S. "Sparse and low-rank methods in structural system identification and monitoring," Procedia Engineering, Elsevier, 199, 62-69, EURODYN Conference, Rome, September (2017) ***(Semi-Plenary Lecture****).*

C150. Nagarajaiah, S. "Advanced Seismic Protection Systems: State of the Art and State of Practice," 3rd Huixian International Forum on Earthquake Engineering for Young Researchers, UIUC, August (2017) ***(Plenary Lecture****).*

C149. Sen, D., Nagarajaiah. S. "Damage detection in steel pipes using a semi-supervised statistical learning algorithm, "26th ASNT Annual Conference, 130-136, (2016).

C148. Sun, P., Lin, C. W., Bachilo, S. M., Zhao, J., Weisman, R. B., Nagarajaiah, S. "Non-Contact Strain-Sensing Smart Skin, "25th ASNT Annual Conference, 127-131 (2015).

*C147. Nagarajaiah, S., Yang, Y., "Novel sparse and low-rank methods for structural system identification," ACEM 16, Structures 16, International Conference, Jeju Island, Korea, August, 2016 (****Keynote Lecture****).*

C146. Bachilo, S. M., Sun, P. Zhao, J., Nagarajaiah, S., Weisman, R. B. "Progress Towards a Novel Technology for Non-Contact Strain Measurements Based on SWCNT Fluorescence Spectroscopy," Electro-Chemical Society Meeting Abstracts, 800-800, (2015).

C145. Dick, A.J., Atzil, A. Nagarajaiah, S. "Analytical Investigation of Vibration Attenuation With a Nonlinear Tuned Mass Damper," ASME 2015 International Mechanical Engineering, (2015).

C144. Nagarajaiah, S., Yang, Y., "Novel sparse and low-rank methods for monitoring, identification and damage detection of structures," 7th International Conference on Structural Health Monitoring of Intelligent Infrastructure SHMII 2015, Torino - Italy July 1-3, (2015).

C143. Sun, P., Bachilo, S.M., Weisman, R. B., and Nagarajaiah, S. "Smart Skin: optical strain sensor using single wall carbon nanotubes," Proc. IEEE Conference on Sensors, Smart Structures Technologies, University of Trento, July 9-11 (2015).

C142. Nagarajaiah, S. and Yang, Y. "Data-driven Approaches for Output-only Modal Identification, Damage Detection, and Data Compression and Cleansing by Unsupervised Learning Blind Source Separation," Proc. 6th World Conference on Structural Control and Monitoring (6WCSCM), Barcelona, Spain (2014).

C141. Nagarajaiah, S. and Pasala, D. T. R. "Negative Stiffness Device for Seismic Response Control of Multi-story Buildings: Distributed Isolation," Proc. 6th World Conference on Structural Control and Monitoring (6WCSCM), Barcelona, Spain (2014).

C140. Yang, Y. and Nagarajaiah, S. "Structural damage identification by sparse representation classification." Proc. 6th World Conference on Structural Control and Monitoring (6WCSCM), Barcelona, Spain (2014).

*C139. Nagarajaiah, S., "New Blind Source Separation, Sparse and Low-rank Methods for Output-only Modal Identification, Damage Detection, Data Compression and Cleansing,", The Seventh International Conference on Smart Materials, Structures, and Systems, ISSS-2014, IISc, Bangalore, July 8-10 (2014) (****Keynote Lecture****).*

C138. Sun, P., Kim, J-H., Bachilo, S.M., Weisman, R. B., and Nagarajaiah, S. "Smart Skin: optical strain sensor using single wall carbon nanotubes," Proc. SPIE 9061, Sensors and Smart Structures Technologies for Civil, Mechanical, and Aerospace Systems 2014, 906120, doi: 10.1117/12.2046539 (2014).

C137. Yang, Y. and Nagarajaiah, S. "Time-frequency blind source separation for output-only modal identification using independent component analysis," Proc. Safety, Reliability, Risk and Life-Cycle Performance of Structures and Infrastructures [1-138-00086-8; 1-315-88488-7] 1977 -1983 (2013).

C136. Withey, P.A., Vemuru, V.S.M., Bachilo, S. M., and Nagarajaiah, S. and Weisman, R. B. "A Novel Multidirectional, Non-Contact Strain-Sensing Nanocomposite," Bulletin of the American Physical Society, Volume 58 (1): (March 2013).
http://meetings.aps.org/link/BAPS.2013.MAR.W7.11

C135. Nagarajaiah, S., Pasalas, D.T.R., Reinhorn, A., Constantinou, M., Sirilis, A.A., Taylor, D. "Adaptive negative stiffness: A new structural modification approach for seismic protection," Advanced Materials Research 639-640 (1): 54-66 (2013).

C134. Huang, C., Sun, P., Nagarajaiah, S., Gopalakrishnan, S. "Time-frequency methods for structural health monitoring of deepwater risers subjected to vortex induced vibrations," Proceedings of SPIE - The International Society for Optical Engineering 8692, art. no. 86923E, (March 2013).

C133. Attary, N., Symans, M., Nagarajaiah, S., Reinhorn, A., Constantinou, M.C., Taylor, D., Sarilis, A. A., Pasala, D. T. R, "Performance Assessment of a Highway Bridge Structure employing Adaptive Negative Stiffness for Seismic Protection," Proc. Structures Congress 2013, Pittsburg, published CDROM (May 2013).

*C132. Nagarajaiah , S., Pasala, D. T. R., Reinhorn, A. M., Constantinou, M. C., Sarlis, A. A. S., Taylor, D. "Adaptive Negative Stiffness: A New Structural Modification Approach for Seismic Protection," Proc. International Conference on Advances in Civil Infrastructure Engineering, Changsha, China, published CDROM (September 2012) (**Keynote Lecture**).*

C131. Pasala, D. T. R., Sarlis, A. A. S., Nagarajaiah, S., Reinhorn, A. M., Constantinou, M. C., Taylor, D. "A New Structural Modification Approach for Seismic Protection using Negative Stiffness Device" Proc. 15 World Conference Earthquake Engineering, Lisbon, published CDROM (September 2012).

C130. Attary, N., Symans, M., Nagarajaiah, S., Reinhorn, A., Constantinou, M.C., Taylor, D., Sarilis, A. A., Pasala, D. T. R. "Performance Evaluation of a Seismically-Isolated Bridge Structure with Adaptive Passive Negative Stiffness" Proc. 15 World Conference Earthquake Engineering, Lisbon, published CDROM (September 2012).

C129. Yang, Y. and Nagarajaiah, S. "Output-only Modal Identification using Independent Component Analysis based Time-frequency Blind Source Separation," Proceedings of ANCRiSST, Bangalore, Indian Institute of Science (July 2012).

*C128. Nagarajaiah , S., Pasala, D. T. R., Reinhorn, A. M., Constantinou, M. C., Sarlis, A. A. S., Taylor, D. "Adaptive Negative Stiffness: A New Structural Modification Approach for Seismic Protection," Proceedings of ANCRiSST, Bangalore, Indian Institute of Science (July 2012) (**Keynote Lecture**).*

C127. Attary, N., Symans, M., Nagarajaiah, S., Reinhorn, A., Constantinou, M.C., Taylor, D., Sarilis, A. A., Pasala, D. T. R. "Seismically-Isolated Bridge Structure with Adaptive Passive Negative Stiffness" Proc. Quake Summit, NSF CMMI Grantees Conference, 2012, Boston, published CDROM (July 2012).

*C126. Pasala, D. T. R., Sarlis, A. A. S., Nagarajaiah, S., Reinhorn, A. M., Constantinou, M. C., Taylor, D. "Testing of a New Structural Modification Approach for Seismic Protection using Novel Negative Stiffness Device" **Invited Lecture**, Proc. Quake Summit, NSF CMMI Grantees Conference, 2012, Boston, published CDROM (July 2012).*

C125. Huang, C., Nagarajaiah, S., "Robotic MFL Sensor and Vibration based Deepwater Riser Monitoring System," Proceedings Offshore Technology Conference, OTC 23413-PP, Houston, May 2012

C124. Huang, C., Nagarajaiah, S., Varadarajan, N. "Fatigue Estimation in Deepwater Risers based on Wavelets and Second Order Blind Identification" Proceedings of the 31st International Conference on Offshore, Marine and Arctic Engineering OMAE2012, Rio de Janeiro, Brazil, (June 2012).

*C123. Reinhorn, A. M., Ray, T., Pasala, D. T. R., Sarlis, A. A., Nagarajaiah, S., Constantinou, M.C., "Control of inelastic structures by weakening and damping," Proc. Structures Congress, 2012, Chicago, published CDROM (March 2012) (**Plenary Lecture delivered by Prof. Reinhorn**)*

C122. Attary, N., Symans, M., Nagarajaiah, S., Reinhorn, A., Constantinou, M.C., Taylor, D., Sarilis, A. A., Pasala, D. T. R. "Application of Negative Stiffness Devices for Seismic Protection of Bridge Structures," Proc. Structures Congress, 2012, Chicago, published CDROM (March 2012).

C121. Pasala, D. T. R., Sarlis, A. A. S., Nagarajaiah, S., Reinhorn, A. M., Constantinou, M. C., Taylor, D. "Negative Stiffness Device for Seismic Response Control of Multistory Buildings" Proc. Structures Congress, 2012, Chicago, published CDROM (March 2012).

C120. Yang, Y., Nagarajaiah, S. "Time frequency representation of ICA for modal identification" ANCRiSST workshop 2011, Dalian, China, published CDROM (2011).

C119. Pasala, D. T. R., Sarlis, A. A. S., Nagarajaiah, S., Reinhorn, A. M., Constantinou, M. C., Taylor, D., " Adaptive Negative Stiffness: A New Structural Modification Approach for Seismic Protection" ANCRiSST workshop 2011, Dalian, China, published CDROM (2011).

C118. Pasala, D. T. R., Sarlis, A. A. S., Nagarajaiah, S., Reinhorn, A. M., Constantinou, M. C., Taylor, D., " Adaptive Negative Stiffness: Structural Modification Approach for Seismic Protection" Structures Congress, 2011, Las Vegas, published CDROM (May 2011).

C117. Vemuru, V.S. M., Srivastava, R., Srivastava, A., Nagarajaiah, S., Ajayan, P. M. "Strain Sensing using a Polystyrene MWCNT based nanocomposite" Structures Congress, 2011, Las Vegas, Nevada, accepted (2011).

C116. Pasala, D. T. R., Sarlis, A. A. S., Nagarajaiah, S., Reinhorn, A. M., Constantinou, M. C., Taylor, D., " Adaptive Negative Stiffness: A new Structural Modification Approach for Seismic Protection" NSF CMMI Grantees Conference, 2011, Atlanta, published CDROM (Jan 2011).

C115. Sarlis, A. A. S., Pasala, D. T. R., Constantinou, M. C., Reinhorn, A. M., Nagarajaiah, S., Taylor, D., " Negative Stiffness Device for Seismic Protection of Structures – An Analytical and Experimental Study" NSF CMMI Grantees Conference, 2011, Atlanta, published CDROM (Jan 2011).

C114. Sarlis A. A. S., Pasala D. T. R., Constantinou M. C., Reinhorn A. M., Nagarajaiah S., Taylor D. "Negative Stiffness Device for Seismic Protection of Structures – An Analytical and Experimental Study." 3rd International conference on computational methods in structural dynamics and earthquake engineering, Greece (May 2011).

*C113. Nagarajaiah, S. "Adaptive Stiffness Systems: Time-Frequency Methods for Identification and Control" Proc. 5th World Conference on Structural Control and Monitoring, Tokyo, Keynote Lecture (2010) (**Keynote Lecture**).*

C112. Nagarajaiah, S., Reinhorn, A. M., Constantinou, M. C., Taylor, D., Pasala, D. T. R., Sarlis, A. A. S. "True Adaptive Negative Stiffness: A new Structural Modification approach for seismic protection" Proc. 5th World Conference on Structural Control and Monitoring, Tokyo (2010).

C111. Nagarajaiah, S., Pasala, D. T. R., and Haung, C. "Smart TMD: Adaptive Length Pendulum Damper" Proc. 5th World Conference on Structural Control and Monitoring, Tokyo (2010).

C110. Vemuru, V.S. M., Srivastava, R., Srivastava, A., Nagarajaiah, S., Ajayan, P. M. "Strain Sensing using a Polystyrene – MWCNT based nanocomposite" Proc. 5th World Conference on Structural Control and Monitoring, Tokyo (2010).

C109. S. Nagarajaiah, and Pasala, D. T. R. "Adaptive Length Pendulum Dampers" Proc. Structures Congress, ASCE, Florida, CD ROM (2010).

C108. Narasimhan, S., and S. Nagarajaiah. "Key Findings from the Nonlinear Base-Isolated Buildings Benchmark" Proc. Structures Congress, ASCE, Florida, CD ROM (2010).

C107. Vemuru, V., S. Nagarajaiah, and Ajayan, P. M. "MWCNT – Based Thin Film Strain Sensor" Proc. Structures Congress, ASCE, Florida, CD ROM (2010).

C106, Pasala, D. T. R., Nagarajaiah, S. and Grigoriadis, K., "Mixed-Sensitivity Controller Design for Repetitive Control in Hysteretic Systems" Proc. ASCE Earth and Space Conference, CD ROM (2010).

C105. Vemuru, S. M., S. Nagarajaiah, P. M. Ajayan, "Strain Sensing using Multiwalled Carbon Nanotube Film Subjected to Temperature Variation," Proc. ASCE Earth and Space Conference, CD ROM (2010).

C104. Huang, C., Arrigan, J., Nagarajaiah, S., Basu, B. "Semi-Active Algorithm for Edgewise Vibration Control in Floating Wind Turbine Blades" Proc. ASCE Earth and Space Conference, CD ROM (2010).

C103. Chen, B., and Nagarajaiah, S.. "LMI-based robust fault/damage detection and isolation using eigen structure assignment method" Proc. 7th Int. Workshop on Structural Health Monitoring, Stanford, 2027-2034, (2009).

C102. Vemuru, S. M., Wahi, R., Nagarajaiah, S. and Ajayan, P.M. "Strain sensing using a multiwalled carbon nanotube film" Proc. 7th Int. Workshop on Structural Health Monitoring, Stanford, 1757-1764, (2009).

C101. Haung, C., and Nagarajaiah, S. "Time frequency methods for damage detection in deepwater risers" 5th ANCRiSST Workshop, Boston, CD ROM(2009).

C100. Vemuru, S. M., Wahi, R., Nagarajaiah, S. and Ajayan, P.M. "Strain sensing using a multiwalled carbon nanotube film" 5th ANCRiSST Workshop, Boston, CD ROM (2009).

C99. Contreras, M., and Nagarajaiah, S., "Real time structural health monitoring using EMRAN," Proc. Structures Congress, Austin, TX, CD ROM (2009).

C98., S. Nagarajaiah, D. Taylor, and J. Dyck."Variable stiffness and damping using adjustable fluid spring and damper," Proc. Structures Congress, Austin, TX, CD ROM (2009).

*C97. J. Dyck, S. Nagarajaiah, and D. Taylor, "Variation of supplemental stiffness and damping using adjustable fluid spring and damper," **Invited Lecture**, Proc. Fifth International Conference on Urban Earthquake Engineering, March 4-5, Tokyo Institute of Technology, Tokyo, Japan, Invited Paper (2008).*

*C96. Z. Li, S. Nagarajaiah, and B. H. Koh "Sensor Failure Detection using Interaction Matrix Formulation," **Invited Lecture**, Proc. IUTAM - MMSS08, Indian Institute of Science, December, Invited Paper (2008).*

*C95. S. Nagarajaiah1, S. Dyke, J. Lynch, A. Smyth, A. Agrawal, M. Symans, and E. Johnson, "Current Directions of Structural Health Monitoring and Control in USA" **Invited Lecture,** Advances in Science and Technology Vol. 56, pp 277-286, http://www.scientific.net, (2008) Trans Tech Publications, Switzerland, Invited Paper, (2008).*

C94. Contreras, M., and Nagarajaiah., S., "Fault Tolerant Neural Aided Controller for Multi Degree of Freedom Structures Experiencing Online Sensor Failure," , Advances in Science and Technology Vol. 56 (2008) pp 247-252, http://www.scientific.net, Trans Tech Publications, Switzerland (2008).

C93. Nadathur, V. and Nagarajaiah, S. "Nonlinear system identification of offshore floating structures," Proc. 27th International Conference on Offshore Mechanics & Arctic Engineering, June 15-20, Estoril, Portugal, OMAE2008-57161, (2008)

C92. Pasala, D.T.R., Nagarajaiah, S., and Grigoriadis, K., (March 2008) "Response Control of SAIVS system Using LPV Gain-scheduling Controller", Proc. ASCE Earth and Space conference, Long Beach, California, pp. 166, (2008).

C91. Pasala, D.T.R., Nagarajaiah, S., and Grigoriadis, K., "Control of Hysteretic Systems Using LPV Gain Scheduling Controller", 4th International Workshop on Advanced Smart Materials and Smart Structures Technologies (ANCRiSST 2008), Tokyo, Japan.

C90. S. Nagarajaiah, Li, S., Dharap, P., Barrera, E. V. "Carbon nanotube film sensor" Proc. World Forum on Smart Materials and Smart Structures Technology, Chongqing and Nanjing, China, CD ROM Invited Paper (2007).

*C89. Chen, B. and S. Nagarajaiah "Structural damage detection using eigen structure assignment method and LMI technique" Proc. World Forum on Smart Materials and Smart Structures Technology, Chongqing and Nanjing, China, CD ROM **Invited Paper** (2007).*

C88. Chen, B., and Nagarajaiah, S. "Flexibility based identification using Gauss Newton Method," Proc. SPIE International Symposia of Smart Structures & Materials/NDE, San Diego, CDROM (2007).

*C87. Chen, B., and Nagarajaiah, S. "Structural Damage Detection Using Decentralized Controller Design Method," Proc. US-Taiwan Workshop on Smart Structural Technology for Seismic Hazard Mitigation (SSTSHM), CDROM **Invited Paper** (2006).*

C86. B. Basu, S. Nagarajaiah, and A. Chakraborty, "Identification of Stiffness Variations in Structural Systems by Modified Littlewood-Paley Wavelets" Prof. Third European Workshop on Structural Health Monitoring, Univ. Politecnica Madrid, Univ. Granada, Granada, Spain (2006).

C85. Z. Li and S. Nagarajaiah, "Actuator failure detection using input-output measurements" Proc. 15th U.S. National Congress on Theoretical and Applied Mechanics, UC Boulder, (2006).

C84. S. Nagarajaiah, P. Dharap, and B. H. Koh, "Real time structural damage study using ARMarkov observers" Proc. 15th U.S. National Congress on Theoretical and Applied Mechanics, UC Boulder, (2006).

C83. Narasimhan, S., and Nagarajaiah, S. "Smart base isolated buildings with variable friction isolation systems," Proc.4 World Conf. on Structural Control, IASCM, UCSD, CDROM (2006).

C82. Nagarajaiah, S., and Sonmez, E. "Semiactive variable stiffness single/multiple tuned mass dampers," Proc.4 World Conf. on Structural Control, IASCM, UCSD, CDROM (2006).

C81. Li, Z., Koh, B. H., and Nagarajaiah, S. "Sensor failure detection using indirect approach," Proc.4 World Conf. on Structural Control, IASCM, UCSD, CDROM (2006).

C80. Koh, B. H., Dharap, P., Nagarajaiah, S., and Phan, M. "Real time structural damage detection based on interaction matrix formulation," Proc.4 World Conf. on Structural Control, IASCM, UCSD, CDROM (2006).

C79. Nagarajaiah, S., Narasimhan, S., and Johnson, E. "Phase II: Smart base isolated benchmark building with nonlinear isolation systems," Proc.4 World Conf. on Structural Control, IASCM, UCSD, CDROM (2006).

C78. Li, S., and Nagarajaiah, S. "Structural damage detection using New Physical Parameter Realization Method," Proc.4 World Conf. on Structural Control, IASCM, UCSD, CDROM (2006).

C77. Nagarajaiah, S., Narasimhan, S., Agrawal, A., and Tan, P. "Semiactive Lyapunov Controller for Phase II Seismic Isolated Highway Bridge Benchmark," Proc.4 World Conf. on Structural Control, IASCM, UCSD, CDROM (2006).

C76. Dyck, J., Nagarajaiah, S., and Taylor, D., "Variation of supplemental stiffness and damping using adjustable fluid spring and damper **,"** Proc. **8** U. S. National Conf. on Earthquake Eng., EERI, CDROM (2006).

C75. Li, Z., and Nagarajaiah, S. "Actuator Failure Detection using direct Method," Proc. Biennial Earth and Space Conference, ASCE Aerospace Division, CDROM (2006).

C74. Li, Z., Koh, B. H., and Nagarajaiah, S. "Sensor failure detection using error function and inverse input-output model," Proc. SPIE International Symposia of Smart Structures & Materials/NDE, San Diego, CDROM (2006).

C73. Nagarajaiah, S. "Current directions in Structural Control," Proc. Structural Engineering Convention, Indian Institute of Science**,** India (2005). ***(Keynote Lecture)***.

C72. Dharap, P., Koh, B.H., and Nagarajaiah, S. "Structural health monitoring using ARMarkov observers," Proc. 2nd International Conf. on Structural Health Monitoring of Intelligent Infrastructure, ***Invited Paper,*** Shenzen, China (2005).

C71. Koh, B.H., Dharap, P., Nagarajaiah, S., and Phan, M.Q., "Real-time Structural Damage Monitoring by Input Error Function," Proc. 5th International Workshop on Structural Health Monitoring, Stanford (2005).

C70. Koh, B.H., Li, Z., Dharap, P., Nagarajaiah, S., and Phan, M.Q., "Actuator Failure Detection through Interaction Matrix Formulation," McMAT Conf., ASCE/ASME, Baton Rogue, CD Rom (2005).

C69. Nagarajaiah, S., Narasimhan, S. and Sahasrabudhe, S. "Performance of Semiactive Lyapunov Controllers in the Seismically Excited Benchmark Highway Bridge," McMAT Conf., ASCE/ASME, Baton Rouge, CD Rom (2005).

C68. Nagarajaiah, S., Agrawal, A., and Sonmez, E. "Response of SDOF systems with Variable Stiffness and Damping Systems to Pulse Type of Excitations," 3rd Int. Conf. of Earthquake Engineering, ***Invited Paper,*** Nanjing., China (October 2004).

C67. Nagarajaiah, S. and Mao, Y. "Response of Smart Base Isolated Structures with Independently Variable Stiffness and Variable Damping Systems in Near Fault Earthquakes" US-Korea Workshop on Smart Structures**, *Invited Paper,*** Seoul., Korea (September 2004).

C66. Nagarajaiah, S., Yang, J. N., and Spencer, B., "Recent advances in Control of Civil Infrastructure in USA," US-Korea Workshop on Smart Structures, Invited Paper, Seoul., Korea (September 2004).

C65. Narasimhan, S., Nagarajaiah, S., Gavin, H., Johnson, E. A. "Smart Base Isolated Building Benchmark problem: Part I," Fourth International Workshop on St. Control, Columbia Univ., N.Y. (June 2004). ***(Semi-Keynote Lecture).***

C64. Nagarajaiah, S., and Narasimhan, S. "Phase I: Controllers for benchmark base isolated building: Part II" Fourth International Workshop on St. Control, ***Invited Paper,*** Columbia Univ., N.Y. (June 2004).

C63. Nagarajaiah, S., and Narasimhan, S. "Controllers for benchmark base isolated building with linear and friction isolation system," Proc. Structures Cong., ASCE, Nashville, CDROM (May 2004).

C62. Narasimhan, S., Nagarajaiah, S., Gavin, H., Johnson, E. A. "Smart Base Isolated Building Benchmark problem: Part I," Proc. Structures Cong., ASCE, Nashville, CDROM (May 2004).

C61. Nagarajaiah, S., and Narasimhan, S. "Controllers for benchmark base isolated building with linear and friction isolation system," Proc. 16th Eng. Mech. Conf., ASCE, Univ. of Wash., Seattle, CDROM (July 2003).

C60. Narasimhan, S. , Nagarajaiah, S., Gavin, H., Johnson, E. A. "Smart Base Isolated Building Benchmark problem," Proc. 16th Eng. Mech. Conf., ASCE, Univ. of Wash., Seattle, CDROM (July 2003).

C59. Nadathur, V. and Nagarajaiah, S. "Wind response control of building with variable stiffness TMD: EMD/HT," Proc. 16th Eng. Mech. Conf., ASCE, Univ. of Wash., Seattle, CDROM (July 2003).

*C58. Nagarajaiah, S., Mao, Y. Q., and Sahasrabudhe, S. "Effectiveness of base isolation system with MR dampers in protecting structures in near-fault earthquakes," Proc. Int. Conf. on Adv. and New Challenges in Earthquake Engrg. Res., **Invited Paper,** Hong Kong, CD ROM (August 2002).*

C57. Narasimhan, S., Nagarajaiah, S., Gavin, H., Johnson, E. A. "Benchmark problem for control of base isolated buildings," Proc. 15th Eng. Mech. Conf., ASCE, Columbia Univ., N.Y., CDROM (June 2002).

*C56. Nagarajaiah, S., Kobori Panel, "Future Directions of Structural Control", 3rd World Conf. on Struct. Control, Invited Paper, Como, Italy, CD ROM (April 2002) (**Keynote Lecture**).*

C55. Nagarajaiah, S. and Nadathur, V. "Response control of wind excited tall building with semi-active variable stiffness TMD using short term Fourier transform," Proc. 3rd World Conf. on Struct. Control, Como, Italy, CDROM (April 2002).

C54. Narasimhan, S., Nagarajaiah, S., Gavin, H., Johnson, E. A. "Benchmark problem for control of base isolated buildings," Proc. 3rd World Conf. on Struct. Control, Como, Italy, CDROM (April 2002).

C53. Nagarajaiah, S., and Sahasrabudhe, S. "Analytical study of sliding isolated buildings with variable dampers," Proc. Structures Congress, ASCE, Denver, CDROM (April 2002).

*C52. Nagarajaiah, S., "Smart isolated buildings with smart dampers," Proc. International Conference on Civil Engineering, ICCE-2001, India, (June 2001) (**Keynote Lecture**).*

*C51. Nagarajaiah, S., "Semiactive control of variable stiffness structures and smart tuned mass dampers," Proc. US-Japan Workshop on Smart Structures, **Invited Paper**, Seattle, WA, 171-182 (August 2001).*

C50. Nagarajaiah, S., and Nadathur, V. "Semi-Active Control of Smart Tuned Mass Damper Using Empirical Mode Decomposition and Hilbert Transform Algorithm," Proc. ICOSSAR, Newport Beach¸CA, CDROM (May 2001).

C49. Sahasrabudhe, S., and Nagarajaiah, S. "Semiactive control of sliding isolated buildings with MR dampers," Proc. MMC2001, San Diego, CA, CD ROM (May 2001).

C48. Nadathur, V., and Nagarajaiah, S. "System identification using empirical mode decomposition and Hilbert transform," Proc. MMC2001, San Diego, CA, CD ROM (May 2001).

C47. Nagarajaiah, S., and Nadathur, V. "Smart Tuned Mass Damper Using Empirical Mode Decomposition and Hilbert Transform Algorithm," Proc. MMC2001, San Diego¸CA, CDROM (May 2001).

C46. Sahasrabudhe, S., and Nagarajaiah, S. "Sliding Isolated Buildings with Smart Dampers: Shaking Table Studies," Proc. Structures Congress, ASCE, Washington, D.C., CDROM (April 2001).

C45. Buckle, I.G., Nagarajaiah, S., and Ferrell, K. "Stability of elastomeric seismic isolation bearings: Experimental Study," Proc. Structures Congress, ASCE, Washington, D.C., CDROM (April 2001).

C44. Nagarajaiah, S., and Nadathur, V., "Smart variable stiffness control systems," Proc. Smart Structures and Materials Conf., SPIE, Vol. 4330, 345-353, (March 2001).

C43. Sahasrabudhe, S., and Nagarajaiah, S. "Sliding Isolated Structures with Smart Dampers," Proc. Int. Conf. On Advances in Structural Dynamics, Hong Kong, CD ROM (December 2000).

*C42. Nagarajaiah, S. "Variable Stiffness Systems" Proc. VETOMAC, **Invited Paper,** Indian Institute of Science, India, CD ROM (November 2000).*

C41. Varadarajan, N. and Nagarajaiah, S. "Vibration control of wind excited tall benchmark building using variable stiffness tuned mass damper," Proc. Second European Conference on Structural Control, ENPC, Paris (July 2000).

C40. Nagarajaiah, S., Sahasrabudhe, S., and Iyer, R. "Earthquake Protection of Bridges using Sliding Isolation System and MR Dampers," Proc. Third International Workshop on Structural Control, ENPC, Paris, 375-383 (July 2000)

C39. Nagarajaiah, S., Sahasrabudhe, S. and Iyer, R. ″Seismic Response of Sliding Isolated Bridges with MR Dampers," Proc. American Control Conference, Chicago, CD ROM (June 2000).

C38. Sahasrabudhe, S., Nagarajaiah, S. and Hard, C. "Experimental Study of Sliding Isolated Buildings with Smart Dampers Subjected to Near Source Ground Motions," Proc. Eng. Mech. Conf. EM 2000, ASCE, UT Austin, CD ROM (May 2000).

C37. Nagarajaiah, S., Sahasrabudhe, S., and Iyer, R. "Seismic Response of Sliding Isolated Bridges with Smart Dampers Subjected to Near Source Ground Motions," Proc. Structures Congress, ASCE, Philadelphia, CD ROM (May 2000).

C36. Nagarajaiah, S., and Varadarajan, N., "Novel Semi-active Variable Stiffness Tuned Mass Damper With Real Time Retuning Capability," Proc. Eng. Mech. Conf. EM 2000, UT Austin, CD ROM (May 2000).

C35. Varadarajan, N. and Nagarajaiah, S. "Semi-active Variable Stiffness Tuned Mass Damper For Response Control of Wind Excited Tall Buildings: Benchmark Problem," Proc. Eng. Mech. Conf. EM 2000, UT Austin (May 2000).

C34. Nagarajaiah, S., Nadathur, V., and Sahasrabudhe, S., "Variable Stiffness and instantaneous frequency," Proceedings World Structures Congress '99, ASCE, New Orleans, LA 281-292 (May 1999).

C33. Nagarajaiah, S., Reinhorn, A. M. and Constantinou, M.C., "Nonlinear dynamic analysis of base isolated structures – current techniques," Proceedings World Structures Congress '98, ASCE, San Francisco, CA 281-292 (July 1998).

C32. Nagarajaiah, S., and Mate, D., "Semi-active Control of Continuously Variable Stiffness System," Proceedings Second World Conference on Structural Control, Kyoto, Japan, Vol. 1, 397 - 406 (July 1998).

C31. Nagarajaiah, S., Roschke, P. N., and Wu, W., "Partitioned Predictor Corrector Algorithm for Nonlinear Dynamic Structural Response and Control," Proceedings Second World Conference on Structural Control, Kyoto, Japan, Vol. 3, 1921 - 1930 (July 1998).

C30. Nagarajaiah, S., and Gazdowski, E. K.," Unidirectional Shaking Table for Testing Small Scale Structural Models: Design and Development," Proceedings 12th Engineering Mechanics Conference, University of California, San Diego, 779-782 (May 1998).

C29. Nagarajaiah, S., and Mate, D., "Development of a Semi-active Continuously Variable Stiffness Device," Proceedings 12th Engrg. Mech. Conf., University of California, San Diego, 257-260 (May 1998).

C28. Nagarajaiah, S., and Sunan, W., "Control of a system with variable frequency," Proceedings Eleventh VPI & SU Symposium of Structural Dynamics and Control, Virginia Polytechnic Institute, 61-70 (May 1997).

C27. Nagarajaiah, S., "Semi-active control of structures," Proceedings Structures Congress '97, ASCE, Portland, Oregon, 1574-1578 (April 1997).

C26. Nagarajaiah, S., Ferrell, K., and Buckle, I., "Stability of elastomeric seismic isolation bearings in buildings," Proceedings Structures Congress '97, ASCE, Portland, Oregon, 1138-1142 (April 1997).

C25. Nagarajaiah, S., and Sun, X., "Response of base isolated structures in Northridge Earthquake," Proceedings 11th World Conf. Earthquake Engrg. , Acapulco, Mexico, 1601-1614 (June 1996).

C24. Nagarajaiah, S., and Ma, X., "System identification study of a 1:10 scale steel model using earthquake simulator," Proceedings 11th Engrg. Mech. Conf., ASCE, Florida, 764-767 (May 1996).

C23. Nagarajaiah, S., and Sun, X., "Response of base isolated USC hospital building in Northridge Earthquake," Proceedings Structures Congress '96, ASCE, Chicago, Illinois, 565-570 (April 1996).

C22. Reinhorn, A.M., Subramaniam, R., Nagarajaiah, S., and Riley, M. A. "Implementation of hybrid structural control using fuzzy logic," Proceedings American Control Conference, Seattle, 1204-1209 (June 1995).

C21. Nagarajaiah, S., and Sun, X., "Response of base isolated buildings during the 1994 Northridge earthquake," Proceedings SMIP95 Seminar on Seismological and Engrg.--Implications of Recent Strong Motion Data, ***Invited Paper,*** *San Francisco, California, 41-55 (May 1995).*

C20. Nagarajaiah, S., "Seismic response of multistory sliding isolated structures with uplift," Proceedings Structures Congress '95, ASCE, Boston, Massachusetts, 1044-1047 (April 1995).

C19. Nagarajaiah, S., "Fuzzy controller for structures with hybrid isolation system," Proceedings First World Conference on Structural Control, Univ. of Southern California, California, TA2-67-76 (August 1994).

C18. Riley, M. A., Reinhorn, A. M., Nagarajaiah, S., and Subramaniam, S., "Control algorithms for structures with hybrid isolation systems," Proceedings Fifth U.S. National Conference on Earthquake Engineering, Chicago, Illinois, 981-990 (July 1994).

C17. Subramaniam, R., Reinhorn, A. M., Nagarajaiah, S., and Riley, M. A., "Fuzzy sets applications to hybrid structural control," Proceedings Fifth U.S. National Conference on Earthquake Engineering, Chicago, Illinois, 991-1000 (July 1994).

C16. Nagarajaiah, S., and Reinhorn A., (1994). "Applicability of Pseudo-force Method of Highly Nonlinear Dynamic Problems," In Analysis and Computation, ASCE, Proceedings, Structures Congress 1994, Atlanta, pp 165-172.

C15. Riley, M. A., Nagarajaiah, S., and Reinhorn, A. M., "Hybrid isolation systems for sensitive equipment and secondary systems," Proceedings National Earthquake Conference, Memphis, Tennessee, 327-336 (May 1993).

C14. Subramaniam, R. S., Riley, M. A., Nagarajaiah, S., and Reinhorn, A. M., "Hybrid control of building structures," Proceedings 9th VPI & SU Symposium on Dynamics and Control of Large Structures, Blacksburg, Virginia, 102-110 (May 1993).

C13. Reinhorn, A. M., Nagarajaiah, S., Riley, M. A., and Subramaniam, R. S., "Hybrid control of sliding isolated structures," Proceedings Structures Congress '93, ASCE, Irvine, California, 766-771 (April 1993).

C12. Subramaniam, R. S., Reinhorn, A. M., and Nagarajaiah, S., "Application of fuzzy set theory to the active control of base isolated structures," Proceedings Second IEEE International Conference on Fuzzy Systems (FUZZ-IEEE-93), San Francisco, California, 223-231 (April 1993).

C11. Nagarajaiah, S., Reinhorn, A. M., and Constantinou, M. C., "Torsion in base isolated structures," Proceedings ATC-17-1 Seminar of Base Isolation and Active Control, ***Invited Paper,*** *San Francisco, California, pp. 331-338 (March 1993).*

C10. Riley, M. A., Subramaniam, R. S., Nagarajaiah, S., and Reinhorn, A. M., "Hybrid control of sliding base isolated structures," Proceedings ATC-17-1 Seminar on Base Isolation and Active Control, ***Invited Paper,*** *San Francisco, California, pp. 799-810 (March 1993).*

C9. Nagarajaiah, S., Tsopelas, P. S., Li, C., Reinhorn, A. M., and Constantinou, M. C., "3D-BASIS: A class of computer programs for nonlinear dynamic analysis of base isolated structures," Proceedings ATC-17-1 Seminar on Base Isolation and Active Control, ***Invited Paper,*** *San Francisco, California, 173-184 (March 1993).*

C8. Reinhorn, A., Nagarajaiah, S., Subramaniam, R. S., and Riley, M. A. "Study of hybrid control for structural and nonstructural systems," Proceedings International Workshop on Structural Control, Hawaii, 405-416 (August 1993).

C7. Reinhorn, A. M., Nagarajaiah, S., Riley, M. A., and Subramaniam, R., "Hybrid control of sliding isolated bridges," Proceedings Second US/Japan NSF Workshop on Earthquake Protection Systems for Bridges, Tsukuba, Japan, 517-523 (December 1992).

C6. Nagarajaiah, S., Riley, M. A., Reinhorn, A. M., and Shinozuka, M., "Hybrid control of sliding isolated bridges," Proceedings Sixth Symposium Seismic, Shock, and Vibration Isolation 1992, ASME/PVP-237, Vol. 2, 83-89 (1992).

C5. Riley, M. A., Nagarajaiah, S., and Reinhorn, A. M., "Hybrid control of absolute motion in aseismically isolated bridges," Proceedings Third Workshop on Bridge Engineering, San Diego, California, 239-242 (November 1992).

C4. Nagarajaiah, S., Feng, M. Q., Shinozuka, M., and Reinhorn, A. M., "Analysis of bridges with friction controllable sliding isolation systems," Proceedings Third Workshop on Bridge Engineering, San Diego, 243-246 (November 1992).

C3. Nagarajaiah, S., Reinhorn, A. M., and Constantinou, M. C., "Uplift restraint for sliding base isolated structures," Proceedings Third World Congress Joints and Bearings, Canada, Vol. 2, 1173-1185 (1991).

C2. Nagarajaiah, S., Reinhorn, A. M., and Constantinou, M. C., "Lateral-torsional response of sliding isolated structures," Proceedings Pacific Conference on Earthquake Engineering, Auckland, New Zealand, 257-268 (1991).

C1. Nagarajaiah, S., Reinhorn, A. M., and Constantinou, M. C., "Analytical modeling of three dimensional behavior of base isolation devices," Proceedings Fourth U.S. National Conference on Earthquake Engineering, Palm Springs, California, Vol. 3, 579-588 (1990).

BOOK CHAPTERS

1. Sen, D. and Nagarajaiah, S. (2018). Data-Driven Approach to Structural Health Monitoring Using Statistical Learning Algorithms. Mechatronics for Cultural Heritage and Civil Engineering (edited by Ottaviano E., Pelliccio A. and Gattulli V.). Springer-Cham.

2. Nagarajaiah, S. and Yang, Y. (2014). Blind identification of output-only systems and structural damage via sparse representation and unsupervised machine learning. Encyclopedia of Earthquake Engineering (edited by Beer, M., Patelli, E., Kougioumtzoglou, I., and Au, I.). Springer-Verlag.

3. Nagarajaiah, S., Basu, B., and Yang, Y. (2014). Output only modal identification and structural damage detection using time frequency & wavelet techniques. Sensor Technology for Civil Infrastructures: Performance Assessment & Health Monitoring (edited by Wang, M., Sohn, H., and Lynch, J.). Woodhead Publishing.

4. S. Nagarajaiah, Basu, B. (2011) "Output only Modal Identification and Structural Damage Detection using Time Frequency & Wavelet Techniques" Sensor Technologies for civil

infrastructures: Performance assessment & health monitoring, Edited by Wang, Sohn, Lynch, Woodhead Publishing.

5. S. Nagarajaiah, (2011) "Seismic Isolation of Structural Systems," Earthquake Engineering, Edited by Sashi Kunnath, Eolss Publishers Co Ltd.

6. Nagarajaiah, S., and Narasimhan, S. (2007) "Optimal Control of Structures," Handbook on Optimization of Structural and Mechanical Systems, Edited by J. S. Arora, World Scientific Publishing/Imperial College Press ISBN 978-981-256-962-2 / 981-256-962-6.

TECHNICAL REPORTS

TR9. Attary, N., Symans, M., Nagarajaiah, S., Reinhorn, A. M., Constantinou, M. C., Sarlis, A. S., Pasala, D. T. R., Taylor, D., "Seismic Protection of Highway Bridges with Negative Stiffness Device," Report No. MCEER-13-0013, Multidisciplinary Center for Earthquake Engineering Research, SUNY, Buffalo, New York (2014).

TR8. Pasala, D. T. R., Sarlis, A. A. S., Nagarajaiah, S., Reinhorn, A. M., Constantinou, M. C., Taylor, D., "Seismic Response Control of Structures Using a Novel Adaptive Passive Negative Stiffness Device," Report No. MCEER-13-0004, Multidisciplinary Center for Earthquake Engineering Research, SUNY, Buffalo, New York (2013).

TR7. Sarlis, A.A., Pasala, D.T.R., Constantinou, M.C., Reinhorn, A.M., Nagarajaiah, S., and Taylor, D. "Negative stiffness device for seismic protection of structures," Report No. MCEER-13-0005, Multidisciplinary Center for Earthquake Engineering Research, SUNY, Buffalo, New York (2013).

TR6. Nagarajaiah, S, and Sun, X., "Response of base isolated buildings during the 1994 Northridge earthquake," Rice Technical Report 51, to California Strong Motion Instrumentation Program, (1999).

TR5. Reinhorn, A.M., Nagarajaiah, S., Constantinou, M.C., Tsopelas, P.C., and Renfen, L., "3D-BASIS-TABS Version 2.0: A computer program for nonlinear dynamic analysis for three-dimensional base isolated structures," Report No. NCEER-94-0018, National Center for Earthquake Engineering Research, SUNY, Buffalo, New York (1994).

TR4. Nagarajaiah, S., Li, C., Reinhorn, A. M., and Constantinou, M. C., "3D-BASIS-TABS: A computer program for nonlinear dynamic analysis for three-dimensional base isolated structures," Report No. NCEER-93-0011, National Center for Earthquake Engineering Research, SUNY, Buffalo, New York (1993).

TR3. Tsopelas, P., Nagarajaiah, S., Constantinou, M. C., and Reinhorn, A. M., "3D-BASIS-M: Nonlinear dynamic analysis of multiple building base isolated structures," Report No. NCEER-91-0014, National Center for Earthquake Engineering Research, SUNY, Buffalo, New York (1991).

TR2. Nagarajaiah, S., Reinhorn, A. M., and Constantinou, M. C., "3D-BASIS: Nonlinear dynamic analysis of three-dimensional base isolated structures - Part II," Report No. NCEER-91-0005, National Center for Earthquake Engineering Research, SUNY, Buffalo, New York (1991).

TR1. Nagarajaiah, S., Reinhorn, A. M., and Constantinou, M. C., "Nonlinear dynamic analysis of three-dimensional base isolated structures (3D-BASIS)," Report No. NCEER-89-0019, National Center for Earthquake Engineering Research, SUNY, Buffalo, New York (1989).

INVENTION – STARTUP - PATENTS

Cofounded Startup LumiStrain Inc. in 2024 (https://www.lumi-strain.com)

FULL DETAILS OF PATENTS

14 patent applications filed to date

SCOPUS Database (select patents tab)

https://patents.google.com/?inventor=satish+nagarajaiah&oq=satish+nagarajaiah

Strain mapping by hyperspectral imaging
WO US WO2026044264A1
Priority 2024-08-22 • Filed 2025-08-22 • Published 2026-02-26
Assignee: WILLIAM MARSH RICE UNIVERSITY
Inventors: Bruce Weisman, Satish Nagarajaiah, Wei Meng, Sergei Bachilo, William Marsh Rice University

Heavy-metal-reduced post-industrial waste in cementitious materials and methods …
JP CA CA3247706A1
Priority 2022-04-07 • Filed 2023-04-07 • Published 2025-07-10
Assignee: WILLIAM MARSH RICE UNIVERSITY
Inventors: James Tour, Satish Nagarajaiah, and others, William Marsh Rice University

Non-contact strain sensing of objects by use of single-walled carbon nanotubes
Patent number: 9255853 Type: Grant
Filed: March 14, 2013; Date of Patent: February 9, 2016
Assignee: WILLIAM MARSH RICE UNIVERSITY
Inventors: R. Bruce Weisman, Paul A. Withey, Sergei M. Bachilo, Satish Nagarajaiah, Venkata Srivishnu M. Vemuru

Non-Contact Strain Sensing of Objects by Use of Single-Walled Carbon Nanotubes
Publication number: 20150115159 Type: Application
Filed: March 14, 2013 Publication date: April 30, 2015
Applicant: William Marsh Rice University

Inventors: R. Bruce Weisman, Paul A. Withey, Sergei M. Bachilo, Satish Nagarajaiah, Venkata Srivishnu M. Vemuru

Negative Stiffness Device and Method
Patent number: 8857110 Type: Grant
Filed: November 9, 2012; Date of Patent: October 14, 2014
Assignees: The Research Foundation for The State University of New York, William Marsh Rice University, Taylor Devices, Inc.
Inventors: Michael C. Constantinou, Andrei M. Reinhorn, Apostolos A. Sarlis, Douglas Taylor, David A. Lee, Satish Nagarajaiah, Dharma Theja R. Pasala

Negative stiffness device and method
Publication number: 20130118098 Type: Application Filed: Nov. 9, 2012
Publication date: May 16, 2013
Inventors: Michael C. Constantinou, Andrei M. Reinhorn, Apostolos A. Sarlis, Douglas Taylor, David A. Lee, Satish Nagarajaiah, Dharma Theja R. Pasala

Smart materials: strain sensing and stress determination by means of nanotube sensing systems, composites, and devices
Patent number: 7730547 Type: Grant
Filed: January 23, 2004; Date of Patent: June 1, 2010
Assignee: William Marsh Rice University
Inventors: Enrique V. Barrera, Satish Nagarajaiah, Prasad Dharap, Li Zhiling, Jong Dae Kim

Smart materials: strain sensing and stress determination by means of nanotube sensing systems, composites, and devices
Publication number: 20060253942 Type: Application
Filed: January 23, 2004; Publication date: November 9, 2006
Applicant: William Marsh Rice University
Inventors: Enrique Barrera, Satish Nagarajaiah, Prasad Dharap, Li Zhiling, Jong Kim

Strain sensing and stress determination by means of nanotube sensing systems
HK1083643A Satish Nagarajaiah William Marsh Rice University
Priority 2003-01-23 • Filed 2004-01-23 • Published 2006-07-07

Structural vibration damper with continuously variable stiffness
Patent number: 6098969 Type: Grant Filed: August 17, 1998
Date of Patent: August 8, 2000
Inventor: Satish Nagarajaiah

RICE UNIVERSITY SERVICE ACTIVITIES

- *2025 – Present, Awards Committee, CEVE, Rice*
- *2011 - 2025, Graduate Committee Co-Chair, CEVE, Rice*
- *2023 - Present, Member, University IT Committee, Rice*
- *2021, 22, 23, 24, 25 Urban & Infrastructure Sys. and Adaptive and Resilient Infrastructure Faculty Positions Search Committee, CEVE, Rice*
- *2002 – to date, Building Safety Officer, Ryon Building, Rice*
- *2000 - 2024, BSCE Undergraduate Student Advisor and Structures Area Coordinator*
- *2015 - 2020, Member, University Library Committee, Rice*
- *2010 - 2014, Co-Chair, ABET Accreditation Committee, CEE, Rice*
- *2010 - 11, Member, Dean of Engineering Search Committee, Rice*
- *2009 - 11, Structures Faculty Position(s), Search Committee, CEVE, Rice*
- *2009, Univ. Search Committee for Director, office of sponsored research, Rice*
- *2007 - 09, Presidential Committee on Diversity, Rice*
- *2005, 06, 07, Chair, Urban & Infrastructure Sys. Faculty Positions Search Committee, CEVE, Rice*
- *2005, 06, 07, Associate Chair, CEVE, Rice*

During his tenure as associate chair, he assisted the then Dean of Engineering (Dean Sally Ann-Keller) and the then Chair (Dr. Pedro Alvarez) in hiring outstanding faculty members—Dr. Leonardo Duenas-Osorio from Georgia Tech (2006)—tenured full professor (2020-present), and Dr. Jamie E. Padgett from Georgia Tech (2007)—currently tenured full professor and chair (2020—present) in the area of CE/structural engineering. He played a role in hiring other structures faculty to Rice (2006 Dr. Ilinca Stanciulescu, @ Rice 2009-2021 late colleague), and Dr. Rouzbeh Shahsavari (2011-denied tenure in 2020) and mentoring all four of the assistant professors, Dr. Osorio, Dr. Padgett, Dr. Stanciulescu, and Dr. Shahsavari in CE side of CEVE, through various stages of their tenure spanning 15 years. US News has ranked Rice Civil Engineering in top 25, nationally. Civil Engineering' rank has risen steadily nationally during the last decade. He played a key role in rebuilding Civil & Environmental Eng. at Rice.

- *2007 - 2019, Presidential Committee on India Initiative, Rice*
- *2010 - 2014, Co-Chair, ABET Accreditation Committee, CEE, Rice*
- *2010 - 11, Member, Dean of Engineering Search Committee, Rice*
- *2009 - 10, Infrastructures Faculty Search Committee, CEVE, Rice*
- *2009, Univ. Search Committee for Director, office of sponsored research, Rice*
- *2007 - 11, Graduate Committee Chair, CEVE, Rice*
- *2007 - 09, Presidential Committee on Diversity, Rice*
- *2007, Chair of Urban Systems and Infrastructure. Faculty Search Com., CEVE, Rice*
- *2006, Chair of Structures Faculty Search Committee, CEVE, Rice*
- *2005, Member, Chair Search Committee, CEVE, Rice*
- *2004 - Present, Faculty Advisor, Chi-Epsilon Honor Society*
- *2004 - 08, Faculty Advisor, American Society of Civil Eng. Rice Student Chapter*
- *2004 - Member, Chair Search Committee, CEVE, Rice*
- *2004 - Member, Faculty Search Committee, CEVE, Rice*
- *2004 - Member, ABET Committee, CEVE, Rice*
- *2002 - 08, Rice University Library Committee*
- *2002 - 10, Building Safety Officer, Ryon Building, Rice*

- *1999 - 2024, Member Curriculum Committee, CEVE, Rice*
- *1999 - Present, Director, Dynamic Systems Laboratory, CEVE and ME-MS Rice*
- *1999 - 2006, Graduate Committee Chair, Civil Eng., CEVE, Rice*
- *2003 - Member, Faculty Search Committee, CEVE, Rice*
- *2002 - Member, Faculty Search Committee, CEVE, Rice*
- *2001 - Member, Faculty Search Committee, CEVE, Rice*
- *2000 - Member, Structures Faculty Search Committee, CE, Rice*
- *1999 - 01 Seminar Coordinator, CE Rice*

PROFESSIONAL/TECHNICAL COMMITTEE SERVICE

ASCE Service

Satish Nagarajaiah has served for the last three decades. He is a 2021 Distinguished Member, a Fellow of ASCE since 2017, and a Fellow of the Structural Engineering Institute (SEI) of ASCE since 2012. He served on the board of governors of ASCE SEI from 2015-2019 and on the Technical Activities Division Executive Committee from 2006-2012 and again from 2015-2019. He served as Managing Editor of the Journal of Structural Eng., ASCE, 2011-2018. He has founded and chaired numerous SEI and EMI committees, which are listed below.

- *21 – Present, Distinguished Member, ASCE*
- *15 –19, Member, Board of Governors, ASCE Structural Engineering Institute*
- *15 –19, Member, Technical Activities Division, TAD-ExCom, ASCE Struct. Eng. Inst.*
- *16—19, Member, Walter Huber Award Committee, ASCE*
- *11 - 16, Member, ASCE Structural Engineering Institute, Awards Committee*
- *10 - 12, Past Chairman, Executive Committee, Technical Activities Division, TAD-ExCom, SEI, ASCE*
- *09 - 10, Chairman, Executive Committee, Technical Activities Division, TAD-ExCom, SEI, ASCE*
- *08 - 09, Vice Chairman, Executive Committee, Technical Activities Division, TAD-ExCom, SEI, ASCE*
- *07 - 08, Secretary, Executive Committee, Technical Activities Division, TAD-ExCom, SEI, ASCE*
- *06 - 07, Member, Executive Committee, Technical Activities Division, TAD-ExCom, SEI, ASCE*
- *04 - 06, Founding Chairman, New Technical Committee on Structural Health Monitoring and Control, Eng. Mechanics Institute, ASCE*
- *04 - 05, Chairman, Task Group Benchmark Problems, ASCE, International Association of Structural Control and Health Monitoring*
- *98 - 02, Chairman, Technical Committee on Structural Control and Sensing, SEI., ASCE*

Other service within ASCE:

02–06	*Member*	*Publications Admin. Com. ASCE Journal of Structural Eng.*
00-08	*Member*	*Technical Comm. on Dynamics, Eng. Mechanics Division, ASCE*
95-02	*Member*	*Structural Control Committee, Structural Eng. Inst., ASCE*
95-03	*Member*	*Methods of Analysis Committee, Structural Eng. Inst., ASCE*
95-02	*Member*	*Control Group Member, ASCE, Structural Control Committee*

95-02	*Member*	*ASCE, Standards Committee on Testing of Base Isolation Systems*
95-01	*Vice Chair*	*Subcommittee on Base Isolation, ASCE, Seismic effects committee*
95-01	*Member*	*Seismic Effects Committee, Structural Eng. Inst., ASCE*
94-98	*Director*	*New Madrid Chapter of Earthquake Engineering Research Institute*
90-93	*Member*	*Structural Engineers Association of Southern California*

Other Organizations Service

02–06 President-U.S. Panel of International Association of Structural Control and Monitoring

06-10 Board Member, U.S. Panel of the Int. Association of Structural Control and Monitoring

PROFESSIONAL SOCIETY MEMBERSHIP

- *American Society of Civil Engineers (ASCE), F. ASCE, Dist. M. ASCE (Elected)*
- *Sigma Xi (SXI), M. SXI (Elected)*
- *ASCE Fellow (Elected)*
- *ASCE Structural Engineering Institute, F. SEI (Elected)*
- *ASCE Engineering Mechanics Institute, M. EMI*
- *Earthquake Engineering Research Institute (EERI), M. EERI*
- *American Society of Mechanical Engineers (ASME), M. ASME*
- *American Institute of Aeronautics and Astronautics (AIAA), M. AIAA*
- *American Association for Advancement of Science (AAAS), M. AAAS*

CONFERENCE SCIENTIFIC COMMITTEES

2026	*Member (Int.Sc.Adv.Com)*	*NODYCON 2026, Rome, Italy*
2025	*Co-Chairman of Scientific Committee Eduardo Miranda, Stanford University*	*19WCSI, UC-Berkeley, CA, USA*
2025	*Member (Int.Sc.Adv.Com)*	*NODYCON 2025, New Jersey, USA*
2024	*Member (Int.Sc.Adv.Com)*	*APESS & ANCRiSST 2024, Kyoto, Japan*
2023	*Member (Int.Sc.Adv.Com)*	*NODYCON 2023, Rome, Italy*
2022.	*Member (Int.Sc.Adv.Com)*	*CIMTECH, 7th International Conference Smart and Multifunctional Materials, Structures and Systems*
2022	*Member (Int.Sc.Adv.Com)*	*NODYCON 2022, Rome, Italy*

2021	*Member (Int.Sc.Adv.Com)*	*NODYCON 2021, Rome, Italy*
2020	*Member (Int.Sc.Adv.Com)*	*EURODYN 2020, Athens, Greece*
2019	*Member (Int.Sc.Adv.Com)*	*SHMII-9, St. Louis, Missouri*
2018	*Member (Int.Sc.Adv.Com)*	*7th International Conference on Structural Control Health Monitoring, Qingdao, China*
2016	*Member (Int.Sc.Adv.Com)*	*ACEM 2016 Congress (The World Congress on Advances in Civil, Environmental, and Materials Research), Int. Assn. Of Structural Engineering and Mechanics, Korea*
2016	*Member (Int.Sc.Adv.Com)*	*CIMTECH, 5th International Conference Smart and Multifunctional Materials, Structures and Systems*
2015	*Member (Int.Sc.Adv.Com)*	*CIMTECH, 4th International Conference Smart and Multifunctional Materials, Structures and Systems*
2014	*Member (Int.Sc.Adv.Com)*	*ACEM 2014 Congress (The World Congress on Advances in Civil, Environmental, and Materials Research), Int. Assc. Of Structural Engineering and Mechanics, Korea*
2014	*Member (Int.Sc.Adv.Com)*	*Six World Conference on Structural Control and Monitoring, Barcelona.*
2014	*Co-Chairman (Tech. Program Com).*	*Seventh ISSS International Conference on Smart Materials Structures & Systems (ISSS 2014)*
2013	*Advisory Board Mbar*	*7th International SHM Conference, ISHMII 2013, Hong Kong, China*
2013	*Member*	*10th International Conference on Damage Assessment of Structures--DAMAS*
2012	*Co-Chair*	*ANCRiSST 7th Int. Workshop, IISc, Bangalore, 2012*
2012	*Co-Chair*	*Asia Pacific Summer School on Smart Structures, IISc, Bangalore, 2012*
2011	*Member*	*Int. Committee, ANCRiSST 6th Int. Workshop, Dalian, China, 2011*
2011	*Member*	*Asia Pacific Summer School Smart Structures,Tongji Univ., China, 2011*
2010	*Member*	*Steering Committee: ASCE Earth and Space Conf. 2010, Hawaii*
2009	*Member*	*Steering Committee: ANCRiSST 5th Int. Workshop, Boston, 2009*
2009	*Member*	*Steering Committee: ASCE Structures Congress 2009, Austin*
2008	*Member*	*IASCM Committee, 5 International Workshop on Structural Control and Monitoring, Dalian, China*
2006	*Member*	*Scientific Committee, Fourth World Conf. on Structural Control, UCSD, International Assoc. of Structural Control and Health Monitoring*
2006	*Member*	*Steering Committee, Analysis & Computation, Structures Congress 2006, St. Louis, MO*
2005	*Member*	*Scientific Committee, Structural Engineering Convention, Indian Institute of Science, India*
2004	*Chairman*	*Structural Control WG, Fourth International Workshop Structural Control, International Assoc. of Structural Control & Health Monitoring*
2002	*Member*	*Scientific Committee, Seventh U.S. National Conf. on Earthquake Engineering, Earthquake Engineering Research Institute*
1999	*Member*	*Steering Committee, Mid America Highway Seismic Conf., FHWA*

CONFERENCE SESSION ORGANIZATION

19WCSI *September 2025*	*Chairman, Session Energy Dissipation - New Technologies*
Structures Congress *April 2019*	*Chairman, First Interdisciplinary Tech Summit:* *Resilience of Infrastructure Systems*
Eng. Mech. Conf. *June 2017*	*Co-Chairman, Structural Identification and Damage Detection*
Structures Congress *Feb 2016*	*Chairman, Session on Innovative Seismic Protection Systems*
6WCSCM *July 2014*	*Chairman, Multiple sessions and two Mini Symposia.*
ISHMII *Dec 2013*	*Chairman, Session on Structural Health Monitoring* *(Also, sessions on system identification).*
DAMAS *July 2013*	*Chairman, Session on Structural Health Monitoring* *(Also, sessions on system identification).*
ANCRiSST *July 2012*	*Chairman, Keynote Session on Structural Health Monitoring* *(Also, sessions on Energy Harvesting and Struct. Health Monitoring).*
Structures Congress *March 2012*	*Chairman, Keynote Session of Analysis and Computation* *Specialty Conference*
ANCRiSST *July 2011*	*Chairman, Keynote /Plenary Session*
5WCSCM *July 2010*	*Chairman, Co-Chair for Six Sessions* *5th World Conference in Structural Control and Monitoring*
SPIE *March 2009*	*Co-Chairman, Response Control of Structures,* *SPIE Smart Structures Conference, San Diego, CA*
CIMTEC *June 2008*	*Chairman, Structural Health Monitoring and Damage Detection* *Third World CIMTEC conference on Smart Structures and Materials,* *Sicily, Italy*
5CUEE *March 2008*	*Chairman, Structural Control and Monitoring* *5th International Symposium Center for Urban Earthquake Eng,* *Tokyo Institute of Tech., Tokyo*
4WCSCM *July 2006*	*Chairman, Analytical Studies in Structural Health Monitoring II* *4TH World Conf. on Structural Control and Monitoring, San Diego*
4WCSCM *July 2006*	*Chairman, Smart Tuned Mass Dampers* *4TH World Conf. on Structural Control and Monitoring, San Diego*
USNCTAM	*Chairman, Structural Health Monitoring I*

May 2006	*15th U.S. National Congress on Theoretical and Applied Mechanics Boulder*
USNCTAM May 2006	*Chairman, Structural Health Monitoring II 15th U.S. National Congress on Theoretical and Applied Mechanics Boulder*
SPIE Feb. 2006	*Co-Chairman, Structural Control I San Diego*
SHMII -2 Nov. 2005	*Co-Chairman, Damage Identification and Localization III Shenzhen, China*
McMat June 2005	*Co-Chairman, Highway Bridge Benchmark Problem ASCE/ASME Conf., New Orleans*
3ICEE October 2004	*Chairman, Seismic Analysis of Bridges 3rd Int. Conf. on Earthquake Eng., Nanjing, China.*
US-Korea Workshop September 2004	*Chairman, Structural Health Monitoring US – Korea Smart Structures Workshop, Seoul Korea.*
Eng. Mechanics Conf. U Delaware, Newark, June 2004	*Chairman, Smart Base Isolated Benchmark Problem ASCE, 17th Eng. Mech. Conf.*
Eng. Mechanics Conf. U Delaware, Newark, June 2004	*Chairman, Structural Health Monitoring I ASCE, 17th Eng. Mech. Conf. (With Prof. Johnson, USC)*
Eng. Mechanics Conf. U Delaware, Newark, June 2004	*Co-chairman, Structural Health Monitoring III ASCE, 17th Eng. Mech. Conf.*
Eng. Mechanics Conf. UW, Seattle, July 2003	*Chairman, Smart Base Isolated Benchmark Problem ASCE, 16th Eng. Mech. Conf.*
ICANCEER August 2002	*Co-chairman, Structural Control I, Int. Conf. of Asia Pacific Centers of Hong Kong, Earthquake Eng. (With Prof. Masri, University of Southern California)*
7USNCEE	*Co-chairman, Smart Materials and Structures, 7 US National Conf. on Boston, June 2002 Earthquake Eng. (With Prof. Gavin, Duke University)*
3WCSC April 2002	*Co-chairman , Semiactive Seismic Isolation, 3rd World Conf. on Structural Como, Italy, Control (With Prof. Gavin, Duke University)*
MMC Conf. San Diego, CA, May 2001	*Co-chairman, Structural Control I: Smart structural systems and devices, Materials&Mech. Conf. (With Prof. Johnson, Univ. of Southern California)*
ICOSSAR Conf. Newport Beach, CA, May 2001	*Co-chairman, Probabilistic System Identification, Int. Conf on Struct. Safety and Reliability (With Prof. Beck, Caltech)*
VETOMAC, IISc Bangalore, India, Oct. 2000	*Chairman, Random/Nonlinear Vibrations, Vibrations and Machines Conf.*
EMD Conf. UT Austin, TX, May 2000	*Co-chairman, Experimental Studies on Semi-active Structural Control ASCE, Eng. Mechanics Conf. (With Prof. Gavin, Duke University)*

EMD Conf. *UT Austin, TX, May 2000*	*Co-chairman, Analytical Studies on Semi-active Structural Control* *ASCE, Eng. Mechanics Conf. (With Prof. Gavin, Duke University)*
EMD Conf. *UT Austin, TX, May 2000*	*Co-chairman, Structural Control of Asymmetric and Flexible Buildings* *ASCE, Eng. Mech Conf. (With Prof. Johnson, Univ.of Southern California)*
Structures Congress *San Francisco, CA, April 1998*	*Chairman, Session on Smart Materials and Structures* *ASCE Structures Congress*
Structures Congress *Portland, WA, April 1997*	*Co-Chairman, Session on Semi-active and Hybrid Control,* *ASCE (with Professor Bill Spencer, Univ. of Illinois-Urbana)*
Structures Congress *Portland, WA, April 1997*	*Chairman, Session on Current Issues in Seismic Isolation* *and damping systems – I, ASCE*
Structures Congress *Portland, WA, April 1997*	*Chairman, Session on Current Issues in Seismic Isolation* *and damping systems – II, ASCE*
Second US/Japan Workshop on Earthquake Protective Systems for Bridges, Tsukuba, Japan, December, 1992	*Co-Chairman Session on Design of Seismic Isolation Systems (with Prof. Tokida)*

REVIEW ACTIVITIES

National and International Review Panels and Mail-in Reviews

Proposals

US National Science Foundation
European Science Foundation
Irish Science Foundation
Switzerland Science Foundation
Polish Science Foundation
Czech Science Foundtion
University of Missouri, Research Board
Mid-America Transportation Research Center
Multidisciplinary Center for Earthquake Engineering Research

Papers

Proceeding of the National Academies of Sciences
Proceedings of Royal Society
Journal of Structural Engineering, ASCE
Journal of Engineering Mechanics, ASCE
Journal of Vibration and Acoustics, ASME
Journal of Vibration and Control
AIAA Journal, AIAA
Journal of Applied Mechanics, ASME
Journal of Aerospace Engineering, ASCE

Earthquake Engineering and Structural Dynamics
Earthquake Spectra
Journal of Computer Aided Civil and Infrastructure Engineering
Journal of Microcomputers in Civil Engineering
Journal of Earthquake Engineering
Journal of Engineering Structures
Journal of Probabilistic Engineering Mechanics
International Journal of Nonlinear Mechanics
International Journal of Structural Health Monitoring
International Journal of Structural Engineering and Mechanics
Computer Methods in Applied Mechanics and Engineering
IEEE Journals
Structural Control and Health Monitoring
Mechanical Systems and Signal Processing
International Journal of Solids and Structures
Canadian Journal of Civil Engineering
International Journal of Intelligent Material Systems and Structures
Structure and Infrastructure Engineering
Journal of Smart Structures and Systems
Nanotechnology Journal
Science Advances, AAAS
Soil Dynamics and Earthquake Engineering
Smart Systems and Structures
Smart Materials and Structures
Structural Monitoring and Maintenance

Lectures - Plenary (12), Keynote (12), Distinguished (7), Invited (28)

March 31, 2026	*1st Qian Weichang International Summit,*	*Keynote Lecture*
December 19, 2024	*Dist. Alumnus Lecture, CEE, IISc*	*Distinguished Lecture*
November 24, 2024.	*1st ICES, Guangzhou, China*	*Keynote Lecture*
July 19, 2024,	*APESS 2024 at Kyoto University*	*Invited Lecture*
April 22, 2024,	*ETH, Zurich, Dist. Dynamics Colloquium*	*Distinguished Lecture*
Feb 13, 2024	*CSHM-9, SCSHM (formerly ISHMI), Kuwait*	*Plenary Lecture*
August 17, 2022	*ACEM22-Structures22, Int. Conf., Korea*	*Keynote Lecture*
Nov 19, 2021	*Bayer Dist. Lecture, Univ. of Houston, CEE*	*Distinguished Lecture*
August 29, 2020	*ACEM20-Structures20, Int. Conf., Korea*	*Keynote Lecture*
Feb 12, 2020	*Int. Modal Anal. Conf. XXXVIII, Houston*	*Semi Keynote Lecture*
Sept 6, 2019	*Int. Conf. Expt. Vib. Analy. EVACES, China*	*Keynote Lecture*
Nov 14, 2018	*MIT*	*Invited Lecture*
Nov 8, 2018	*Caltech*	*Invited Lecture*
August 29, 2018	*ACEM18-Structures 18, Int. Conf., Korea*	*Keynote Lecture*
July 24, 2018	*7th World Conf. Struc. Control Health Monitoring, Qingdao, China*	*Plenary Lecture*
July 27, 2018	*APESS @ Qingdao University*	*Invited Lecture*
June 21, 2018	*Tsinghua Univ. CEE*	*Invited Lecture*

June 20, 2018	*WTC conference, Beijing, China*	*Plenary Lecture*
March 14, 2018	*Northwestern Univ. CEE*	*Invited Lecture*
Oct 30, 2017	*Northeastern Univ. CEE*	*Distinguished Lecture*
Sept 13, 2017	*EURODYN conf., Rome, Italy*	*Semi-Plenary Lecture*
Aug 11, 2017	*3 Huixian Intl. F. Ear. Eng., UIUC*	*Plenary Lecture*
July 18, 2017	*APESS @ Yokohama National Univ.*	*Invited Lecture*
July 13, 2017	*Harbin Inst. of Tech.*	*Invited Lecture*
March 7, 2017	*Univ. of Western Ontario*	*Distinguished Lecture*
Nov 24, 2016	*Hong-Kong Poly Tech.*	*Invited Lecture*
Nov 10, 2016	*Link Lab, University of Virginia*	*Invited Lecture*
August 29, 2016	*ACEM16, Structures 16, Int. Conf., Korea*	*Keynote Lecture*
June 26, 2016	*Cambridge University*	*Invited Lecture*
August 24, 2015	*Georgia Institute of Technology CEE*	*Distinguished Lecture*
Nov 8, 2015	*Carnegie Mellon University CEE*	*Invited Lecture*
Nov 6, 2015	*University of Pittsburg CEE*	*Invited Lecture*
July 8, 2014	*7 Intl. Conf. Smart Struc., IISc, Bangalore*	*Plenary Lecture*
March 28, 2014	*Warren Lecture, Univ. of Minnesota*	*Distinguished Lecture*
March 17, 2014	*NEES/EERI National Webinar*	*EERI/NEES Lecture*
Feb. 6, 2014	*Princeton University*	*Invited Lecture*
July 8, 2013	*DAMAS 2013, Trinity College, Dublin*	*Plenary Lecture*
April 22, 2013	*University of Illinois, Urbana-Champaign*	*Invited Lecture*
Nov 7, 2012	*Stanford University*	*Invited Lecture*
Nov 6, 2012	*University of California, Davis*	*Invited Lecture*
Nov 5, 2012	*University of California, Berkeley*	*Invited Lecture*
Oct 11, 2012	*SUNY-Buffalo, NY*	*MCEER/EERI/NEES Lecture*
Oct 10, 2012	*SUNY-Buffalo, NY*	*Invited Lecture (Mechanical)*
Sept 16, 2012	*Int. Conf. on Advances in Inf. Eng. China*	*Plenary Lecture*
Sept 14, 2012	*Hong Kong Polytechnic, China*	*Invited Lecture*
July 28, 2012	*ANCRiSST 2012 (IISc, Bangalore)*	*Plenary Lecture*
July 14, 2012	*National University of Singapore*	*Invited Lecture*
July 03, 2011	*Tongji University, Shanghai, China*	*Invited Lecture*
July 15, 2010	*5th World Conf. Struct. Contrl. Monit., Japan*	*Plenary Lecture*
July 10, 2009	*APESS @ UIUC*	*Invited Lecture*
Nov 9, 2008	*University of Michigan, MI*	*Invited Lecture*
Nov. 4, 2007	*Structural Eng. World Congress, Bangalore*	*Plenary Lecture*
Sept. 14, 2007	*Trinity College, Dublin*	*Invited Lecture*
July 26, 2007	*Univ. of Tokyo, Japan*	*Invited Lecture*
Dec. 16, 2005	*Struct. Eng. Convention (SEC-2005) Indian Institute of Science, Bangalore, India*	*Plenary Lecture*
Nov. 15, 2005	*Japan Society of Promotion of Science*	*Keynote Lecture*
Nov. 14, 2005	*Kajima Res. Institute, Tokyo*	*Keynote Lecture*
Sept. 3, 2004	*US-Korea Workshop, Seoul, Korea*	*Keynote Lecture*
Sept. 24, 2004	*Caltech, Pasadena*	*Invited Lecture*
August 31, 2004	*Korean Advanced Institute of Tech.*	*Invited Lecture*
April 5, 2002	*3rd World Conf. on Structural Control*	*Keynote Lecture*
July 23, 2001	*Intl. Civil Eng. ICCE-2001, B'lore, India*	*Plenary Lecture*

MEDIA INTERACTIONS

- *See News Archives for full details. Following is an overview: Satish Nagarajaiah has been quoted in the New York Times, Wall Street Journal, Associated Press, Reuters, and many others, and has been interviewed live by BBC, CNN, MSNBC (Rachel Maddow), ABC (Diane Sawyer), NBC, FOX, NPR, Aljazeera English Channel and CCTV, many others.* ***650 Interactions:*** *For details, visit 2010 Rice Media Report of Satish Narajajaiah*
- *Deepwater-Horizon-Disaster_Sept_29_2010_Satish_Nagarajaiah_Rice*
- *After Another Close Call. New York Times Article quoting Satish Nagarajaiah*
- *For Media Interviews, visit http://twitter.com/SatishNagarajah*