

## Curriculum Vitae of ERIK A. JOHNSON

03/2021

University of Southern California  
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### INTERESTS

Structural dynamics and control, “smart” structures, computational stochastic dynamics, design of computer experiments, multiobjective optimal control, system identification, structural optimization, structural health monitoring, building energy efficiency.

### EDUCATION

*Ph.D., Aeronautical and Astronautical Engineering*, University of Illinois at Urbana-Champaign, October 1997. Profs. L.A. Bergman and P.G. Voulgaris, co-advisors; dissertation: “On-line Monitoring, Control, and Reliability of Structural Dynamical Systems.”

*M.S., Aeronautical and Astronautical Engineering*, University of Illinois at Urbana-Champaign, August 1993. Prof. L.A. Bergman, advisor. National Science Foundation Graduate Fellowship, 1989–1990, 1991–1993.

*Certificate in Biblical Studies*, Trinity Evangelical Divinity School, June 1991.

*B.S., Aeronautical and Astronautical Engineering*, University of Illinois at Urbana-Champaign, with highest honors, May 1988. International Minor in French Studies.

### PROFESSIONAL EXPERIENCE

University of Southern California, Los Angeles, CA

Viterbi School of Engineering

*Vice Dean for Academic Programs*, July 2017 –

*Interim Director*, USC Information Technology Program, August 2018 – June 2019

Sonny Astani Department of Civil and Environmental Engineering

*Professor*, November 2014 –

*Associate Chair*, August 2007 – June 2017

*Interim Chair*, October–December 2011

*Associate Professor*, April 2005 – November 2014

*Assistant Professor*, September 1999 – April 2005

Université de Liège, Dept. of Aerospace and Mechanical Engineering, Liège, Belgium

*Visiting Professor*, February–June 2007

Lund University, Center for Mathematical Sciences, Lund, Sweden

*Guest Lecturer*, May 2001

University of Notre Dame, Dept. of Civil Engineering and Geo. Sci., Notre Dame, Indiana  
*Postdoctoral Research Associate*, August 2000  
*Visiting Research Assistant Professor*, September 1997 – August 1999

University of Illinois at Urbana–Champaign, Dept. Aero. & Astro. Engrg., Urbana, Illinois  
*Graduate Research Assistant*, June 1996 – August 1997  
*Graduate Fellow*, August 1995 – May 1996  
*Graduate Research Assistant*, August 1993 – August 1995  
*Visiting Teaching Associate* (Aerospace Structures, I), January 1993 – May 1993  
*National Science Foundation Graduate Fellow*, August 1991 – August 1993  
*National Science Foundation Graduate Fellow*, August 1988 – August 1989  
*Grader* (Aerospace Structures, II), August 1987 – May 1988

J. A. Johnson Paving Co., Arlington Heights, IL  
*Engineer* (part-time), February 1990 – June 1991

General Dynamics, Space Systems Division, San Diego, California  
*Engineering Intern*, Summer 1987

University of Illinois at Urbana–Champaign, Dept. of Mathematics, Urbana, Illinois  
*Grader* (Advanced Calculus), January 1987 – May 1987

Aérospatiale, Division Hélicoptère, Service Formation, Marignane, France  
*Student Engineering Trainee*, Summer 1986

## **COMPUTER AND EQUIPMENT EXPERIENCE**

Extensive programming experience, particularly in C, Fortran, MATLAB, and Perl, but also Pascal, Assembly, Mathematica, Python, and Java.

Various platforms and operating systems, including Macs, PCs, various UNIX workstations, several Cray and SGI supercomputers, CM-5 massively parallel supercomputers; special emphasis on high-end vector and parallel efficiency.

Use and programming of digital signal processor data acquisition and control boards (*e.g.*, TMS320C30), Tektronix and HP data acquisition systems, impact hammers, shakers, accelerometers, etc.

## **PROFESSIONAL SOCIETY MEMBERSHIPS AND GRADE**

*American Society for Engineering Education*, Member  
*American Institute of Aeronautics and Astronautics*, Senior Member  
*American Society of Mechanical Engineers*, Member  
*American Society of Civil Engineers*, Member

## **AWARDS AND HONOR SOCIETIES**

Distinguished Alumnus Award, University of Illinois AE, 2016  
USC WiSE Hanna Reisler Mentorship Award, 2015  
USC Viterbi Dean Faculty Service Award, 2012

IASSAR Junior Research Prize & Medal, 2005  
Outstanding Recent Alumnus Award, University of Illinois AAE, 2003  
Packard Fellowship for Science and Engineering nominee, 2001  
NSF Faculty Early Career Development Award, 2001–2006  
USC Zumberge Research Fund Award, 2000

Faculty of the Month Award, Mortar Board National Honor Society, USC chapter, 2001  
Outstanding Teacher Recognition Award, USC LDS Student Association, 2000  
Nominated for the Outstanding Teaching and Mentoring Award, USC Parents' Association, 2005.

Listed in various editions of *Marquis Who's Who in Science and Engineering*, *Marquis Who's Who in American Education*, *Marquis Who's Who in America*, *Marquis Who's Who the World*

Awards as a graduate student:

- Mavis Memorial Fund Scholarship fellow, 1995–1996 academic year
- Jefferson Goblet Award for best student paper, awarded at 1994 AIAA SDM conference
- National Science Foundation Graduate Fellow, 1988–1989, 1991–1993
- Bronze Tablet and University of Illinois Highest Honors
- Dean's List (all semesters undergraduate)
  
- Phi Eta Sigma Freshman Honor Society
- Phi Kappa Phi Honor Society
- Golden Key National Honor Society
- Tau Beta Pi Engineering Honor Society
- Sigma Gamma Tau Aerospace Engineering Honor Society

## TECHNICAL AND SERVICE ACTIVITIES

Board of Directors, *American Automatic Control Council*, 2004–present.

Executive Committee Member, *U.S. Panel of the International Association for Structural Control and Monitoring (IASCM)*, 2007–2012.

NEES (Network for Earthquake Engineering Simulation), Member 2003–14, Institutional Representative for USC, March 2003 – 2009.

NHERI User Forum member, 2017–19.

Faculty Mentor, *Natural Hazard Mitigation in Japan 2002 (NHMJ2002)*, June 13–26, 2002. (An NSF-sponsored program for graduate students in earthquake engineering, wind engineering, seismology, etc.)

Editorships / Editorial Boards:

- Editorial Board, *Structural Control and Health Monitoring*, 2018–

- Associate Editor, *ASCE Journal of Engineering Mechanics*, 2006–2010
- Guest co-Editor, *Journal of Structural Control and Health Monitoring*, special issue on “Structural Control Benchmark Problem: Phase II-Nonlinear Smart Base Isolated Building Subjected To Near Fault Earthquakes,” 2006–2008.

Conference/Workshop Organization:

- Conference Secretariat and Co-Organizer, *Fourth International Conference on Stochastic Structural Dynamics (SSD98)*, Notre Dame, Indiana, August 6–8, 1998.
- Member of Steering Committee, Local Organizing Committee, Scientific Committee, and proceedings co-editor, *8th ASCE Joint EMD/SEI/GI/AD Specialty Conference on Probabilistic Mechanics and Structural Reliability (PMC2000)*, Notre Dame, Indiana, July 24–26, 2000.
- Chair of Local Organizing Committee, *8th International Conference on Structural Safety and Reliability (ICOSSAR '01)*, Newport Beach, California, June 17–23, 2001.
- Program Committee member, *2004 American Controls Conference*, Boston, Massachusetts, June 30 – July 2, 2004.
- Member of Scientific Committee, *9th ASCE Joint EMD/SEI/GI/AD Specialty Conference on Probabilistic Mechanics and Structural Reliability (PMC2004)*, Albuquerque, New Mexico, July 26–28, 2004.
- Member of Scientific Committee, *9th International Conference on Structural Safety and Reliability*, Rome, Italy, June 19–23, 2005.
- Member of Conference Operations Committee, Proceedings Co-Editor, *4th World Conference on Structural Control and Monitoring (4WCSCM)*, San Diego, California, July 11–13, 2006.
- Member of Scientific Committee, *EMC/PMC2012 Joint Conference of the Engineering Mechanics Institute and 11th ASCE Joint Specialty Conference on Probabilistic Mechanics and Structural Reliability*, University of Notre Dame, Indiana, June 17–20, 2012.
- Co-chair, “Computing for Resilience and Smart Structures” track, *2013 ASCE International Workshop on Computing in Civil Engineering*, University of Southern California, Los Angeles, CA, June 23–25, 2013.
- Technical co-chair, Resilience & Smart Structures track, *2013 ASCE International Workshop on Computing in Civil Engineering (IWCCE)*, 23–25 June 2013, University of Southern California, Los Angeles, CA.
- Member of Scientific Committee, *Sixth World Conference on Structural Control and Health Monitoring (6WCSCM)*, Universitat Politècnica de Catalunya (UPC), Barcelona, Spain, July 15–17, 2014.
- Co-organizer, *First International Workshop to Promote Seismic Protective Systems for Civil Structures (PREEMPTIVE 2015)*, Sendai & Tokyo, Japan, 19–22 November 2015.
- Member of Scientific Committee, *2016 Probabilistic Mechanics and Reliability Conference (PMC 2016)*, Vanderbilt University, Nashville, Tennessee, May 22–25, 2016.
- Co-organizer, *Second International Workshop to Promote Seismic Protective Systems for Civil Structures (PREEMPTIVE 2016)*, Christchurch & Taupo, New Zealand, 28–31 August 2016.

- Co-organizer, *Third International PREEMPTIVE Workshop to Promote Seismic Protective Systems for Civil Structures* (PREEMPTIVE 2017), Santiago, Chile, 7–8 January 2017.
- Technical Program Committee and Topic Chair, *11th National Conference on Earthquake Engineering* (11NCEE), Los Angeles, CA, 25–29 June 2018.
- Co-organizer, *Advances and Opportunities in Real-Time Hybrid Substructuring*, Storrs, CT, 1–2 June 2018.
- Co-organizer, *Fourth International PREEMPTIVE Workshop to Promote Seismic Protective Systems for Civil Structures* (PREEMPTIVE 2018), Los Angeles, CA, June–July 2018.
- Member of International Scientific Committee, *Seventh World Conference on Structural Control and Health Monitoring (7WCSCM)*, Qingdao, China, July 22–25, 2018.
- Co-organizer, *PREEMPTIVE IRES Workshop on the Resilience of Aging Infrastructure*, Univ. of Costa Rica, San José, Costa Rica, February 7–13, 2019.
- Co-organizer, *PREEMPTIVE IRES Workshop on the Tsunami Hazards & Infrastructure Resilience*, Kassem Bundit Univ. & Chulalongkorn Univ., Bangkok, Thailand, June 3–9, 2019.
- Member of the Scientific Committee, *15th International Workshop on Advanced Smart Materials and Smart Structures Technology (ANCRiSST2020)*, Purdue University, West Lafayette, IN, July 23–26, 2021. Subsequently cancelled due to COVID-19.
- Co-organizer, *PREEMPTIVE IRES Workshop on the Structural Control and Geotechnical Challenges*, University of Canterbury, Christchurch, New Zealand, TBD (postponed from April 21–May 1, 2020 because of coronavirus).
- Co-organizer, *PREEMPTIVE IRES Workshop on the Interdisciplinary Disaster Science*, Tohoku University, Sendai, Japan, September–October 2021 (tentative).
- Member of International Scientific Committee, *Engineering Mechanics Institute / 13<sup>th</sup> ASCE Specialty Conference on Probabilistic Mechanics and Reliability*, New York, NY, May 25–28, 2021.

Professional Committee membership and leadership:

- *IASSAR Subcommittee on Computational Stochastic Mechanics*, 1998–
- *IASSAR Committee on Stochastic Methods in Structural Engineering*, 1998–
- *ASCE EMI Technical Committee on Structural Health Monitoring and Control*, 2004– (Vice-Chair, 2004–2006; Chair 2006–2009)
- *PEER Institutional Board*, USC representative 2015–21
- *ASCE EMI Dynamics Committee*, 2000–
- *ASCE EMI Probabilistic Methods Committee*, 1999–2007, 2012– (Control member 2012–18; Vice Chair 2014–15; Chair, 2015–17; Past Chair, 2017–18)
- *Natural Hazards Risk & Resiliency Research Center (NHR3)*, USC Institutional Representative and Board of Directors Member, 2019–
- *ASCE SEI Structural Control Committee*, 1999–2010(?)
- *PEER Education Committee*, 2000–2007
- *ASCE EMD Dynamics Committee Task Group on Structural Control Benchmarks*, 1999–2004
- *ASCE EMD Dynamics Committee Task Group on Structural Health Monitoring*, 1999–2004 (Chair, 2003–2004)

Workshop participation:

- *NSF Coordination Meeting on Structural Control Research*, Notre Dame, Indiana, 1996.
- *Engineering Education Scholars Program*, Madison, Wisconsin, July 6–12, 1997. (Workshop designed to strengthen preparation as teachers of engineering, improve teaching methods, examine the learning process, and understand the various roles of an assistant professor.) Sponsored by the National Science Foundation and the Graduate School of the University of Wisconsin–Madison.
- *NSF US-Japan Structural Control Research Workshop*, Kyoto, Japan, June 28 – July 1, 1998.
- *Trilateral NSF EERC Education Symposium*, Las Vegas, Nevada, June 3–4, 1999.
- *Mitigation of Earthquake Disaster by Advanced Technologies (MEDAT-1)*, Los Angeles, March 2–3, 2000. Workshop sponsored by MCEER, NSF, I<sup>3</sup>R<sup>3</sup>CIS.
- *Third International Workshop on Structural Control (3IWSC)*, Champs-sur-Marne, Paris, July 6–8, 2000.
- *NEESgrid Earthquake Engineering Research Community Workshop*, Marina del Rey, California, November 16–17, 2000.
- *NSF Bridge Monitoring Workshop*, University of California, Irvine, California, March 9, 2001.
- *Joint US-EU Workshop on Sensor Technology and Control*, April 12, 2002, Como and Somma Lombardo, Italy.
- *Fourth International Workshop on Structural Control (4IWSC)*, New York, New York, June 10–11, 2004.
- *Young Researcher’s Forum at the 4th China-Japan-US Symposium on Structural Control and Monitoring (SSCM’06)*, Hangzhou, China, October 16–17, 2006. Funded by the National Science Foundation.
- *Fifth International Workshop on Structural Control and Monitoring (5IWSCM)*, Dalian, China, June 5–6, 2008.
- *Workshop on China-US Collaboration for Disaster Evolution/Resilience of Civil Infrastructure and Urban Environment*, Purdue University, West Lafayette, IN, August 23–24, 2010.
- *9th NEES/E-Defense Collaborative Earthquake Research Program Planning Meeting*, Hyogo Earthquake Engineering Research Center, Miki City, Japan, August 26–27, 2011.
- *Advances in Real-Time Hybrid Simulation (RTHS)*, Lehigh University, October 10–11, 2011.
- *Third Workshop on China-USA Collaboration for Disaster Evolution/Resilience of Civil Infrastructure and Urban Environment*, UC-Berkeley, August 13–14, 2012.
- *4th Workshop on China-USA Collaboration for Disaster Evolution / Resilience of Civil Infrastructure and Urban Environment*, University of Nevada, Reno, NV, August 8–9, 2013
- *5th China-US Workshop on China-USA Collaboration for Disaster Evolution/Resilience of Civil Infrastructure and Urban Environment*, Anchorage, Alaska, July 25, 2014.
- *Computational Fluid Dynamics Software Infrastructure (CFDSI) Conceptualization Workshop*, Univ. of Colorado, Boulder, 16–17 May 2018.
- *Joint ETH-MECHS Workshop: New Frontiers and Innovative Methods for Hybrid Simulation (HySim19)*, ETH-Zürich, Zurich, Switzerland, March 13–15, 2019. Co-lead, breakout group “Building Capacity and Standardization.”

- *8th International Workshop on Structural Control and Monitoring*, Columbia University, New York, NY, May 24–25, 2021.

Panel reviewer for

- ASEE Science, Mathematics and Research for Transformation (SMART)
- Department of Homeland Security, National Institute for Hometown Security
- Department of Homeland Security, National Transportation Security Center of Excellence
- National Science Foundation
- National Science Foundation Graduate Research Fellowship Program

Technical reviewer for

- *AIAA Journal*
- American Controls Conference
- *Automatica*
- *Computer-Aided Civil and Infrastructure Engineering*
- *Computer Methods and Programs in Biomedicine*
- *Computer Methods in Applied Mechanics and Engineering*
- *Conference on Decision and Control*, IEEE
- *Control Engineering Practice*
- *Dynamics and Control*
- *Earthquake Engineering and Structural Dynamics*
- *Earthquake Spectra*
- *Engineering Structures*
- *Experimental Mechanics*
- *International Journal of Non-Linear Mechanics*
- *International Journal on Materials and Structural Reliability*
- *Journal of Aerospace Engineering*, ASCE
- *Journal of Applied Mechanics*, ASME
- *Journal of Bridge Engineering*, ASCE
- *Journal of Earthquake Engineering*
- *Journal of Engineering Mechanics*, ASCE
- *Journal of Intelligent Material Systems and Structures*
- *Journal of Sound and Vibration*
- *Journal of Structural Engineering*, ASCE
- *Journal of Vibration and Acoustics*, ASME
- *Journal of Wind Engineering and Industrial Aerodynamics*
- *Journal of Vibration and Control*
- *Mechanical Systems and Signal Processing*
- *Shock and Vibration*
- *Smart Materials and Structures*
- *Smart Structures and Systems*
- *Structural Control and Health Monitoring*
- *Transactions on Control System Technology*, IEEE
- 16th World Conference on Earthquake Engineering
- 11th U.S. National Conference on Earthquake Engineering

Service as:

- Co-chair, Session on “Random Vibrations and Stochastic Dynamics I / Stochastic Dynamics I” at the *15<sup>th</sup> ASME Biennial Conference on Mechanical Vibration and Noise, 1995 ASME Design Engineering Technical Conferences*, Boston, Massachusetts, September 17–21, 1995.
- Co-chair, Session on “Control/Optimization and Modeling of Nonlinearity” at the *Third International Conference on Computational Stochastic Mechanics*, Santorini, Greece, June 14–17, 1998.
- Co-chair, Session on “Building Dynamics and Control: Active, Semi-active, and Hybrid Control Systems” at the *Second World Conference on Structural Control*, Kyoto, Japan, June 28 – July 1, 1998.
- Co-chair, Session on “GIS and Remote Sensing” at the *Mitigation of Earthquake Disaster by Advanced Technologies (MEDAT-1)* workshop, Los Angeles, March 2–3, 2000.
- Chair, Session on “Passive, Active, or Semi-Active Damping Devices” at the *Smart Systems for Bridges, Structures, and Highways* conference (*7<sup>th</sup> SPIE Annual International Symposium on Smart Structures and Materials*), Newport Beach, California, March 5–9, 2000.
- Co-organizer and co-chair, Session on “Benchmark Study in Structural Health Monitoring and Damage Detection” and Session on “Structural Control of Flexible and Asymmetric Buildings for Seismic Response Mitigation” at the *14<sup>th</sup> ASCE Engineering Mechanics Conference (EM2000)*, Austin, Texas, May 21–24, 2000.
- Co-chair, Session on “Dynamical Systems II” at the *International Conference on Monte Carlo Simulation (MCS 2000)*, Monaco, June 18–21, 2000.
- Co-chair, Session on “Passive and Active Control Applications” at the *Third International Workshop on Structural Control (3IWSC)*, Champs-sur-Marne, France, July 6–8, 2000.
- Chair, Session on “ER/MR Device Design, Modeling, and Performance” at the *Smart Systems for Bridges, Structures, and Highways* conference (*8<sup>th</sup> SPIE Annual International Symposium on Smart Structures and Materials*), Newport Beach, California, March 5–8, 2001.
- Co-chair, Session on “Random Uncertainties in Dynamical Systems” at the *8<sup>th</sup> International Conference on Structural Safety and Reliability (ICOSSAR '01)*, Newport Beach, California, June 17–23, 2001.
- Co-chair, Plenary session at the *8<sup>th</sup> International Conference on Structural Safety and Reliability (ICOSSAR '01)*, Newport Beach, California, June 17–23, 2001.
- Co-chair, Session on “New Frontiers in Structural Control” at the *8<sup>th</sup> International Conference on Structural Safety and Reliability (ICOSSAR '01)*, Newport Beach, California, June 17–23, 2001.
- Co-chair, Session on “Smart Structural Systems and Devices,” Symposium on Structural Control, Identification, and Monitoring, *2001 Joint ASME/ASCE/SES Applied Mechanics and Materials Summer Conference (MMC2001)*, San Diego, California, June 27–29, 2001.
- Co-organizer, Session on “Smart Damping Systems for Civil Engineering Structures” at the *ASCE 2002 Structures Congress*, Denver, Colorado, April 4–6, 2002.

- Supervisor and recorder, Session on “Benchmark Control Working Group” at the *Third World Conference on Structural Control (3WCSC)*, Como, Italy, April 7–11, 2002.
- Co-organizer and co-chair, two sessions “Control, Monitoring and Identification of Large Structures II” at the *2002 American Control Conference*, Anchorage, Alaska, May 8–10, 2002.
- Organizer and chair, Session on “Reliability and Analysis of Stochastic Structural Systems” at the *2002 ASCE Engineering Mechanics Conference (EM2002)*, New York, June 2–5, 2002.
- Ragazzini Education Award Subcommittee, American Automatic Control Council, 2003.
- Review Committee, EERI Student Paper Competition, EERI, 2003.
- Chair, Session on “Structural Health Monitoring: Phase 2 Benchmark Problem,” *16th ASCE Engineering Mechanics Conference (EM03)*, University of Washington, Seattle, 16–18 July 2003.
- Chair, Session on “Uncertainty Quantification V: Non-Traditional Approaches to Uncertainty Quantification,” and Co-chair, Session on “Uncertainty Quantification IV: Computational Stochastic Mechanics,” *7th U.S. National Congress on Computational Mechanics*, Albuquerque, NM, 27–31 July 2003.
- Organizer, Session on “Benchmark Studies in Control of a Base Isolated Building” at the *ASCE 2004 Structures Congress*, Nashville, Tennessee, April 22–26, 2004.
- Organizer and co-Chair, Sessions on “Computational Stochastic Mechanics” at the *9th ASCE EMD/SEI/AD Joint Specialty Conference on Probabilistic Mechanics and Structural Reliability (PMC04)*, Albuquerque, NM, July 26–28, 2004.
- Co-chair, Session on “Control and Identification of Large Structural Systems,” *2005 American Control Conference (ACC05)*, Portland, Oregon, June 8–10, 2005.
- Co-organizer, session on “Applications of Control, Identification and Monitoring to Civil Engineering Structures,” *13th Mediterranean Conference on Control and Automation*, Cyprus, 27–29 June 2005.
- Co-organizer and Co-chair, minisymposium on “Structural Health Monitoring and Control,” *15th U.S. National Congress on Theoretical and Applied Mechanics (USNCTAM06)*, Boulder, CO, June 25–30, 2006.
- Co-chair, session on “Robust  $H_\infty$  Controllers and Method of Backstepping,” *4th World Conference on Structural Control and Monitoring (4WCSCM)*, San Diego, CA, July 11–13, 2006.
- Co-chair, session on “Monitoring of Structural Performance,” *5th World Conference on Structural Control and Monitoring (5WCSCM)*, Tokyo, Japan, July 12–14, 2010.
- Instructor, Asia-Pacific Summer School, Tokyo, Japan, July 15–17, 2010.
- Co-leader, *NEES/E-Defense Isolation and Control Working Group*, 2011–2013
- Co-organizer and co-chair, session on “Exploiting Locality in Uncertainty Quantification and Other Iterative Analysis Techniques,” *2012 Joint Conference of the Engineering Mechanics Institute and 11th ASCE Joint Specialty Conference on Probabilistic Mechanics and Structural Reliability (EMI/PMC 2012)*, Notre Dame, Indiana, 17–20 June 2012.
- Co-chair session 13 on “Control I” (June 17), *11th International Conference on Structural Safety and Reliability (ICOSSAR2013)*, Columbia University, New York, NY, 16–20 June 2013.

- Chair parallel session 6 on “Resilience & Smart Structures I,” *2013 ASCE International Workshop on Computing in Civil Engineering (IWCCE)*, 23–25 June 2013, University of Southern California, Los Angeles, CA.
- Co-chair Monitoring Working Group, *4th Workshop on China-USA Collaboration for Disaster Evolution / Resilience of Civil Infrastructure and Urban Environment*, 8–9 August 2013, University of Nevada, Reno, NV.
- Co-chair, session on “Novel Methods in Control of Seismically Excited Structures,” *SPIE Smart Structures & NDE Conference*, 20–25 March 2016, Las Vegas, NV.
- Co-chair, session on “Structural Identification and Damage Detection,” *Engineering Mechanics Institute Conference 2016*, 22–25 May 2016, Nashville, TN.
- Chair, session on “Reduced-order Modeling and Dynamical Systems I,” *2018 SIAM Conference on Uncertainty Quantification*, 16–19 April 2018, Garden Grove, CA.

## UNIVERSITY SERVICE AND TEACHING

*Associate Chair*, 2007–2017, USC Sonny Astani Dept. of Civil & Env. Engineering  
*Interim Chair*, Oct.–Dec. 2011, USC Sonny Astani Dept. of Civil & Env. Engineering

*Vice Dean for Academic Programs*, 2017–present, USC Viterbi School of Engineering

Committees (USC Sonny Astani Department of Civil & Environmental Engineering):

- Ph.D. Fellowship/Admissions Committee, 2007– (Chair 2007–17)
- Seminar Committee, 2013–2017
- Graduate Curriculum Committee, 2007–2010, 2012–2017
- Undergraduate Curriculum Committee, 2012–2017
- Research Space Committee, 2011–2017
- RA/TA Awards Committee, 2013–15
- Faculty Search Committee (structures & mechanics), 2014–15
- Ph.D. Matriculation/Programs/Affairs Committee, 2008–2013
- Undergraduate Recruitment Committee, 1999–2006, 2007–2008, 2013–14
- Faculty Search Committee (civil), 2012–13 (chair)
- Faculty Search Committee (environmental), 2012–13 (chair)
- Faculty Search Committee (general), 2011–12 (chair)
- Faculty Search Committee (general), 2010–11 (chair)
- Department Chair Search Committee, 2010–11
- Teaching Assistant Cmte., 2001–2006 (chair 2005– 2006)
- Screening Exam Committee, 1999–2000, 2001–2006
- Laboratory Committee, 1999–2006
- Chair Evaluation Committee, 2005
- Curriculum Committee, 2004–2006

Committees (Viterbi):

- Viterbi Ph.D. Council, 2012– (chair, 2020–21)
- Engineering Faculty Council, 2007–2012 (secretary 2007–08, vice chair 2008–09, chair, 2009–11, past chair 2011–12), 2014–2017 (Senate alternate 2015–17)
- Ad Hoc Committee on Email Policies (Viterbi, Spring 2017)

- Viterbi School of Engrg. Appointments, Promotions & Tenure Committee, 2010–2012, 2014
- Advisory Committee on East Asia and China Academic Initiatives, Viterbi School of Engineering, 2011–17
- Undergraduate Financial Aid Committee, School of Engineering, 2001–2006, 2007, 2009, 2012, 2017
- Academic Senate, representative from the Viterbi School of Engineering, 2008–2011
- Engineering Retention Committee, School of Engineering, 2002

Committees (USC):

- COVID-19 Undergraduate Restart Academic Working Group, 2020
- COVID-19 Scheduling SWAT Team, 2020
- Working Group on Cross-School Academic Initiatives, 2017–18
- Employee Benefits Committee, 2016–17
- Employee Benefits Advisory Committee, 2015–16 (and communications working group)
- Committee on Work and Family Life, 2014–15, 2015–16
- Academic Senate Committee on Faculty Environment, co-chair 2014–15
- Academic Planning Committee, 2021
- Graduate Deans Council, 2021

Courses taught (USC unless otherwise noted):

- Aerospace Structures I (University of Illinois at Urbana-Champaign AAE225)
- Stochastic Concepts in Engineering Planning and Design (Notre Dame CE331)
- Introduction to Computer Methods in Civil Engineering (CE108)
- Statics (CE205)
- Risk Analysis (CE408)
- Introduction to Structural Dynamics (CE 459)
- Dynamics of Structures I (CE 541a)
- Uncertainty Quantification (CE560/561)
- Directed Research (CE490/590/790)
- Introduction to Engineering (ENGR101) (Civil Engineering segment)
- Engineering Freshman Academy (ENGR102b)
- Numerical Methods for Stochastic Differential Equations (Center for Mathematical Sciences, Lund University, Lund, Sweden)

Other USC Service:

- Trustee/Presidential Scholarship Interviewer, Parent Dinner, Explore USC, etc., March 2001–06, 2008–18

Other University related activities:

- Organizer, USC segment (one of four segments) of the PEER Earthquake Engineering Scholars Course, Fall 2001, Fall 2003, Fall 2005

## MENTORING (USC unless otherwise noted)

### Faculty

- *Burcin Becerik-Gerber*, Asst. Prof. (2008–15) & Assoc. Prof. (2015–), Schrank Early Career Chair in Civil and Environmental Engineering (2012–)
- *Ketan Savla*, Ass. Prof. (2012–18) & Assoc. Prof. (2018–), Shea Early Career Chair in Civil Engineering (2016–)

### Postdoctoral Researchers

- *Patrick T. Brewick*, Viterbi Postdoctoral Fellow, 2014–16

### Ph.D. Students (Awards) (Current Position)

1. *Mohamed Ihab Sherif Mohamed Elmasry*, Fall 2000 – Fall 2004. Ph.D., 2005, *Health Monitoring of Structures under Ambient Vibrations using Semiactive Devices*. As of 2013, Professor and Vice Dean of Graduate studies, Arab Academy for Science & Technology and Maritime Transport, Alexandria, Egypt.
2. *Baris Erkus*, Fall 2001 – Spring 2006. Ph.D., 2006, *Dissipativity and Performance Analysis of Semiactive Systems with Smart Dampers*. Starting 2012, Assistant Professor, Department of Civil Engineering, Istanbul Technical University, Istanbul, Turkey. (Previously, Structural Engineer 2006–2012, Ove Arup and Partners, Los Angeles, CA.)
3. *Vicrom Panichacarn*, Spring 2002 – Spring 2006. Ph.D., 2006, *A Structural Health Monitoring Approach Using ERA, Real Numbered Mode Shape Transformation, and Basis Mode Screening*. As of 2017, Director of the Master of Civil Engineering Program, Kasem Bundit University, Bangkok, Thailand.
4. *Tat S. Fu* (co-advisor: S.F. Masri), Fall 2004 – Spring 2009. Ph.D., 2009, *Smart Building: Synergy in Structural Control, Health Monitoring and Environmental Systems*. Asst. Prof., Dept. Civil Engineering, University of New Hampshire, 2010–16; Simpson Gumpertz & Heger, 2016–.
5. *Ali Asghari*, Summer 2003 – Fall 2009. Ph.D., 2009, *Characterization of Environmental Variability in Identified Dynamic Properties of a Soil-Foundation-Structure System*. As of 2011, Engineering, SolidWorks, Santa Monica, CA.
6. *Dongyu Zhang*, Fall 2004 – Fall 2010, Ph.D., 2010, *Controlled Substructure Identification for Shear Structures*. Associate Professor (2014–present) and Assistant Professor (2011–14), Harbin Institute of Technology, Harbin, China.

7. *Charles DeVore*, Fall 2008 – May 2013, Ph.D., 2013, *Damage Detection using Substructure Identification*. USC Provost Ph.D. Fellow, 2008–10; 2011 ASCE EMI Probabilistic Methods Student Paper Competition winner; 2012 ASCE EMI SHM&Control Student Paper Competition winner; 2013 USC CEE Best Dissertation Award. Consulting Engineer, Exponent, New York, NY, Aug. 2013–.
8. *Mahmoud Kamalzare*, Fall 2007 – Fall 2014, Ph.D., 2014, *Computationally Efficient Design of Optimal Strategies for Semiactive Damping Devices in Smart Structures*. USC Viterbi Ph.D. Fellow, 2007–08; 2012 ASCE EMI SHM&Control Student Paper Competition finalist; 2012–13 USC CEE Best TA awardee. Risk Management Solutions, 2018–.
9. *Wael Elhaddad*, Fall 2009 – Fall 2015, Ph.D., 2015, *Towards an Optimal Design of Semiactive Structural Control*. USC Viterbi Ph.D. Fellow, 2008–09. Researcher, UC-Berkeley, 2017–.
10. *Elham Hemmat-Abiri*, Fall 2009 – Spring 2016, Ph.D., 2016, *Nonlinear Control for Nonquadratic Cost Function for Life Safety in Strong Excitation and Serviceability in (More Frequent) Moderate Events*. USC CEE Best TA awardee, 2009–10, 2010–11, 2011–12; 2014 USC Phi Beta Kappa International Scholarship awardee. Peoples Associates Structural Engineers, 2015–.
11. *Subhayan De*, Fall 2013 – Spring 2018, Ph.D., 2018, *A Novel Hybrid Probabilistic Framework for Model Validation*. USC Provost Ph.D. Fellow, 2013–15. Postdoc, Univ. of Colorado Boulder, 2018–.
12. *Qian “Monica” Fang*, Fall 2015 – present. USC Viterbi Doctoral Fellow, 2015–16.
13. *Tianhao Yu*, Fall 2016 – present. USC Provost Ph.D. Fellow, 2016–18.
14. *Agnimitra Dasgupta*, Fall 2017 – present. USC Provost Ph.D. Fellow, 2017–19.
15. *Amin Jabini*, Spring 2019 – present. USC Viterbi / Graduate School Doctoral Fellow, 2019.
16. *Ashmita Bhattacharya*, to start Fall 2020 but delayed due to COVID-19.

### Master’s Students

- *Greg A. Baker* (University of Notre Dame; with B.F. Spencer Jr.), Experimental Verification of Control Strategies for a Structural Control Benchmark, Spring 1998 – Spring 1999; Smart Damping of Stay Cables using Magnetorheological Fluid Dampers, Fall 1998 – Fall 1999. M.S., 1999.
- *Tat S. Fu*, FPKtool: a GUI for Solving FPK Equations for SDOF Systems. Summer 2003 – Summer 2004. M.S., August 2004.
- *Yuanhai “Ryan” Zheng*, Fall 2008 – Fall 2012. M.S., 2012.
- *Leonardo Velderrain-Chavez*, Efficient Simulation of Space Structures with Localized Features, Fall 2012 – Spring 2014. M.S., 2014.
- *Chunyang Ji*, Neural Network Parameter Study for Controllable Introduction Damping of SDOF System, Fall 2014. M.S., 2016 (expected).
- *Jessica Barrios-Hernandez*, System Identification of E-Defense Isolated Building from Experimental Tests, Fall 2014 – Spring 2015. M.S., 2015 (expected).
- *Honglei Zhang*, Finite Model Updating, Spring 2015. M.S., 2015 (expected).
- *Qiudi “Judy” Du*, Computational Approaches for Localized Nonviscous Damping, Spring 2015. M.S., 2015.
- *Zeyu Mu*, Fast Semiactive Model Predictive Control using Neural Networks, Summer–Fall 2020. M.S., 2020.

- *Archana Kannan*, Exploring Required Sample Sizes for Reliable Model Class Falsification using Likelihood Bounds, Summer–Fall 2020. M.S., 2020.

#### **Undergraduate Students** (<sup>†</sup> pursued or intends to pursue graduate studies)

- *Patrick M. Schneidau*<sup>†</sup> (University of Notre Dame; with B.F. Spencer Jr.), Design and Construction of an Experimental Stay Cable Model, Spring 1998.
- *Aaron M. Vorwerk*<sup>†</sup> (University of Notre Dame; with B.F. Spencer Jr.), Experimental Testing of a Stay Cable Model with Viscous and Magnetorheological Damping, Summer 1998.
- *Patrick J. Wilson*, Fall 2000.
- *Nick Ertmer*, USC Merit Scholar, Earthquake Engineering Outreach using a Small-Scale Shaking Table, Spring 2001.
- *Tat S. Fu*<sup>†</sup>, FPKtool: A GUI Tool for Solving SDOF Problems in Stochastic Dynamics, Fall 2002 – Spring 2003.
- *Jessica Le*<sup>†</sup>, Experimental Structural Health Monitoring using Variable Stiffness Devices, Spring 2003.
- *Allen M. Au*<sup>†</sup>, Experimental Structural Health Monitoring using Variable Stiffness Devices, Fall 2003. Mini-MOST Virtual Lab for Advanced Earthquake Engineering Simulation, Spring 2004 – Summer 2004.
- *Ryan Char*<sup>†</sup>, Optimal Semiactive Control with Prior Knowledge of Excitation, Fall 2005.
- *Lonnie Smith, Khaydan Gabriel*, Potential Economic Benefits of Structural Health Monitoring, USC Viterbi CED Summer Institute 2011 (Ph.D. student mentors: Charles Devore and Mahmoud Kamalzare).
- *Kenya Collins, Lucy Egbe, Marissa Gustavson and Yvette Ximenez*, Smart Base Isolation Systems, USC Viterbi CED Summer Institute 2012 (Ph.D. student mentors: Mahmoud Kamalzare and Elham Hemmat Abiri).
- *Mark Parent and Nathan Medina*, Base Isolation Mechanisms in Earthquakes, USC Viterbi CED Summer Institute 2018 (Ph.D. student mentor: Agnimitra Dasgupta).
- *Mayra Rodriguez and Emmanuel Salgado*, Inverse Problems: An application of Estimation of Material Parameters, USC Viterbi CED Summer Institute 2018 (Ph.D. student mentor: Agnimitra Dasgupta).
- *Mariah Burdette and A.J. Torres*, Comparison of Active and Semiactive Structural Control in Earthquakes, USC Viterbi CED Summer Institute 2019 (Ph.D. student mentor: Qian “Monica” Fang).
- *Camilla Rojas and Julia de la Rosa*, Impact of Input Amplitude on Performance of the Kalman Filter, USC Viterbi CED Summer Institute 2019 (Ph.D. student mentor: Amin Jabini).
- *Camilla Rojas and Julia de la Rosa*, Impact of Input Amplitude on Performance of the Kalman Filter, USC Viterbi CED Summer Institute 2019 (Ph.D. student mentor: Amin Jabini).
- *Sofija Radulovic and Jacqueline Chen*, Sensitivity of Information Gained from Sensors Placed on a Shear Building Model, Summer 2020. B.S. CE, 2023 (expected).
- *Julia Woomer*, Exploring Required Sample Sizes for Reliable Model Class Falsification using Error Bounds, Summer-Fall 2020. B.S. ME, 2023 (expected).

- *Itzel Villanueva, Ivan Moreno, Jared Ramirez and Nick Pardo*, Case Study on a Probabilistic Approach to Structural Life-Cycle Analysis, USC Viterbi CED Summer Institute 2020 (Ph.D. student mentor: Amin Jabini). Summer Institute students worked on probabilistic life-cycle analysis
- *Michelle Ramos*, **Topic TBD**, Fall 2020. B.S. CE, **2023** (expected).

#### **Other Ph.D. Supervisory and Committee Service:**

- *Juan Carlos Ramallo* (Notre Dame) (Ph.D. advisor: B.F. Spencer Jr.), helped supervise his research on Magnetorheological Dampers and Intelligent Base Isolation Systems, Summer 1998 – Fall 1999. Ph.D., National University of Tucuman, Argentina, 2003.
- *Richard E. Christenson* (Notre Dame) (Ph.D. advisor: B.F. Spencer, Jr.), Ph.D. final exam committee, November 2001
- *Ka-Veng “Kelvin” Yuen* (Caltech) (Ph.D. advisor: J.L. Beck), dissertation final exam committee, April 2002
- *Yangsoo Lee* (Ph.D. Advisor: J.-P. Bardet), qualifying exam committee, 27 May 2003, “Centrifuge Studies of Ground Deformation induced by Liquefaction”; Ph.D. final exam committee, 27 October 2005
- *Krishna Chintalapudi* (Ph.D. Advisor: R. Govindan), qualifying exam committee, 18 May 2004; Ph.D. final exam committee, 2 September 2005, “Wireless Sensor Networks for Structural Health Monitoring”
- *Wei-Chung “Duncan” Chen* (Ph.D. Advisor: L.C. Wellford), qualifying exam committee, 9 September 2005
- *George Saad* (Ph.D. Advisor: R. Ghanem), qualifying exam committee, 27 April 2006, “Stochastic Data Assimilation with Application to Multi-physics and Health Monitoring Problems”; Ph.D. final exam committee, August 31, 2007
- *Sonjoy Das* (Ph.D. Advisor: R. Ghanem), qualifying exam committee, 6 July 2006, “Model, Identification & Analysis of Hybrid Complex Stochastic Systems”; Ph.D. final exam committee, April 25, 2008
- *Maud Comboul* (Ph.D. Advisor: R. Ghanem), qualifying exam committee, 5 December 2008, “Stochastic and Multiscale Models for Urban and Natural Ecology”; Ph.D. final exam committee, 5/9/2012
- *Lesley Ewing* (Ph.D. Advisor: C. Synolakis), qualifying exam committee, 18 May 2009
- *Reza Jafarkhani* (Ph.D. Advisor: S.F. Masri), qualifying exam committee, 4 December 2009, “Studies Into Vibration-Signature-Based Methods for System Identification, Damage Detection and Health Monitoring of Civil Infrastructures”; Ph.D. Final exam committee, 18 January 2013.
- *Sara Abedi* (Ph.D. Advisor: A. Rechenmacher), qualifying exam committee, 20 January 2010
- *Miguel Hernandez Garcia* (Ph.D. Advisor: S.F. Masri), qualifying exam committee, 22 January 2010
- *Arash Noshadravan* (Ph.D. Advisor: R.G. Ghanem), qualifying exam committee, 1 September 2010; Ph.D. final exam committee, 28 September 2011, “Stochastic Characterization, Realization and Upscaling of Polycrystalline Materials.”
- *Ramakrishna Tipireddy* (Ph.D. Advisor: R.G. Ghanem), qualifying exam committee, 1 September 2011, “Modeling and Algorithms for Stochastic Upscaling”
- *Prasanth Koganti* (Ph.D. Advisor: F. Udwadia), qualifying exam committee, 23 August 2012, “New Approaches in Modeling and Control of Dynamical Systems.”

- *Nan Li* (Ph.D. Advisor: B. Becerik-Gerber), qualifying exam committee, 16 January 2013, “A Radio Frequency Based Indoor Localization Framework for Supporting Building Emergency Response Operations.”
- *Mahdi Ebrahimi* (Ph.D. Advisor: M. Todorovska), qualifying exam committee, 23 January 2013, “Estimation of Dispersive Wave Propagation in Buildings by Seismic Interferometry for Structural Health Monitoring”
- *Weixuan Li* (Ph.D. Advisor: D. Zhang), qualifying exam committee, 30 January 2013, “Inverse Uncertainty Quantification of Non-Linear Models for Flow in Porous Media.”
- *Wen-Young Liu* (Ph.D. Advisor: V. Lee), qualifying exam committee, 17 January 2014, “Scattering and Diffraction of Elastic Waves Around a Circular and Semi-Circular Underground Cavity and Tunnel — The Displacement and Rotational Components and Stress Concentration Factors”
- *Guanying “Judy” Zhu* (Ph.D. Advisor: V. Lee), qualifying exam committee, 22 January 2014, “Three-dimensional Diffraction and Scattering of Elastic Waves around Hemispherical Surface Topographies”
- *Qin Ba* (Ph.D. Advisor: K. Savla), screening exam committee, January 2014 & 14 February 2014.
- *Yujing Hu* (Ph.D. Advisor: J. Anderson), screening exam committee, January 2014 & 25 February 2014; qualifying exam committee, 24 April 2015, “Seismic Design of Modern Tilt-up Buildings.”
- *Thang Le* (Ph.D. Advisor: V. Lee), qualifying exam committee, May 13, 2014, “Soil-Structure Interaction on Semi-Circular Rigid and Flexible Foundation.”
- *Omid Davtalab* (Ph.D. Advisor: B. Khosnevis), screening exam committee, 13 February 2015.
- *Ali Kazemian* (Ph.D. Advisor: B. Khosnevis), screening exam committee, 23 February 2015.
- *Seyedpouyan “Pouyan” Hosseini Aliabad* (Ph.D. Advisor: K. Savla), screening exam committee, January 2015 & 17 February 2015; qualifying exam committee, 4 May 2017, “Control and Optimization Techniques for Signalized Arterial Networks.”
- *Zhaohui Zhang* (Ph.D. Advisor: S.-C. Qin, Chemical Engineering), qualifying exam committee, 30 December 2015, “Demand Reponse Management in Smart Grid From Distributed Optimization Perspective.”
- *Mohammad Ali Motie Share* (Ph.D. Advisor: K. Savla), screening exam committee, January 2015 & 9 February 2015; qualifying exam committee, 12 October 2016, “Horizontal Traffic Queues: Analytical Analysis.”
- *Sadegh Rahrovani* (Ph.D. Advisor: T. Abrahamson, Applied Mechanics, Chalmers University of Technology), “opponent” in final Ph.D. defense, March 18, 2016.
- *SeyyedFarshid HosseiniKhashehHeiran (“Farshid Hosseini”)* (Ph.D. Advisor: B. Gencturk), qualifying exam committee, 17 January 2017, “Next Generation Seismic Resistant Structural Elements Using High-Performance Materials.”
- *Gaston Fernandois-Cornejo* (Ph.D. Advisor: B.F. Spencer, Jr., Civil & Environmental Engineering, University of Illinois at Urbana-Champaign), qualifying exam committee, 20 July 2016, “Development and implementation of a three-dimensional multi-axial real-time hybrid simulation framework for experimental testing of large-scale structural systems;” Ph.D. final defense committee, 7 February 2018, “Development and Implementation of a Multi-Axial Real-Time Hybrid Simulation Framework.”

- *Zaid Ghauch* (Ph.D. Advisor: R.G. Ghanem), screening exam committee, 13 February 2017.
- *Kun-Hao Yu* (Ph.D. Advisor: Q. Wang), screening exam committee, 16 February 2018; qualifying exam committee, ?? March 2020.
- *Dovlet Akyniyazov* (Ph.D. Advisor: B. Gencturk), screening exam committee, 14 February 2018.
- *Samuel Rosato* (M.S. Advisor: S.F. Wojtkiewicz, Civil & Environmental Engineering, Clarkson University), M.S. thesis committee, 6 April 2018, “Design, Construction and Characterization of a Shear Mode, Paddle Style Magneto-Rheological (MR) Damper.”
- *Alana K. Lund* (Ph.D. Advisor: S.J. Dyke, Civil & Environmental Engineering, Purdue University), qualifying exam committee, Fall 2018 – present.
- *Jordan Makansi* (Ph.D. Advisor: K. Savla), screening exam committee, Spring 2021.
- *Kaushik Rajesh* (Ph.D. Advisor: B. Gencturk), screening exam committee, Spring 2021.

## **GRANTS AND CONTRACTS** (USC PI/co-PI total \$6,315,096; Prof. Johnson’s share \$3,169,507)

1. *Grate Stress Analysis*, consulting contract work for Zurn Industries, Inc., Erie, Pennsylvania, July, 1992 (PI: L.A. Bergman, AAE, UIUC).
2. *Robust Numerical Solution and Visualization of the Transient Multidimensional Fokker–Planck Equation for Stochastic Dynamical Systems*, National Science Foundation / National Center for Supercomputing Applications, November 1994 – November 1995, 12,000 Node-Hours CM-5, 50 SU Hours Convex Exemplar, and 300 SU Hours SGI Power Challenge (co-PI with L.A. Bergman, AAE, UIUC).
3. *U.S.-Austrian Cooperative Research on the Application of Genetic Algorithms to Monte Carlo Simulation of Random Differential Equations*, National Science Foundation (INT [96-00033](#)), August 1996 – July 2001, \$27,000 (co-authored with PI B.F. Spencer, Jr. [CE/GEOS, ND], L.A. Bergman [AAE, UIUC], and D.E. Goldberg [GE, UIUC]). [nsf.gov/awardsearch/showAward?AWD\\_ID=9600033](https://www.nsf.gov/awardsearch/showAward?AWD_ID=9600033)
4. *REU Supplement*, National Science Foundation, May 1998 – December 1998, \$12,250 (authored on behalf of the Structural Dynamics and Control / Earthquake Engineering Laboratory, CE/GEOS, ND).
5. *Smart Dampers for Vibration Suppression: Control Strategies and Device Durability*, Indiana Space Grant Consortium, May 1998 – May 1999, \$3000 (co-PI; with PI B.F. Spencer, Jr., CE/ GEOS, ND).
6. *Fourth International Conference on Stochastic Structural Dynamics*, National Science Foundation (CMS [98-13960](#)), August 1998 – July 1999, \$12,000 (PI; with co-PI: B.F. Spencer, Jr., CE/GEOS, ND). [nsf.gov/awardsearch/showAward?AWD\\_ID=9813960](https://www.nsf.gov/awardsearch/showAward?AWD_ID=9813960)
7. *IP Integration of SMART Technology*, Visteon Automotive Systems, July – October, 1998, \$30,000 (co-PI; with PI B.F. Spencer, Jr., CE/GEOS, ND and co-PI M.K. Sain, EE, ND).

8. *Smart Damping Strategies for Seismic Protection of Urban Structures*, National Science Foundation (CMS [99-00234](#)), May 1999 – April 2002, \$340,000 (was co-PI on proposal; with PI B.F. Spencer, Jr., CE/GEOS, ND and co-PI M.K. Sain, EE, ND). Resigned from grant prior to award due to leaving ND.  
[nsf.gov/awardsearch/showAward?AWD\\_ID=9900234](https://www.nsf.gov/awardsearch/showAward?AWD_ID=9900234)
9. *Travel Addendum for Smart Damping for Seismic Protection*, National Science Foundation, May 1999 – April 2002, \$15,000 (was co-PI on proposal; with PI B.F. Spencer, Jr., CE/GEOS, ND and co-PI M.K. Sain, EE, ND). Resigned from grant prior to award due to leaving ND.
10. *Smart Dampers for Vibration Suppression: Application to Cable Vibration*, Indiana Space Grant Consortium, May 1999 – May 2000, \$3000 (was co-PI on proposal; with PI B.F. Spencer, Jr., CE/GEOS, ND). Resigned from grant due to leaving ND.
11. *Small-Scale Structural Health Monitoring Project*, Zumberge Fund, University of Southern California, July 2000 – June 2002, \$15,000 (PI).
12. *NEESgrid: A Distributed Virtual Laboratory for Advanced Earthquake Experimentation Simulation*, National Science Foundation, June 2000 – March 2001, \$300,000 “scoping award” (key personnel).
13. *CAREER: Integrated Monitoring and Smart Damping for Dynamic Hazard Mitigation*, National Science Foundation (CMS [00-94030](#)), March 2001 – February 2008, \$375,000 (PI). [nsf.gov/awardsearch/showAward?AWD\\_ID=0094030](https://www.nsf.gov/awardsearch/showAward?AWD_ID=0094030)
14. *The Use of Discrepancy Sensitivity in Optimization and Uncertainty*, Sandia National Labs, April 2001 – March 2002, \$17,500 (PI).
15. *NEESgrid: A Distributed Virtual Laboratory for Advanced Earthquake Experimentation Simulation*, National Science Foundation (CMS [01-17853](#)), August 2001 – September 2005, \$13,350,000 (senior personnel). [nsf.gov/awardsearch/showAward?AWD\\_ID=0117853](https://www.nsf.gov/awardsearch/showAward?AWD_ID=0117853)
16. *Smart Damping Devices for Monitoring the Health of Bridges*, Caltrans via the METRANS National Center for Metropolitan Transportation Research, September 2001 – December 2002, METRANS project 01-10, \$50,000 (PI).
17. *Innovative Bridge Structural Health Monitoring using Variable Stiffness and Damping Devices*, USDoT via the METRANS National Center for Metropolitan Transportation Research, July 2003 – June 2004, METRANS project 03-17, \$75,000 (PI).
18. *ITR: Structural Health Monitoring using Local Excitation and Large-Scale Networked Sensing*, National Science Foundation (ANI [03-25875](#)), September 2003 – August 2008, \$2,600,000 (co-PI with PI R. Govindan and co-PIs S.F. Masri, B. Krishnamachari and G. Sukhatme) (\$744,988 in satellite accounts under Prof. Johnson’s direction).  
[nsf.gov/awardsearch/showAward?AWD\\_ID=0325875](https://www.nsf.gov/awardsearch/showAward?AWD_ID=0325875)

19. *NSF/Sandia: Discrepancy Sensitivity for Efficiently Choosing Computer Experiments in Design and Uncertainty Quantification*, National Science Foundation (DMI [03-31145](#)) / Sandia National Laboratories, January 2004 – December 2008, \$248,288 (PI).  
[nsf.gov/awardsearch/showAward?AWD\\_ID=0331145](http://nsf.gov/awardsearch/showAward?AWD_ID=0331145)
20. *NEESgrid: A Distributed Virtual Lab for Advanced Earthquake Experimentation and Simulation*, National Science Foundation, via subcontract from Washington University, St. Louis, March 2004 – September 2004, \$10,000 (PI).
21. *REU Supplement for “CAREER: Integrated Monitoring and Smart Damping for Dynamic Hazard Mitigation”*, National Science Foundation (CMS 05-01177, CMS 00-94030), July 2005 – July 2006, \$8,000 (PI).
22. *IREE (International Research and Education in Engineering) Supplement for “CAREER: Integrated Monitoring and Smart Damping for Dynamic Hazard Mitigation”*, National Science Foundation (CMS 06-37179, CMS 00-94030), December 2006 – May 2008, \$20,000 (PI).
23. *Controlled Substructure Identification for Structural Health Monitoring*, National Science Foundation (CMMI [08-26634](#)), August 2008 – June 2012, \$250,000 (PI).  
[http://nsf.gov/awardsearch/showAward?AWD\\_ID=0826634](http://nsf.gov/awardsearch/showAward?AWD_ID=0826634)
24. *Rapid Identification, Control, and Uncertainty Analysis of Structural Models*, National Science Foundation (CMMI [11-00528](#)), April 2011 – March 2014, \$299,938 (USC portion \$138,940) (co-PI with PI Steve Wojtkiewicz [Univ. of Minnesota]).  
[nsf.gov/awardsearch/showAward?AWD\\_ID=1100528](http://nsf.gov/awardsearch/showAward?AWD_ID=1100528)
25. *RAPID: NEES/E-Defense Collaboration for the Design of the E-Defense Smart Base Isolation Experiment*, National Science Foundation (CMMI [11-33023](#)), June 2011 – May 2014, \$67,630 (PI). [nsf.gov/awardsearch/showAward?AWD\\_ID=1133023](http://nsf.gov/awardsearch/showAward?AWD_ID=1133023)
26. *NEESR Planning / Collaborative Research: Toward Experimental Verification of Controllable Damping Strategies for Base Isolated Buildings*, National Science Foundation (CMMI [13-44937/13-44622](#)), October 2013 – September 2018, \$436,374 (USC portion \$215,124) (PI with collaborator Richard E. Christenson [Univ. of Connecticut]).  
[nsf.gov/awardsearch/showAward?AWD\\_ID=1344937](http://nsf.gov/awardsearch/showAward?AWD_ID=1344937)
27. *SAVI/Collaborative Research: Pacific Rim Earthquake Engineering Mitigation Protective Technologies International Virtual Environment (PREEMPTIVE)*, National Science Foundation (CMMI [14-46424/14-46353](#)), August 2014 – July 2019, \$392,826 (USC portion \$222,711) (PI with Co-PI Gisele Ragusa [USC] and collaborator Richard E. Christenson [UConn]). [nsf.gov/awardsearch/showAward?AWD\\_ID=1446424](http://nsf.gov/awardsearch/showAward?AWD_ID=1446424)

28. *Collaborative Research: Optimal Design of Smart Damping for Structural Systems to Mitigate the Impacts of Natural Hazards*, National Science Foundation (CMMI [14-36018/14-36058](#)), September 2014 – August 2019, \$274,992 (USC portion \$206,107) (PI with collaborator Steven F. Wojtkiewicz [Clarkson Univ.]).  
[nsf.gov/awardsearch/showAward?AWD\\_ID=1436018](https://www.nsf.gov/awardsearch/showAward?AWD_ID=1436018)
29. *CDS&E: Collaborative Research: A New Framework for Computational Model Validation*, National Science Foundation (CMMI [16-63667/16-62992](#)), September 2017 – August 2021, \$615,914 (USC portion \$387,080) (PI with former co-PI Patrick Brewick [USC] and collaborator Steven F. Wojtkiewicz [Clarkson Univ.]).  
[nsf.gov/awardsearch/showAward?AWD\\_ID=1663667](https://www.nsf.gov/awardsearch/showAward?AWD_ID=1663667)
30. *IRES Track II/Collaborative Research: PREEMPTIVE Multidisciplinary Natural Hazards Engineering Institute Series for Advanced Graduate Students*, National Science Foundation (OISE [18-29085/18-28948](#)), August 2018 – July 2021, \$558,634 (USC portion \$259,435) (PI with co-PI Gisele Ragusa [USC] and collaborator Richard E. Christenson [Univ. of Connecticut]). [nsf.gov/awardsearch/showAward?AWD\\_ID=1829085](https://www.nsf.gov/awardsearch/showAward?AWD_ID=1829085)

## BOOKS/PROCEEDINGS WRITTEN OR EDITED

1. B.F. Spencer, Jr. and **E.A. Johnson** (eds.), *Stochastic Structural Dynamics: Proceedings of the Fourth International Conference on Stochastic Structural Dynamics*, Notre Dame, Indiana, August 6–8, 1998, Balkema, Rotterdam, 1999.
2. A. Kareem, A. Haldar, B.F. Spencer Jr., and **E.A. Johnson** (eds.), *Proceedings of the 8th ASCE Joint Specialty Conference on Probabilistic Mechanics and Structural Reliability (PMC2000)*, Notre Dame, Indiana, July 24–26, 2000. CD-ROM, 263 papers, 1900 pages.
3. **E.A. Johnson** and A. Smyth (eds.), *Proceedings of the Fourth World Conference on Structural Control and Health Monitoring*, San Diego, California, July 11–13, 2006.

**PUBLICATIONS IN REFEREED JOURNALS** (\* supervised/co-supervised by Prof. Johnson)

*Note: author order generally reflects effort on the paper except that students are often listed first.*

1. **E.A. Johnson**, S.F. Wojtkiewicz, L.A. Bergman, and B.F. Spencer, Jr., “Observations with Regard to Massively Parallel Computation for Monte Carlo Simulation of Stochastic Dynamical Systems,” *International Journal of Non-Linear Mechanics*, **32**(4), July 1997, 721–734. doi:[10.1016/S0020-7462\(96\)00097-2](https://doi.org/10.1016/S0020-7462(96)00097-2)
2. G.I. Schuëller (editor), L.A. Bergman, C.G. Bucher, G. Dasgupta, G. Deodatis, R.G. Ghanem, M. Grigoriu, M. Hoshiya, **E.A. Johnson**, A. Naess, H.J. Pradlwarter, G.I. Schuëller, M. Shinozuka, K. Sobczyk, P.D. Spanos, B.F. Spencer Jr, A. Sutoh, T. Takada, W.V. Wedig, S.F. Wojtkiewicz, I. Yoshida, B.A. Zeldin and R. Zhang, “A State-of-the-Art Report on Computational Stochastic Mechanics,” **12**(4), October 1997, 208–212. doi:[10.1016/S0266-8920\(97\)00003-9](https://doi.org/10.1016/S0266-8920(97)00003-9). The section “Parallel Implementations of MCS — Comparative Studies from Stochastic Structural Dynamics” was authored by E.A. Johnson, L.A. Bergman, and B.F. Spencer, Jr.
3. **E.A. Johnson**, P.G. Voulgaris, and L.A. Bergman, “Multiobjective Optimal Structural Control of the Notre Dame Building Model Benchmark,” *Earthquake Engineering and Structural Dynamics*, **27**(11), November 1998, 1165–1187. doi:[10.1002/\(SICI\)1096-9845\(199811\)27:11<1165::AID-EQE777>3.0.CO;2-8](https://doi.org/10.1002/(SICI)1096-9845(199811)27:11<1165::AID-EQE777>3.0.CO;2-8)
4. S.F. Wojtkiewicz, **E.A. Johnson**, L.A. Bergman, M. Grigoriu, and B.F. Spencer, Jr., “Response of Stochastic Dynamical Systems Driven by Additive Gaussian and Poisson White Noise: Solution of a Forward Generalized Kolmogorov Equation by a Spectral Finite Difference Method,” *Computer Methods in Applied Mechanics and Engineering*, **168**(1–4), January 1999, 73–89. doi:[10.1016/S0045-7825\(98\)00098-X](https://doi.org/10.1016/S0045-7825(98)00098-X)
5. B.F. Spencer, Jr., **E.A. Johnson**, and J.C. Ramallo\*, “‘Smart’ Isolation for Seismic Control,” *JSME International Journal*, Special issue on Frontiers of Motion and Vibration Control, Series C, **43**(3), September 2000, 704–711. doi:[10.1299/jsmec.43.704](https://doi.org/10.1299/jsmec.43.704)
6. J.C. Ramallo\*, **E.A. Johnson**, and B.F. Spencer, Jr., “‘Smart’ Base Isolation Systems,” *Journal of Engineering Mechanics*, ASCE, **128**(10), October 2002, 1088–1099. doi:[10.1061/\(ASCE\)0733-9399\(2002\)128:10\(1088\)](https://doi.org/10.1061/(ASCE)0733-9399(2002)128:10(1088)) Web version online at [usc.edu/civil\\_eng/johnsone/papers/smart\\_base\\_isolation\\_jem.html](http://usc.edu/civil_eng/johnsone/papers/smart_base_isolation_jem.html)
7. **E.A. Johnson**, C. Proppe, B.F. Spencer, Jr., L.A. Bergman, G.S. Székely and G.I. Schuëller, “Parallel Processing in Computational Stochastic Dynamics,” *Probabilistic Engineering Mechanics*, **18**(1), January 2003, 37–60. doi:[10.1016/S0266-8920\(02\)00041-3](https://doi.org/10.1016/S0266-8920(02)00041-3)
8. **E.A. Johnson**, R.E. Christenson, and B.F. Spencer, Jr., “Semiactive Damping of Cables with Sag,” *Computer Aided Civil and Infrastructure Engineering*, **18**(2), March 2003, 132–146. doi:[10.1111/1467-8667.00305](https://doi.org/10.1111/1467-8667.00305) Web version online at [usc.edu/civil\\_eng/johnsone/papers/smartdamping\\_sagcable.html](http://usc.edu/civil_eng/johnsone/papers/smartdamping_sagcable.html)

9. **E.A. Johnson**, H.F. Lam, L.S. Katafygiotis, and J.L. Beck, “The Phase I IASC-ASCE Structural Health Monitoring Benchmark Problem using Simulated Data,” *Journal of Engineering Mechanics*, ASCE, **130**(1), January 2004, 5–15.  
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53. M. Ito, S. Yoshida, H. Fujitani, Y. Mukai and **E.A. Johnson**, “Semi-Active Control of Mid-Story Isolated Buildings using a Magnetorheological Rotary Inertia Mass Damper,” *TBD*, in preparation.
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## OTHER REFEREED PUBLICATIONS (full paper review)

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T. Yu\* and **E.A. Johnson**, “Uncertainty Quantification of Modal Parameters from Combined Deterministic-Stochastic Subspace State-Space System Identification” *Engineering Mechanics Institute Conference 2019 (EMI2019)*, Pasadena, CA, June 18–21, 2019 (oral presentation).

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Q. Fang\*, **E.A. Johnson**, E. Sato, H. Fujitani and Y. Mukai, “E-Defense Shake Table Experiments Compared to Real-Time Hybrid Simulation Tests for Controllable Damping Strategies” *Computational Engineering and Science for Safety and Environmental Problems (COMPSAFE2020)*, Kobe, Japan, March 8–11, 2020 (oral presentation).

Q. Fang\* and **E.A. Johnson**, “Solutions of the Fokker-Planck-Kolmogorov Equation Associated with Ideal Optimal Clipped Linear Control of a SDOF System Excited by Gaussian White Noise,” *Engineering Mechanics Institute Conference and Probabilistic Mechanics & Reliability Conference 2020 (EMI/PMC2020)*, Columbia University, New York, NY, May 26–29, 2020 (oral presentation); accepted but postponed to 2021 due to COVID-19.

T. Yu\*, **E.A. Johnson**, P.T. Brewick and R.E. Christenson, “Cross-Model Cross-Mode Model Updating Strategy Based on Constrained Total Least Squares,” *Engineering Mechanics Institute Conference and Probabilistic Mechanics & Reliability Conference 2020 (EMI/PMC2020)*, Columbia University, New York, NY, May 26–29, 2020 (oral presentation); accepted but postponed to 2021 due to COVID-19.

A. Dasgupta\*, **E.A. Johnson** and S.F. Wojtkiewicz, “Inferred Physics-Supervised Learning for Surrogate Modeling,” *Engineering Mechanics Institute Conference and Probabilistic Mechanics & Reliability Conference 2020 (EMI/PMC2020)*, Columbia University, New York, NY, May 26–29, 2020 (oral presentation); accepted but postponed to 2021 due to COVID-19.

A. Jabini\* and **E.A. Johnson**, “Probabilistic Assessment of Parameter Identifiability in Systems with Local Nonlinearity,” *Engineering Mechanics Institute Conference and Probabilistic Mechanics & Reliability Conference 2020 (EMI/PMC2020)*, Columbia University, New York, NY, May 26–29, 2020 (oral presentation); accepted but postponed to 2021 due to COVID-19.

A. Dasgupta\*, Q. Fang\*, **E.A. Johnson**, S.F. Wojtkiewicz, H. Fujitani, Y. Mukai and E. Sato, “Physics-informed machine learning using inferred-physics models: application to developing models for a MR damper,” *SIAM Conference on Uncertainty Quantification (UQ20)*, Technical University of Munich, Garching, Germany, March 24–27, 2020 (oral presentation); accepted but conference cancelled due to COVID-19.

A. Kannan\*, A. Dasgupta\*, J. Woomer\*, **E.A. Johnson**, and S.F. Wojtkiewicz, “Investigation of Bounds on Sample Size for Reliable Model Falsification,” *SIAM Conference on Computational Science and Engineering (CSE21)*, Fort Worth, Texas, March 1–5, 2021. Accepted.

A. Dasgupta\*, **E.A. Johnson**, S.F. Wojtkiewicz, “Deep Learning of Surrogate Models from Un-Falsified Physics,” *SIAM Conference on Computational Science and Engineering (CSE21)*, Fort Worth, Texas, March 1–5, 2021. Accepted.

A. Dasgupta\*, **E.A. Johnson**, S.F. Wojtkiewicz, “An Efficient Strategy for Material Heterogeneity Inference Utilizing Multi-Modal Measurements,” *16th U.S. National Congress on Computational Mechanics (USNCCM16)*, Chicago, IL (virtual), July 25–29, 2021. Submitted.

**PAPERS/POSTERS PRESENTED AT MEETINGS, CONFERENCES AND SYMPOSIA  
(WITHOUT, OR NOT IN, PROCEEDINGS)** (Abstracts reviewed)

G.W. Housner, S.F. Masri, and **E.A. Johnson**, “Developments in the USA in the Field of Structural Control and Monitoring of Civil Infrastructure Systems,” *12<sup>th</sup> World Conference on Earthquake Engineering*, Auckland, New Zealand, January 30 – February 4, 2000.

G. Yang, **E.A. Johnson**, B.F. Spencer, Jr., and J.C. Ramallo, “Improved Response Time of Large-Scale MR Fluid Damper,” *ASCE 2000 Structures Congress: Advanced Technology in Structural Engineering*, Philadelphia, Pennsylvania, May 8–10, 2000.

**E.A. Johnson**, Y. Ohtori, L.A. Bergman, and B.F. Spencer, Jr., “GA-Directed Monte Carlo Simulation of a 12-Story Building,” *International Conference on Monte Carlo Simulation (MCS 2000)*, Monaco, June 18–21, 2000.

**E.A. Johnson**, G.A. Baker\*, B.F. Spencer, Jr., and R.E. Christenson, “Smart Damping of Stay Cables,” *14<sup>th</sup> ASCE Engineering Mechanics Conference (EM2000)*, Austin, Texas, May 21– 24, 2000.

R.E. Christenson, **E.A. Johnson**, A. Etemadi, W.M. Elhaddad\*, and M. Kamalzare\*, “Full-Scale Smart Base Isolation and the Corresponding Real-Time Hybrid Simulation Capabilities,” *QuakeSummit 2014 / 10<sup>th</sup> National Conference on Earthquake Engineering*, Anchorage, Alaska, July 21–25, 2014. (Poster presentation.)

L. Goncalves, E. Ouimet, R.E. Christenson and **E.A. Johnson**, “An Anthropological Study on Motivating Societies to Preemptively Implement Seismic Protective Systems,” *2015 EERI 67<sup>th</sup> Annual Meeting*, Boston, Mass, March 31 – April 3, 2015. (Poster presentation.)

P.T. Brewick\*, **E.A. Johnson** and R.E. Christenson, “Experimental Modeling and Identification of the Force-Displacement Behavior in Elastic Sliding Bearings of a Base-Isolated Structure,” *QuakeCoRE Annual Meeting 2016*, Taupo, New Zealand, 31 August – 2 September 2016. (Poster presentation.)

**E.A. Johnson**, “Optimal Strategies for Controllable Damping,” *7<sup>th</sup> Kwang-Hua Forum on Innovations and Implementations in Earthquake Engineering Research*, Shanghai, China, 9–11 December 2016.

T. Yu\*, P.T. Brewick\*, **E.A. Johnson** and R.E. Christenson, “Modeling and Model Updating of a Full-Scale Experimental Base-Isolated Building,” *QuakeCoRE Annual Meeting 2017*, Taupo, New Zealand, 4–6 September 2017. (Poster presentation.)

P.T. Brewick\*, T. Yu\* and **E.A. Johnson**, “System Identification and Model Updating from Experimental Responses of an E-Defense Base Isolated Building,” *Second Joint Symposium between Kobe University and the University of Southern California*, 9 March 2018, Honolulu, HI.

M. Parent, N. Medina, A. Dasgupta\*, and **E.A. Johnson**, “Base Isolation Mechanisms in Earthquakes,” *USC Center for Engineering Diversity’s Viterbi Summer Institute Poster Session*, 3 August 2018. (Poster presentation.)

M. Rodriguez and E. Salgado (mentored by A. Dasgupta\* in group of **E.A. Johnson**), “Inverse Problems: An application of Estimation of Material Parameters,” *USC Center for Engineering Diversity’s Viterbi Summer Institute Poster Session*, 3 August 2018. (Poster presentation.)

T. Yu\*, P.T. Brewick\*, S. De\* and **E.A. Johnson**, “Analysis of Amplified Vertical Accelerations & Model Validation using Experimental Responses of an E-Defense Base Isolated Building,” *Third Joint Symposium between Kobe University and the University of Southern California*, 8 March 2019, Honolulu, HI.

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M. Burdette, A.J. Torres, Q. Fang\*, and **E.A. Johnson**, “Comparison of Active and Semiactive Structural Control in Earthquakes,” *USC Center for Engineering Diversity’s Viterbi Summer Institute Poster Session*, 2 August 2019. (Poster presentation.)

C. Rojas, J. De la Rosa, A. Jabini\*, and **E.A. Johnson**, “Impact of Input Amplitude on Performance of the Kalman Filter,” *USC Center for Engineering Diversity’s Viterbi Summer Institute Poster Session*, 2 August 2019. (Poster presentation.)

## REPORTS AND DATA

**E.A. Johnson**, *Firing-Induced Vibration of an Electromagnetic Railgun Rail*, M.S. thesis, Department of Aeronautical and Astronautical Engineering, University of Illinois at Urbana-Champaign, August 1993.

**E.A. Johnson**, L.A. Bergman, and P.G. Voulgaris, *On-line Modal State Monitoring of Slowly Time-Varying Structures*, NASA CR 198057, October, 1997.

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**E.A. Johnson**, G.A. Baker, B.F. Spencer, Jr., and Y. Fujino, *Semiactive Damping of Stay Cables Neglecting Sag*, Technical Report No. USC-CE-01-EAJ1, Dept. of Civil and Environmental Engineering, University of Southern California, 2001. Available online at [http://rcf.usc.edu/~johnsone/papers/smardamping\\_tautcable\\_rpt.html](http://rcf.usc.edu/~johnsone/papers/smardamping_tautcable_rpt.html)

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L. Pearlman, M. D'Arcy, **E.A. Johnson**, C. Kesselman and P. Plaszczak, *NEESgrid Teleoperation Control Protocol (NTCP)*. NEESgrid TR-2004-23, 2004. Available online at <http://it.nees.org/documentation/pdf/TR-2004-23.pdf>

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K.K. Chintalapudi, J. Paek, O.P. Gnawali, T. Fu, K. Dantu, J. Caffrey, R. Govindan and E. Johnson, *Structural Damage Detection and Localization using NetSHM*, USC Computer Science Department Technical Report 05-866, University of Southern California, Los Angeles, California. Available online at <http://www.cs.usc.edu/Research/TechReports/05-866.pdf>.

**E.A. Johnson** and M.I.S. Elmasry, *Analytical and Experimental Structural System Identification using Variable Stiffness and Damping Devices*, METRANS Report, Project 03-17, 2007.

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## INVITED LECTURES

1. Earthquake Engineering Laboratory, Department of Civil Engineering and Geological Sciences, University of Notre Dame, Summer 1992.
2. NASA Dryden Flight Research Center, Edwards, CA, July 11, 1996.
3. Department of Civil Engineering, University of Minnesota, April 1, 1997.
4. Department of Aerospace Engineering, Mississippi State University, May 5, 1997.
5. Department of Mechanical Engineering, Oregon State University, June 20, 1997.
6. Leopold-Franzens University of Innsbruck, Austria, October 9, 1997.
7. Institut für Mechanik, Leopold-Franzens University of Innsbruck, Austria, January 13, 1999.
8. Institute of Technical Mechanics, University of Karlsruhe, Germany, January 18, 1999.
9. Department of Civil Engineering, Johns Hopkins University, February 22, 1999.
10. Department of Civil and Environmental Engineering, University of Southern California, March 30, 1999.
11. Department of Mechanical Engineering, University of Delaware, April 12, 1999.
12. Department of Aerospace Engineering, Georgia Institute of Technology, May 21, 1999.
13. Department of Civil Engineering, California Institute of Technology, October 21, 1999.
14. Rusch Engineering Honors Colloquium, University of Southern California, January 28, 2000.
15. Department of Civil Engineering, University of California at Los Angeles, February 8, 2000.
16. Department of Civil and Environmental Engineering, University of California, Irvine, February 15, 2001.
17. Danish Center for Applied Mathematics and Mechanics, Technical University of Denmark, Lyngby, Denmark, May 7, 2001.
18. Department of Civil and Environmental Engineering, Princeton University, September 28, 2001.
19. Bridge and Structures Laboratory, Department of Civil Engineering, University of Tokyo, June 27, 2002.
20. Department of Mechanical Engineering, Nihon University, Tokyo, Japan, June 28, 2002.
21. Department of Civil Engineering, Waseda University, Tokyo, Japan, July 1, 2002.
22. Department of Mechanics, Technical University of Athens, Athens, Greece, November 7, 2003.

23. Department of Civil and Environmental Engineering, Cornell University, Ithaca, NY, February 19, 2004.
24. School of Civil Engineering, Harbin Institute of Technology, Harbin, China, October 20, 2006.
25. School of Civil Engineering, Purdue University, West Lafayette, IN, November 28, 2006.
26. Department of Aerospace Engineering, University of Liège, Belgium, March 22, 2007.
27. Department of Construction and Building Engineering, Arab Academy for Science & Technology and Maritime Transport, Alexandria, Egypt, April 30, 2007.
28. Department of Electrical Engineering, University of Liège, Belgium, May 24, 2007.
29. Department of Civil Engineering, University of Minnesota, October 5, 2007.
30. Department of Civil and Environmental Engineering, University of California, Los Angeles, November 6, 2007.
31. Department of Civil and Environmental Engineering, KAIST, Daejeon, Korea, June 3, 2008.
32. Department of Mechanics and Aerospace Engineering, Peking University, Beijing, China, June 9, 2008.
33. Department of Civil and Environmental Engineering, Tsinghua University, Beijing, China, June 10, 2008.
34. Department of Civil and Environmental Engineering, Duke University, Durham, NC, November 12, 2008.
35. Department of Civil Engineering and Engineering Mechanics, Columbia University, New York, NY, April 7, 2009.
36. Department of Civil and Environmental Engineering, University of Michigan, Ann Arbor, MI, October 24, 2013.
37. Department of Civil and Environmental Engineering, University of Connecticut, Storrs, CT, February 20, 2014.
38. Department of Civil Engineering, University of Tokyo, May 27, 2014.
39. School of Civil Engineering, Harbin Institute of Technology, September 24, 2014.
40. Department of Civil and Environmental Engineering, Clarkson University, April 10, 2015.
41. *Warren Lecture*, Department of Civil, Environmental, and Geo-Engineering, University of Minnesota, May 1, 2015.
42. Department of Structural Engineering, University of California, San Diego, May 27, 2015.
43. Department of Applied Mechanics, Chalmers University of Technology, Gothenburg, Sweden, March 17, 2016.
44. Kobe University, Kobe, Japan, March 30, 2016.
45. Chinese University of Hong Kong Shenzhen (CUHK Shenzhen), Shenzhen, China, April 11, 2016.

46. National Center for Research on Earthquake Engineering (NCREEE), National Taiwan University, Taipei, Taiwan, April 13, 2016.
47. *5th International Symposium and Workshop of Acoustics and Vibration (ISWAV 2017)*, Zhejiang University of Technology, Hangzhou, China, October 16, 2017. Keynote speaker (tutorial).*5th International Symposium and Workshop of Acoustics and Vibration (ISWAV 2017)*, Zhejiang University of Technology, Hangzhou, China, October 16, 2017. Keynote speaker (research).
49. Department of Architectural Engineering, Kobe University, November 13, 2018.