**Khalid M. Mosalam**
Taisei Professor of Structural Engineering and PEER Director
University of California, Berkeley (UCB)

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## EDUCATION

CORNELL UNIVERSITY, Ithaca, New York, USA
Ph.D. Civil Engineering [Major: Structures; Minor: Theoretical and Applied Mechanics], 1996
Dissertation: Experimental and Computational Strategies for the Seismic Behavior Evaluation of Frames with Infill Walls

CAIRO UNIVERSITY, Giza, Egypt
M.S. Structural Engineering, 1991
Thesis: Integrated Modular Computer Program for the Nonlinear Analysis of Reinforced and Prestressed Concrete Structures

CAIRO UNIVERSITY, Giza, Egypt
B.S. (Honors) Civil Engineering, 1988
Graduation Project: Reinforced Concrete Design

## AWARDS AND HONORS

2015 EERI outstanding paper award in Earthquake Spectra.

CEE Distinguished Lecture, Western University, London, Ontario, Canada, Nov. 5, 2015.

Taisei Professor of Civil Engineering (July 2015 – Present)

Nominated for the 2013 outstanding paper award of the ASCE Journal of Performance of Constructed Facilities by the readers and publications committee for the paper "Seismic Performance of Reinforced Concrete Stairways During the 2008 Wenchuan Earthquake" [Editor's Note, Volume 29, Issue 1 (February 2015)].

2013 UC-Berkeley Chancellor award for Public Services, http://www.ce.berkeley.edu/news/615.

Erasmus Mundus International Fellowship, European Commission, 2012, Master Course: *Structural Analysis of Monuments and Historical Constructions* (SAHC), University of Minho, Guimarães, Portugal, http://www.msc-sahc.org/content.asp?startAt=2&categoryID=639&newsID=1597.

Robert G. Drysdale Best Paper Award on Masonry Research or Education, Eleventh Canadian Masonry Symposium, Toronto, 2009, Paper: *Modelling of Unreinforced Masonry Infill Walls Considering In-Plane and Out-of-Plane Interaction*.

Walter L. Huber, Civil Engineering Research Prize, American Society of Civil Engineers, 2006, Citation: *For Advanced Computational Research Integrated with Large Experiments to Solve Practical Structural Engineering Problems*.

Hellman Fellow Fund for Research, 2001, Project: *Preservation of Strength of Monumental Structures and Strengthening of Low-Cost Housing Using Fiber Reinforced Polymers.*

Best Student Paper in Earthquake Engineering, Earthquake Engineering Research Institute (EERI), 1996, Paper: *Modeling of the Nonlinear Seismic Behavior of Gravity Load Designed Frames*.

Finalists of Robert J. Melosh Medal Competition for Best Student Paper in Finite Element Analysis, 1996, Paper: *Evolutionary Characteristic Length Method for Smeared Cracking Finite Element Models*.

**ACADEMIC EXPERIENCE**
CORE PRINCIPAL INVESTIGATOR, Lab 2C: Internet of Things & Societal Cyber Physical Systems, Tsinghua-Berkeley Shenzhen Institute (TBSI) (OCT 2016 – Present)

DIRECTOR, Pacific Earthquake Engineering Research (PEER) Center (JAN 2016 – Present)

HIGH END FOREIGN EXPERT, Tongji Univ., Shanghai, China (JAN 2015 – DEC 2017)

TAISEI PROF. OF CIVIL ENG., Dept. of Civil & Env. Eng., Univ. of Calif., Berkeley, CA (JUL 2015 – Present)

PROGRAM LEADER, Structural Eng., Mechanics & Materials (SEMM), Dept. of Civil & Env. Eng., Univ. of California, Berkeley, CA (JUL 2014 – DEC 2015)

VISITING PROF., Dept. of Civil & Env. Eng., Nanyang Technological Univ. (NTU), Singapore & IN-RESIDENCE PRINCIPAL INVESTIGATOR, Singapore National Research Foundation-funded program "Singapore-Berkeley Building Efficiency and Sustainability in the Tropics" (AUG 2012 – JUL 2013)

PRINCIPAL INVESTIGATOR, Network for Earthquake Engineering Simulation (NEES) Equipment Site, *nees@berkeley*, Univ. of California, Berkeley, CA (OCT 2009 – DEC 2014)

PROFESSOR, Dept. of Civil & Env. Eng., Univ. of California, Berkeley, CA (JUL 2007 – Present)

VICE CHAIR FOR RESEARCH & TECHNICAL SERVICES [2 terms], Dept. of Civil & Env. Eng., Univ. of California, Berkeley, CA (JUL 2006 – AUG 2012)

VISITING PROF., Middle East Technical Univ., Ankara, Turkey (JAN 2005 – JUL 2005)

VISITING PROF., Disaster Prevention Research Institute, Kyoto Univ., Japan (AUG 2004 – DEC 2004)

ASSOCIATE PROF., Dept. of Civil & Env. Eng., Univ. of Calif., Berkeley, CA (JUL 2003 – JUN 2007)

ASSISTANT PROF., Dept. of Civil & Env. Eng., Univ. of California, Berkeley, CA (JUL 1997 – JUN 2003)

LECTURER, Structural Eng., Dept. of Civil & Env. Eng., Cornell Univ., Ithaca, NY (AUG 1996 – JUN 1997)

RESEARCH & TEACHING ASSISTANT, Structural Eng., Dept. of Civil & Env. Eng., Cornell Univ., Ithaca, NY (AUG 1991 – JUL 1996)

ASSISTANT LECTURER, Structural Eng., Cairo Univ., Giza, Egypt (JAN 1991 – JUL 1991)

DEMONSTRATOR, Structural Eng., Cairo Univ., Giza, Egypt (AUG 1988 – JAN 1991)

**PROFESSIONAL ENGINEERING EXPERIENCE**
PART-TIME DESIGN ENGINEER, HOSNY Consulting Firm, Cairo, Egypt (AUG 1988 – JUL 1991) participated in design & evaluation of several reinforced concrete structures.

**COURSES TAUGHT [all 3 semester units]**
CE225 – "Dynamics of Structures" [F17]
CE290-3 – "Advanced Topics in CEE: Applications of Nonlinear Finite Element Methods" [F14]
CE249 – "Experimental Methods in Structural Engineering" [F13, F15, F17 "Instructor of record"]
CE 246 – "Prestressed Concrete Structures" [S99, S00, S01, S02, S06, S12, S14, S15, S16]
CE 245 – "Behavior of Reinforced Concrete" [S98, S00, S02, S03, S04, S07]
CE 222 – "Finite Element Methods" [S08, S09, S10, S11, S12, S14, S15, S16, S17, S19]
CE 220 – "Structural Analysis: Theory and Applications" [F98]
CE 123 & CE123N – "Design of Reinforced Concrete Structures" [F97, F98, F00, F01, F03, F05, F07, F08, S09, F10, F18]

CE 120 – "Structural Engineering" [F99, F00, F02, F03, F05, F06]
CE 673 – "Advanced Structural Analysis" [F96, Cornell University]
CE 772/M&AE 680/T&AM 666 – "Finite Element Analysis" [S97, Cornell University]
CE 775 – "Advanced Concrete Structures II" [S97, Cornell University]

**RESEARCH SUPERVISION**

*Undergraduate*

"Construction and Instrumentation of Large-Scale Reinforced Concrete Box-Girder Bridge Systems for Quasi-Static Testing," Erik Kunkel, Fall 1998 – Spring 2000.

"Analytical Modeling of Reinforced Concrete Bridge Beam-Column Joints," Monique Hite (University of Delaware, SUPERB), Summer 1999.

"Quality Control Testing of Concrete Box-Girder Specimens," Tamisha Jones (URO), Fall 1999.

"Experimental Investigation of Low-Cost Housing and Monumental Structures with and without FRP Systems," Patrik Meyer (URO), Fall 2001 – Fall 2002.

"Construction, Instrumentation, and Moisture Monitoring of Asymmetric Three-Story Wood-Frame Building for Shaking Table Testing," Carlos Machado, Fall 2001 – Fall 2002.

"Observation of Damage from Recent Earthquakes in Iran," Shawhin Roudbari, Fall 2002.

"Experimental Evaluation and Retrofit of Unreinforced Masonry Arches," Evelyn Liang (URO), Spring 2003.

"OpenSees Moment Curvature Analysis," Samuel Woldesemait (San Francisco State University, PEER), Summer 2003.

"Development of Pseudo-Dynamic Algorithms," Anthony Giammona (Cal Poly, PEER), Summer 2004.

"Design of Steel Bridges," Nathan Langdon, Spring 2006.

"Analytical Modeling of Reinforced Concrete Frames with and without Unreinforced Masonry Infill Walls," Santina Watts (University of California, San Diego, SUPERB), Summer 2006.

"Development of Accessible Hinge Details for Box-Girder Bridges," Kristopher Darnell (University of Texas at Austin), Summer 2007.

"Construction and Instrumentation of Test Specimens for Accessible In-Span Hinges in Box-Girder Bridges," Daniel Wilcoxon (URO), Fall 2008.

"Seismic Evaluation of Structural Insulated Panels," Jose Hector Machuca, Fall 2009.

"Introduction to Structural Testing: Use of Instrumentation and General considerations," Steven James Liu, Spring 2010.

"Lateral and Gravity Load Testing of Structural Insulated Panels," Kiriakos Antoniou, Spring 2010.

"Quality Control, Instrumentation, and Preliminary Modeling of Shaking Table Bridge Column Tests," Maura Acevedo (UC Leads), Summer 2010 – Fall 2010.

"Data Reduction of Hybrid Simulation Testing of Structural Insulated Panels," Hans Christian, Spring 2011.

"Documenting Construction Steps of Structural Insulated Panels," JiaJun Li and Bairong Yu, Fall 2011.

"Locally Generated Tsunami and Seismic Seiche Assessment within the San Francisco Bay with Mitigation," Clinton Andrew Potter, Fall 2011.

"Construction and Preliminary Evaluation of Translucent Concrete (OptiCalCrete) Panels," Alexander Green and Richard Standring, Fall 2011 – Spring 2012.

"Development of the Next Generation Hybrid Simulation Methods: Numerical and Experimental Studies," Ahmed Bakhaty, Fall 2011 – Spring 2012.

"Optical Properties of Translucent Concrete (OptiCalCrete) Panels," Henry Sweat (Rose Hills Fellowship), Fall 2012 – Spring 2013.

"Daylight Performance Optimization of Translucent Concrete Panels," Spencer Gospe (CE194H), Fall 2014.

"2017 Solar Decathlon Department of Energy (DOE) Competition: Residential Inviting Stackable Efficient (RISE)," Samuel J. Durkin (CE199), Fall 2016.

"2017 Solar Decathlon Department of Energy (DOE) Competition: Residential Inviting Stackable Efficient (RISE)," Ruth L. McGee (CE199), Fall 2017.

"2017 Solar Decathlon Department of Energy (DOE) Competition: Residential Inviting Stackable Efficient (RISE)," Joan Gibbons (CE199), Fall 2017.

"Structural Health Monitoring of Bridge Settlement Using Laser-Based Monitoring System" Albert Qu, Summer 2018.

"Developing High School Curriculum for a Mini-Course on Earthquake Engineering" Liam Morely, University of Southern California, Summer 2018.

*M.S.*
"Retrofit Methods for Reinforced Concrete Columns," Sajeeni De Alwis, Fall 1998.

"Stochastic Nonlinear Analysis of Reinforced Concrete Bridge Columns," Mark B. Stevenson, Spring 1998.

"Dynamic Analysis of Alternative Retrofit Strategies for Buildings with Tuck-Under Parking," Marina Rubina, Fall 2000.

"Vibration Characteristics of Asymmetric Wood-Frame Structures," Erik Kunkel, Fall 2001.

"Nonlinear Three-dimensional Analysis of Reinforced Concrete Box-Girder Bridges Subjected to Lateral Loading," Georgios Petropoulos, Spring 2002.

"Retrofitting of Unreinforced Masonry Walls using Fiber Reinforced Polymer Laminates," (Plan I) Reid R. Senescu, Spring 2004.

"Computational Modeling of the Seismic Response of Typical Two-Story Wood House Over Garage," Xavier Rognin, Spring 2006.

"Modeling of Substation Post Insulators," Ihab Triki, Fall 2009.

"Dynamic Experiments of a Single Insulator Post for Electric Substations," Mohamed Moustafa, Spring 2010.

"Probabilistic Seismic Assessment: Application of the PEER Formulation to a Portal Frame with and without Infill," Lucas Lombard, Spring 2011.

"Theoretical Development of Hybrid Simulation Applied to Plate Structures," (Plan I) Ahmed Bakhaty (co-advised with S. Govindjee), Spring 2013.

"Analysis of Daylight Potential for Light Transmitting Concrete," Andrew W. Rastetter, Fall 2014.

"Hybrid Simulation of the Seismic Response of High-Voltage Insulators and Switches," master research topic of Reto Grolimund (Department of Civil, Environmental and Geomatic Engineering of the Swiss Federal Institute of Technology (ETH) in Zürich), Summer 2014.

"Hybrid Simulation of the Seismic Response of a Column-to-Cap-Beam Bridge Connection," master research topic of Didier Sonnbichler (Department of Civil, Environmental and Geomatic Engineering of the Swiss Federal Institute of Technology (ETH) in Zürich), Summer 2014.

"Nonlinear Dynamic Analysis of Bridge Columns Towards Performance-based Design of Bridge Systems," master research topic of Marcel Nowak (Department of Civil Engineering, Technical University of Munich, Germany), Summer 2015.

"Response Spectrum Code Conforming Performance Based Earthquake Engineering," (Plan I) Euihyun Choi, Spring 2019.

"Hybrid Simulation of Bridge Deck/Column V-Connector," (Plan I) Wen Tang, Spring 2019.

"Structural Health Monitoring of Bridge Settlement Using Laser-Based Monitoring System," (Systems Program) Henry Teng, Spring 2019.

"Measures of Crack Size using Digital Image Correlation," Morgan Wilder, Spring 2019.

"Hybrid Simulation of Self-Centering and Rocking Bridge Systems," (Plan I) Giulia Scagliotti, Spring 2019.

*M.Eng.*
"Experimental Seismic Evaluation of Reinforced Concrete Box-Girder Bridge Systems," Svetlana Khaykina, Spring 2000.

"Computational Evaluation of Strengthening the Out-of-Plane Behavior of Masonry Walls Using Fiber Reinforced Polymers," Jiyoung Lee, Spring 2001.

"A Study on the Mechanical Properties and Modeling of Masonry," Hoang-Nam Nguyen, Spring 2003.

"Preliminary Stress Analysis using Finite Element Method for In-Span Hinge Diaphragms in Prestressed Concrete Box-Girder Bridges," Dwight Evans, Spring 2006.

"Analytical Modeling of Unreinforced Masonry Infill Walls Considering the Interaction of In-plane and Out-of-plane Seismic Behavior," Stephen Kadysiewski, Spring 2008.

"A Practical Engineering Approach to Traditional Construction Techniques: The Case of Rammed Earth Construction," Kelly Cronin, Spring 2008.

"Design and Nonlinear Modeling of Large Circular Reinforced Concrete Bridge Columns," Daniel Wilcoxon, Spring 2011.

*Ph.D.*
"Experimental and Computational Evaluation of Reinforced Concrete Bridge Beam-Column Connections for Seismic Performance," Clay J. Naito (co-advised with J. Moehle), Spring 2000.

"Probabilistic Models and Fragility Estimates for Bridge Components and Systems," Paolo Gardoni (co-advised with A. Der Kiureghian), Spring 2002.

"Probabilistic Seismic Evaluation of Reinforced Concrete Structural Components and Systems," Tae-Hyung Lee, Spring 2005.

"Modal Identification and Health Monitoring of Bridges Using Seismic Acceleration Records," Yalin Arici, Spring 2005.

"Seismic Evaluation of Reinforced Concrete Buildings Including Effects of Masonry Infill Walls," Alidad Hashemi, Spring 2007.

"Generalized Hybrid Simulation Framework for Structural Systems Subjected to Seismic Loading," Tarek Elkhoraibi, Spring 2007.

"Evaluation of the Structural Performance of Wood Shear Walls Subjected to Lateral Loading and Moisture Cycling," Jian Li (Co-advised with F. Beall, College of Natural Resources), Spring 2007.

"Computational Modeling of Progressive Collapse in Reinforced Concrete Framed Structures," Mohamed Talaat, Fall 2007.

"Structural Assessment and Design of In-Span Hinge Details in Reinforced Concrete Box-Girder Bridges," Matias Hube, Fall 2009.

"Experimental and Analytical Studies on Old Reinforced Concrete Buildings with Seismically Vulnerable Beam-Column Joints," Sangjoon Park, Fall 2010.

"Theory and Application of System Identification Toolbox Using OpenSees," Yang Yang (co-advised with J. Fang and X. Zhou, Research Institute of Structural Eng. & Disaster Reduction (RISEDR), Tongji Univ., Shanghai, China), Spring 2011.

"Experimental and Analytical Investigation of Reinforced Concrete Columns Subjected to Horizontal and Vertical Ground Motions," Hyerin Lee, Fall 2011.

"Floor Seismic Demand of the Curtain Wall System on Tall Buildings and Experimental Methodology with Shaking Table," Baofeng Huang (co-advised with S. Chen and W. Lu, Tongji Univ., Shanghai, China), Summer 2014.

"Structural Behavior of Bent Cap Beams in As-built and Retrofitted Reinforced Concrete Box-girder Bridges," Mohamed A. Moustafa, Fall 2014.

"Shaking Table Evaluation of Reinforced Concrete Bridge Columns Repaired using Fiber Reinforced Polymer Jackets," Pardeep Kumar, Spring 2015.

"Simulations of Innovative Solutions for Energy Efficient Building Façades," Aashish Ahuja (co-advised with T. Zohdi, Mechanical Eng.), Fall 2015.

"Daylight Performance Assessment of an Innovative Energy Efficient Building Envelope," Núria Casquero-Modrego (co-advised with P. Roca-Fabregat, Dept. of Construction Eng., Universitat Politécnica de Catalunya, Barcelona, Spain), Summer 2016.

"Performance-Based Robust Nonlinear Seismic Analysis with Application to Reinforced Concrete Bridge Systems," Xiao Liang, Summer 2016.

"Computational Strategies for Multi-Scale Modeling of Masonry Components and Structures," Nicolas Peralta, Fall 2016.

"Hardware-in-the-Loop Modeling and Simulation Methods for Daylight Systems in Buildings," Alex Mead (Systems Program), Spring 2017.

"Human Dynamics Mining on High-Dimensional Mobile Sensing Data," Weixi Gu (co-advised with L. Zhang, Tsinghua-Berkeley Shenzhen Institute (TBSI), China), Summer 2018.

"Safety of Nonstructural Components in High-rise Buildings Using Hybrid Simulations," Yangling Wang (co-advised with W. Lu, Tongji University, Shanghai, China), ongoing.

"Dynamic Similitude Mechanism and Design Approaches of the Building Isolation Model with Rubber Bearings," Xiangxiang Ren (co-advised with W. Lu, Tongji University, Shanghai, China), ongoing.

"Structural Health Monitoring Using Machine Learning Approach," Sifat Muin, ongoing.

"Performance-based Earthquake Engineering for Resilient Bridge Systems," Yingjie Wu, ongoing.

"Multi-Scale Modeling of Masonry Structures Subjected to Extreme Loads," Jorge Luis Archbold, ongoing.

"Deep Learning for Image and Time Series Classification of Damaged Structures," Yuqing Gao, ongoing.

"Performance-based Earthquake Engineering Focused on Nonstructural Components," Chenglong Li, ongoing.

"Holistic Sustainable and Resilient Design Framework for Buildings," Jiawei Chen, ongoing.

"Robust Solution Algorithm for Structural Dynamics," Chuyang Chen, ongoing.

"Sensor Network and Big Data Analysis for Assessment of Community Resilience," Millard Louis McElwee (Systems Program), ongoing.

"P-Loc: A Device-Free Indoor Localization System Utilizing Building Powerline Network," Tian Zhou (co-advised with L. Zhang ,Tsinghua-Berkeley Shenzhen Institute (TBSI), China), ongoing.

*Selected Visiting Students and Research Engineers*

"Seismic Vulnerability of Reinforced Concrete Buildings," doctoral research topic of Abdullah Dilsiz (Middle East Technical Univ., Ankara, Turkey), Spring 2012.

"Seismic Performance of Concrete Duct Banks for High Voltage Electric Cables," research topic of Siddaiah Yarra (San Jose State Univ., CA), Spring 2013.

"Real-Time Hybrid Simulation of Wire-Stiffened Wind Turbine Blade," doctoral research topic of Jacob H. Høgh (Mechanical Eng., Technical Univ. of Denmark), Fall 2015.

"Probabilistic Performance-Based Seismic Assessment of a Historical Masonry Building," doctoral research topic of Nicola Giordano (Dept. of Architecture, Built Environment & Construction Eng., Politecnico di Milano, Italy), Spring 2017.

"Mechanical Behavior of Ultra High Toughness Cementitious Composite Strengthened with Fiber Reinforced Polymer Grid," doctoral research topic of Yu-Zhou Zheng (Dept. of Bridge Eng., School of Transportation, Southeast Univ., Nanjing, China), 2016-2017.

"Behavior of Reinforced Concrete and Steel Fiber Reinforced Concrete Tunnel Segmental Joints," doctoral research topic of Chenjie Gong (Geotechnical Eng., Tongji Univ., Shanghai, China), 2016-2018.

"Seismic Performance of Steel Structures with Supplemental Damping Devices and Strongback (Masted) Systems," doctoral research topic of Han Peng (Harbin Institute of Technology, China) 2017-2019.

"Seismic Performance of Innovative Damage-Controlled Precast Bridge Columns and Bridge Systems," doctoral research topic of LiuZhen Yao (Southeast University, China), 2017-2018.

*Post-Doctoral Researchers*

"Computational Platform for Nonlinear Analysis and Optimal Design of Reinforced Concrete Structures," Dr. Mohammad Tabatabai, 1998-2000.

"Shaking Table Experimentation of Asymmetric Wood-Frame Buildings & Seismic Evaluation of Perforated Waffle Slab Systems for Industrial Facilities," Dr. Clay Naito, 2000-2001.

"Computational Modeling of Wood Shear Walls," Dr. Ashraf Ayoub, 2000-2001.

"Analytical Modeling of Layered Timber Beams, Arches, and Ribbed Shells & Behavior of Composite Glass/Wood Beams and Plates," Dr. Kai-Uwe Gliniorz, 2001-2002.

"Progressive Collapse Simulations" Dr. Selim Günay, 2008-2009.

"Structural Laboratory Applications of Laser Scanning Technology," Dr. Sangjoon Park, 2010-2012.

"Multi-Functional Energy-Efficient Building Façades & Holistic Design Framework Considering Life Cycle Analyses" Dr. Hyerin Lee, 2012-2013.

"Equivalent Linearization Methods for Stochastic Dynamic Analysis," Dr. Umberto Alibrandi, 2014-2015.

"Developing Finite Element Models Based on Laser Scanning Techniques," Mohamed A. Moustafa, 2015.

"Implementation of Robust Nonlinear Solvers with Application to Structural Health Monitoring," Dr. Xiao Liang, 2016-2017.

"Sensor Network and Big Data Analysis for Health Monitoring of Bridges," Dr. Alex Mead, 2017-2018.

"Application of Hybrid Simulation in Fire Safety of Large-scale Structures," Dr. Martin Neuenschwander, 2018-present.

"Optimal Seismic Isolation and Vibration Control by Supplemental Viscous Damping to Improve the Margin of Safety Against Unexpectedly Large Earthquakes," Dr. Tsubasa Tani, 2018-present.

"Machine Learning Applied to Ground Motion Records and Building Operation Data," Dr. Weixi Gu, 2018-present.

*Senior Researchers*
"Modeling Reinforced Concrete Flat Plates," Dr. Abdul-Razzak Salem, 1999-2000.

"Effect of Concrete Quality on Structural Damage During Recent Earthquakes in Turkey," Dr. Ismail Cagatay, 2001-2002.

"Computational Modeling of Asymmetric Unreinforced Masonry Structure Subjected to Seismic Loading," Dr. Namhee Kim Hong, 2003-2004.

"Computational Modeling of Reinforced Concrete Beam-Column Joints," Dr. Sung Woo Woo, 2005-2006.

"Development of In-Plane/Out-of-Plane Interaction Model of Unreinforced Masonry Infill Walls," Dr. Yasushi Sanada, 2009.

"Probabilistic Modeling of Reinforced Concrete Structural Systems," Dr. Tae-Hyung Lee, 2011.

"An Integrated Decision-Making Methodology for the Design of Energy-Efficient Concrete Structures" Dr. Jaime Armengou Orús, 2012-2014.

"Strengthening of Concrete Beams by Monolayer Prepreg Composites with and without Graphene Reinforcement," Dr. Ferit Cakir, 2016-2017.

"Development of the Next Generation Hybrid Simulation Methods," Dr. Selim Günay, 2010-present.

"Probabilistic Sustainable and Resilient Building Design Decisions," Dr. Umberto Alibrandi, 2015-present.

"Resilient Bridge Systems," Dr. Yue Zheng, Department of Bridge Engineering, Tongji University, China, 2018-present.

**ACADEMIC SERVICE**
**Member**, CEE Committee for Faculty Search in "Earthquake Engineering," Aug. 2017–May 2018
**Affiliated Faculty Member**, Center for Middle Eastern Studies (CMES), May 2017–Present
**Member**, University Athletic Board (UAB) representing the DECC Committee, March 2017–Present
**Co-Chair**, Gender, Equity and Diversity (GED) Subcommittee, March 2017–Present
**Member**, CEE Committee for Faculty Search in "Structural Engineering," Aug. 2016–May 2017
**Faculty Director of Structural Engineering Laboratories**, CEE, Jan. 2016– Aug. 2016
**Member**, SEMM Graduate Admissions and Fellowships, July 2015–Dec. 2015
**Member**, Academic Senate Committee on Diversity, Equity and Campus Climate (DECC), Aug. 2014–Present
**Program Leader**, Structural Engineering, Mechanics and Materials (SEMM), July 2014–Dec. 2015

**Chair**, CEE Strategic Planning Committee, July 2013–June 2014
**Jury Member**, T.Y. Lin Prize (Nov. 2001, Nov. 2011, Nov. 2013, Nov. 2015, Nov. 2016) for a graduate student in Architecture, UC–Berkeley, for research proposal to study an aspect of architecture with a strong engineering component
**Chair**, COE Search Committee for the Directorship and Merging EERC/PEER ORU, May 2008–Aug. 2008
**Member**, CEE Committee for Faculty Search in "High Performance Structural Engineering", Aug. 2006–May 2007 & Aug. 2007–May 2008
**CEE Vice Chair** for Research and Technical Services, July 2006–Aug. 2012
**Member**, CEE Executive Committee, July 2006–Aug. 2012, July 2014–Dec. 2015
**Member**, Academic Senate Committee on Student Diversity and Academic Development (SDAD), Aug. 2005–July 2012, July 2013–July 2014
**Chair**, Organizing Committee of the SEMM Seminars, Aug.–Dec. 2005, Jan.–May 2008, Jan.–May 2009, Aug.–Dec. 2013, Aug.–Dec. 2017
**Chair**, CEE Committee for Outreach and Enrollment Development, Aug. 2003–May 2006
**Member**, Educational Committee of the Pacific Earthquake Engineering Research (PEER) center, May 2003–June 2009
**Member**, CEE Undergraduate Study Committee, July 2002–May 2003
**Member**, Wood Science and Technology Graduate Group, College of Natural Resources, May 2002–July 2007
**Member**, CEE Committee for Outreach and Enrollment Development, Aug. 2001–May 2002
**Member**, SEMM Academic Program Committee, Aug. 2001–May 2002
**Member**, CEE Committee for Faculty Search in "Multi-Scale Mechanics", Aug. 1999–May 2000
**Faculty Adviser to Student Chapters**, American Concrete Institute (ACI), July 1998–June 2007; Structural Engineers Association of Northern California (SEAONC), July 1998–June 2000; Concrete Canoe Competition, Spring 2017 and several previous semesters.
**Graduate Adviser**, Department of Civil and Environmental Engineering (many semesters since Fall 2001)
**Undergraduate Adviser**, Department of Civil and Environmental Engineering (many semesters since Fall 1997)
**Member**, SEMM Examination (MS-comprehensive & PhD-preliminary) Committee (many semesters since Fall 1997).
**Member**, Ad-hoc Committee for Developing the T.Y. Lin Structural Eng. Demonstration Laboratory, Aug. 1997-May 2002
**Member**, CEE Undergraduate Admission Committee, Aug. 1997–May 1999

**PROFESSIONAL QUALIFICATIONS**
Registered **Professional Civil Engineer** in California, No. C 59127, since 1998.
Registered **Civil Engineer** in Egypt, No. 2821/14, since 1988.

**PROFESSIONAL AFFILIATIONS**
**Member**, American Society of Civil Engineers (ASCE)
**Member**, Earthquake Engineering Research Center (EERI)
**Member**, Pacific Earthquake Engineering Research (PEER) Center
**Member**, Structural Engineers Association of California (SEAOC)
**Member**, Board of Directors, International Joint Research Laboratory of Earthquake Engineering (ILEE), Tongji Univ., Shanghai, China, http://www.ilee-tj.com/en/data/list/board%20of%20directors
**Member**, Board of Directors & Advisory Board, Global Alliance of Disaster Research Institutes (GADRI), Kyoto Univ., Kyoto, Japan, http://gadri.net/about/BoD/

**PROFESSIONAL SERVICE (*selected*)**
**Member**, Advisory editorial board of "Earthquake Engineering and Structural Dynamics," 2016-present.
**Member**, Editorial board of "Sustainable and Resilient Infrastructure," 2016-present.
**Member**, Project Management Committee, ATC-58-2, Development of Performance-Based Seismic Design Guidelines: Phase 2, Development of Performance-Based Seismic Design Criteria, Dec 2015-present.
**Member**, Project Review Panel, Performance of Buildings and Nonstructural Components in the 2014 South Napa Earthquake, prepared by Applied Technology Council, ATC, for Federal Emergency Management Agency, FEMA P-1024, Feb. 2015.
**Guest Editor** (together with Michael Fardis, Koichi Kusunoki and Alper Ilki), *Bulletin of Earthquake Engineering*, Special Issue on Large Scale and On-Site Structural Testing for Seismic Performance Assessment, Nov 2014-2016.
**Voting Member**, ASCE 41-16 Seismic Evaluation & Retrofit of Existing Buildings Standards Committee, Subcommittee on Masonry Issues, May 2014-present
**Voting Member**, ASCE Architectural Engineering Institute (AEI) Facade Access Design Guideline Task Committee (To develop *Guideline for the Structural Design, Evaluation, and Testing of Permanent Building-Supported Facade Access Equipment, and Commentary*), May 2012–Present.

**Member**, Editorial board of "International Scholarly Research Network (ISRN) Civil Engineering," 2011-2014.
**Member**, ASCE Architectural Engineering Institute (AEI) Experimental Methods in Earthquake Engineering Sub-Committee (To further the advancement and transfer of knowledge in the performance of structures and structural systems through experimental testing methods), Jan. 2011-2014.
**Member**, Editorial board of "Earthquakes and Structures, An International Journal," 2010-2014.
**Member**, Development Board of Wood Education Institute (Wei), http://woodeducationinstitute.org/development-board/, 2008-present.
**Member**, Task Group 7.7, Performance-Based Seismic Design, CEB-FIB (Comité Euro-International du Béton- Fédération Internationale de la Précontrainte) Seismic Commission (C7), 2008-2012.
**Member**, Executive subcommittee of the APA Standards Committee on SIPs for the development of the new American National Standard for Performance-Rated Structural Insulated Panels in Wall Applications, PRS-610.1, under the consensus process accredited by the American National Standards Institute (ANSI), 2007-2013.
**Member**, International Scientific Committee for developing "Earthquake-Resistant Regulation for Earthen Construction-RPCT2008" in Morocco, 2005–2012.
**Associate Editor**, "ASCE Journal of Structural Engineering," 2003-2014.
**Member**, Task Force on Seismic Rehabilitation Using FRP, Committee 440F of the American Concrete Institute (ACI), 2001–2003.

*Professional Reviewer*

- Advances in Structural Engineering
- Canadian Journal of Civil Engineering
- Composites Part B: Engineering
- Composites Science and Technology
- Computer-Aided Civil and Infrastructure Engineering
- Computers and Concrete
- Earthquake Engineering and Structural Dynamics
- Earthquake Spectra
- Engineering Structures
- International Conference on Applications of Statistics and Probability (ICASP9 in San Francisco 2003; ICASP10 in Tokyo 2007; ICASP11 in ETH Zurich, 2011; ICASP12 in Vancouver, 2015)
- International Journal for Numerical Methods in Engineering
- Journal of Earthquake Engineering
- Journal of Engineering Mechanics, American Society of Civil Engineers
- Journal of Structural Engineering, American Society of Civil Engineers
- King Abdullah University of Science and Technology (KAUST) Global Collaborative Research (GCR) Programs
- Materials Journal, American Concrete Institute
- Natural Sciences and Engineering Research Council of Canada (NSERC) proposals
- Structural Journal, American Concrete Institute
- 10th International Congress on Advances in Civil Engineering, 2012, Ankara, Turkey
- US-National Science Foundation (NSF) proposals
- Wood and Fiber Science
- World Conference on Earthquake Engineering (WCEE13, 2004, Vancouver, Canada; WCEE14, 2008, Beijing, China; WCEE15, 2012, Lisbon, Portugal; WCEE16, 2016, Santiago, Chile)

*Selected Committee Memberships and Professional Activities*
*Conference Organization*

- Organized and chaired session 3A "Fracture and Damage Mechanics of Quasi-Brittle Materials," 12th ASCE Eng. Mechanics, San Diego, CA, USA, May 17-21, 1998.
- Member of the Technical Committee of the 2001 Second International Conference on Engineering Materials, San Jose, CA, USA, Aug. 16-19, 2001.
- Organized and chaired session 5e (INFRASTRUC. III), 9th Annual International Conference on Composites Engineering, ICCE/9, San Diego, CA, USA, July 1-6, 2002.
- Member of the International Scientific Committee of the 12th European Conference on Earthquake Engineering, London, UK, Sept. 9-13, 2002.

- Member of the Scientific Advisory Committee of the 3rd DIANA World Conference on Finite Elements in Civil Engineering Applications, Tokyo, Japan, Oct. 9-11, 2002.
- Member of the Organizing Committee of the 9th International Conference on Applications of Statistics & Probability, ICASP9, San Francisco, CA, USA, July 6-9, 2003.
- Organized and moderated the panel discussion "From Research to Implementation: Making Retrofit a Reality," International Symposium on Earthquake Engineering Commemorating the 10th Anniversary of the 1995 Kobe Earthquake (ISEE Kobe 2005), Awaji, Kobe, Japan, Jan. 14, 2005.
- Organized and moderated session on "Energy Facilities" during the 8th (Sept. 2010) and 9th (Aug. 2011) NEES/E-Defense workshop, Kobe, Japan.
- Member of Scientific Committee of the 6th International Conference on Seismology and Earthquake Engineering, Tehran, Iran, May 16-18, 2011.
- Member of the Scientific Committee of the International Symposium on Innovation & Sustainability of Structures in Civil Engineering (ISISS 2011), Oct. 28-30, 2011, Xiamen University, Xiamen, China.
- Member and Keynote Speaker of the International Committee for the International Conference on Advances in Civil Infrastructure Engineering, Changsha, China, Sept. 14–16, 2012.
- Member of the Scientific Committee for the 10th International Congress on Advances in Civil Engineering, Ankara, Turkey, Oct. 17–19, 2012.
- Member and Invited Speaker of the International Scientific Committee, First International Conference on Performance-based and Life-cycle Structural Engineering (PLSE 2012), Faculty of Construction and Environment of The Hong Kong Polytechnic University, Hong Kong, Dec. 5–7, 2012.
- Member of the Technical Committee for the 12th Canadian Masonry Symposium (12th CMS), Vancouver, Canada, June 2–5, 2013.
- Member of the Scientific Committee of the 11th International Congress on Advances in Civil Engineering (ACE), Istanbul, Turkey, Oct. 21–25, 2014.
- Member of the International Scientific Committee of the 6th International Symposium on Innovation and Sustainability of Structures in Civil Engineering (ISISS 2015), Tsinghua University, Beijing, China, July 26–27, 2015.
- Member and Invited Speaker of the International Scientific Committee, Second International Conference on Performance–based and Life-cycle Structural Engineering (PLSE 2015), Brisbane Convention & Exhibition Centre, Australia, Dec. 9–11, 2015.
- Member of the International Advisory Committee for the thirteenth Arab Structural Engineering Conference (13th ASEC), University of Blida 1, Blida, Algeria, Dec. 13 15, 2015.
- Member of the International Scientific Committee for the International Conference on Structural Modal Properties Measurement and Applications (STRUMO 2016), Chongqing University (CQU), Chongqing, China, May 14–17, 2016.
- Member of the Scientific Committee (and co-organizer of the mini-symposium on Fracture Mechanics and Earthquake Engineering) of the 9th International Conference on Fracture of Concrete and Concrete Structures (FraMCoS-9), Berkeley, California, USA, May 22–25, 2016.
- Member of the International Scientific Committee, First International Workshop on Resilience, Torino, Italy, Sept. 20–2, 2016.
- Member of the International Scientific Committee, Fourth Conference on Smart Monitoring, Assessment and Rehabilitation of Civil Structures, SMAR 2017, ETH, Zurich, Switzerland, Sept. 13 –1, 2017.
- Co-organizer (with Umberto Alibrandi) of a session on "Designing Systems for Ecoefficiency, Robustness and Resilience – Framework, Methods and Tools," Sixth International Symposium on Reliability Engineering and Risk Management (6ISRERM 2018), Singapore, May 31–June 1, 2018.
- Member of the International Scientific Committee, Second International Workshop on Resilience, Nanjing and Shanghai, China, Oct. 31–Nov. 2, 2018.
- Member of the Scientific Committee, Eighth Kwang-Hua Forum on Innovations and Implementations in Earthquake Engineering Research, Shanghai, China, Dec. 14–16, 2018.
- Co-organizer (with Umberto Alibrandi and Lin Zhang of Mini-Symposium on "Frameworks, Methods and Tools for Sustainable and Resilient Built Environment," 13th International Conference on Applications of Statistics and Probability in Civil Engineering (ICASP13), Seoul, South Korea, May 26-30, 2019.

*Earthquake Reconnaissance*

- Member of "PEER Reconnaissance Team" investigating 1999 Kocaeli earthquake, Turkey.
- Team Leader of "PEER Reconnaissance Team" investigating 2003 San Simeon Earthquake, CA, USA.

- Member of "The University of Tokyo Reconnaissance Team" investigating 2004 Chuetsu Earthquake of Niigata-prefecture, Japan.
- Member of "GeoHazards International Reconnaissance Team" investigating the reconstruction after the 2005 Muzaffarabad Earthquake, Pakistan, 2007.
- Member of "UCOP Reconnaissance Team" investigating 2008 Wenchuan Earthquake, China.
- Member of "EERI/PEER Reconnaissance Team" investigating 2009 Abruzzo Earthquake, Italy.
- Team Leader of "NSF RAPID Reconnaissance and Laser Scanning Data Collection Team" investigating 2010 Port au Prince Earthquake, Haiti.
- Team Leader of "nees@berkeley Reconnaissance and Laser Scanning Data Collection Team" investigating 2014 South Napa Earthquake, CA.

**CONSULTING EXPERIENCE (*selected*)**

- **Part Time Design Engineer**, HOSNY Consulting Engineers, Cairo, Egypt: Participated in the design, repair and strengthening of several reinforced concrete structures in Egypt and Saudi Arabia, and developed and adapted various structural design computer programs, Aug. 1988-Aug. 1991.
- **Consultant**, settling dispute for the case: "The Tyree Organization, Ltd v. Associated Concrete Products, et al. Regarding Concord Naval Weapons Station," Jan. 1999.
- **Consultant**, analysis, experiment, and retrofit of one of a major fabrication plant for computer parts on the West Coast of USA, 1999-2000.
- **Consultant**, Metropolitan Water District, Los Angeles in the project: "FRP Carbon/Epoxy Composite Flexural Strengthening of Standpipes," March 2002.
- **Consultant**, Wiss-Janney-Elstner Engineers (Emeryville, California) in a forensic study requiring advanced nonlinear modeling of crack formation in composite structural walls in a major building in Los Angeles, July-October 2002.
- **Consultant**, Graphic Films in partnership with "National Geographic Films" to develop an Imax format 70 mm "Forces of Nature" documentary, 2002.
- **Consultant**, NBC to develop a unique experiment featured in the popular program "Dateline" on earthquakes and their devastating effects on structures, 2006.
- **Consultant**, Integrated Design Services, Inc. providing expert opinion in the project "Outrigger Strategy – Post-Installed "Pin" Concept", 2006.
- **Consultant**, GeoHazards International, CA, in the project "Building Pakistan's Capacity in Earthquake Engineering Education and Retrofit" funded by The National Academies, USA, 2006-2013.
- **Consultant**, Lawrence Livermore National Laboratory in the project "Modeling of Masonry Structures" 2009-2013.
- **Consultant**, RMSI on the project "Morocco Natural Hazards Probabilistic Risk Analysis – National Strategy Development" funded by the World Bank, 2011-2012.
- **Consultant**, SPX Cooling Technologies, Inc., 2013-2014.
- **Consultant**, Exponent, Failure Analysis Associates for "Review of Three-Dimensional Nonlinear Analysis of a Building in Basel, Switzerland" Jan.-Feb. 2015.
- **Consultant**, Applied Technology Council (ATC) on the "ATC-58-2 Project" Dec. 1, 2015-present.

**RESEARCH GRANTS**

*Selected Current Projects*

- "Singapore-Berkeley Building Efficiency and Sustainability in the Tropics," NRF, Singapore, 01/2012-12/2022 $1,500,000 [Mosalam Portion in UC-Berkeley, part of more than $80,000,000 project]; Co-PI.
- "System Level Performance Evaluation of Earthquake Resilient Bridges using Hybrid Simulation," PEER, CA, USA, 04/2016-06/2019, $270,000; PI.
- "Development of Energy Efficient Technologies for tall Buildings in Mega Cities Combined with Structural Safety Solutions under Multi-Hazard Impacts," The Ministry of Science and Technology (MOST), China, 09/2016-08/2019, $550,260; Co-PI.
- "Real Time Hybrid Simulation Testing of a Curtain Wall System with Online Model Updating," ILEE, China, 02/2017-12/2018, $86,520; PI.
- "California Building Code Seismic Performance Intent," CSSC, CA, USA, 04/2017-03/2019, $50,000; PI.
- "Haywired Scenario," CSSC, CA, USA, 04/2017-05/2018, $50,000; PI.
- "Localized Damage Detection of CSMIP Instrumented Buildings using Cumulative Absolute Velocity: A Machine Learning Approach," CSMIP, CA, USA, 07/2017-12/2018, $50,000; PI.

- "Tsinghua-Berkeley Shenzhen Institute (TBSI): Lab 2c: Internet of Things and Societal Cyber Physical Systems," Shenzhen, China, 01/2017-12/2020, $1,000,000 [Mosalam Portion in UC-Berkeley]; Co-PI.
- "Transportation System Research Program," State of CA, USA, 01/2016-Indefinite, $1,000,000 per year; PI.
- "Lifelines Program, Tasks 3 and 4," California Department of Transportation, USA, $207,000; PI.
- "CWPT Open Water Demonstration," CalWave Power Technologies, Inc., USA, 09/2017-12/2018, $285,000; PI.

*Selected Completed Projects*

- "Swarm-Enabled Infrastructure-Mapping for Rapid Damage Assessment Following Earthquakes," PEER, CA, USA, 06/2016-05/2018, $50,000; Co-PI.
- "CE 122L & 123L: Structural Steel and Structural Concrete Design Projects," Teaching design innovation project, Jacobs Institute for Design Innovation, College of Engineering, University of Calif., Berkeley, 11/2014-09/2015, $7,500; PI.
- "Computational Design of Flexible Electromagnetically-Actuated Micro-Shutter Materials for Efficient Incident Solar/Radiative Energy Control," Peder Sather Center, An International Research and Educational Collaboration between UC Berkeley and Norway, 07/2014-06/2015, $20,000; Co-PI.
- "Guidelines for Nonlinear Seismic Analysis of Ordinary Bridges: Ver. 2.0," Caltrans, 06/2012-09/2014, $445,682; PI.
- "Testing and Modeling Two Pre-Cracked Beams," Fugro Consultants, Inc., 04/2012-06/2012, $153,252; PI.
- "W14 Stringer Loading Test," R+L Brosamer, 03/2012-03/2012, $24,000; PI.
- "EAGER: Next Generation Hybrid Simulation – Evaluation and Theory," NSF, 09/2011-08/2014, $300,000; PI.
- "Seismic Performance of Concrete Duct Banks," PG&E, 09/2011-08/2013, $240,407; PI.
- "The Stiffness Provided by Girders, Decks, and Soffits Framing into Integral Bent Caps and Optimizing Bent Cap Joint Design," Caltrans, 07/2011-06/2015, $403,991; PI.
- "Proof Test for Installing AE SHM System to Monitor 384 Fracture-Critical Eye-Bars (Up to 75 ft. Long) on the San Francisco-Oakland Bay Bridge," Mistras Group, Inc., 11/2010-06/2011, $44,624; PI.
- "RAPID: Laser Scanning Technology for Damage Assessment after the January 12, 2010 Haiti Earthquake," NSF, 05/2010-04/2011, $40,601; PI.
- "NEES Operations: FY 2010 – FY 2014," NSF, 10/2009-11/2014, $4,890,961; PI.
- "Development of 3D Confinement Models of Circular Bridge Columns of Different Sizes," PEER-Caltrans, 08/2009-12/2011, $75,600; PI.
- "Cyclic Testing of Auger Pressure Grouted (APG) Piles," Berkel Co. Contractors, 05/2009-05/2010, $88,812; PI.
- "Effect of Vertical Ground Motions on Shear Demand and Capacity in Bridge Columns," Caltrans/UC-Davis, 03/2009-09/2011, $256,201; PI.
- "Analysis of the Seismic Performance of Substation Post Insulators," CIEE, 10/2008-02/2012, $349,997; PI.
- "Seismic Study of Structural Insulated Panel System, Connections & Materials," LBNL, 02/2007-08/2012, $60,460; PI.
- "NEESR-GC: Mitigation of the Collapse Risk in Vulnerable Concrete Buildings," NSF-PEER, 12/2006-11/2011, $3,600,000; Co-PI.
- "Development of Accessible Hinge Details for Box-Girder Bridges," Caltrans, 07/2006-12/2009, $296,162; PI.
- "National Student Leadership Conference (NSLC): Overview of Earthquake Engineering for High School Students," NSLC, 05/2006-08/2006, $3,600; PI.
- "Seismic Vulnerability and Retrofit of Wood Houses Over Garages," NBC, 03/2006-08/2006, $90,000; PI.
- "Modeling Progressive Collapse of RC Structural Systems," NSF-PEER, 10/2003-05/2007, $180,000; PI.
- "Life Sciences Test-Bed Simulation," NSF-PEER, 10/2001-09/2003, $145,000; PI.
- "Hybrid On-Line Experiments and Monitoring of Structural Systems," NSF, 09/2001-02/2006, $314,552; PI.
- "Innovative Rehabilitation and Computational Modeling of Monumental Structures Using Polymer Composite Systems," Hellman fund & Sika Corporation, 07/2001-06/2002, $35,000; PI.
- "NEES-Reconfigurable Reaction Wall-Based Earthquake Simulator," NSF, 10/2000-09/2004, $4,671,000; Co-PI.
- "Seismic Evaluation of Asymmetric Multi-Story Wood Buildings," FEMA, 05/2000-05/2002, $471,200; PI.
- "Performance-Based Design for Optimal Reinforcement of Concrete Structures Using Stochastic Finite Element Analysis," COR-UCB, 07/1999-06/2000, $9,000; PI.
- "Towards the Development of Guidelines for Robust Designs of RC Structures for Blast Loading," COR-UCB, 07/1999-06/2000, $1,000; PI.
- "Interpretation of Bridge Earthquake Records and Development of Refined Design Procedure for Estimating the Vibration Characteristics of Bridges," CSMIP, 06/1999-11/2000, $75,015; PI.
- "Seismic Evaluation of Perforated Waffle Slab Systems for High Technological Industrial Facilities," Intel Corporation, 06/1999-07/2000, $300,000; PI.

- "Towards an Optimization Scheme for Steel Reinforcement in Concrete Infill Panels Using Nonlinear Finite Element Solution," COR-UCB, 07/1998 - 06/1999, $5,650; PI.
- "Fragility Models for R/C Structures," NSF-PEER, 05/1998-09/2001, $123,000; Co-PI.
- "Experimental and Computational Evaluation of RC Bridge Beam-Column Connections for Seismic Performance," Caltrans, 11/1997 - 06/2000, $656,095; Co-PI.
- "Fracture in Concrete Structures Using Adaptive Re-Meshing," COR-UCB, 11/1997 - 06/1998, $1,000; PI.

**SELF-NARRATIVE & PUBLICATIONS**

Mosalam joined UC-Berkeley's CEE department in July 1, 1997 after one-year lecturer position in Structural Engineering, CEE, Cornell University. Mosalam obtained his BS and MS from Cairo University and his PhD from Cornell University in Structural Engineering. Mosalam is currently the Taisei Professor of Civil Engineering and the Pacific Earthquake Engineering Research (PEER) Center Director. He conducts research on the performance and health monitoring of structures. He is active in areas of assessment and rehabilitation of essential facilities, e.g. bridges and electrical substations, and in research related to resiliency and sustainability of structures. His research covers large-scale computation and experimentation including hybrid simulations. He is the recipient of 2006 ASCE Huber civil engineering research prize, 2013 UC-Berkeley chancellor award for public services, and 2015 EERI outstanding paper award in Earthquake Spectra. He was a visiting professor at Kyoto University, Japan, METU, Turkey, and NTU, Singapore. He was a High-end Expert in Tongji University and is a core-PI for "Internet of Things & Societal Cyber Physical System Lab," a part of the Tsinghua-Berkeley Shenzhen Institute.

Mosalam Teaches courses related to Finite Element Methods, Dynamics of Structures, Prestressed Concrete Structures, Experimental Methods in Structural Engineering, Design of Reinforced Concrete Structures, Structural Engineering, Behavior of Reinforced Concrete, Structural Analysis: Theory and Applications, Advanced Topics in CEE: Applications of Nonlinear Finite Element Methods, and Dynamics of Structures.

Mosalam has contributed more than **300** publications between journal papers (**98** articles), book chapters, technical reports and conference papers. In the following lists, **bold names** indicate student advisees.

***I. Refereed Publications***

**I.A. Journal Articles** [As listed on "*web of science*" as of July 17, 2018 – except those underlined]:

1. Mosalam, Khalid M., Modeling of the nonlinear seismic behavior of gravity load designed frames, EARTHQUAKE SPECTRA, Volume: 12, Issue: 3, Pages: 479-492, Published: 1996. http://earthquakespectra.org/doi/10.1193/1.1585894?code=eeri-site
2. Mosalam, Khalid M.; Ayala, Gustavo; White, Richard N.; Roth, Christopher, Seismic fragility of LRC frames with and without masonry infill walls, JOURNAL OF EARTHQUAKE ENGINEERING, Volume: 1, Issue: 4, Pages: 693-720, Published: 1997. https://www.worldscientific.com/doi/abs/10.1142/S1363246997000271
3. Mosalam, Khalid M.; Paulino, Glaucio H., Evolutionary characteristic length method for smeared cracking finite element models, FINITE ELEMENTS IN ANALYSIS & DESIGN, Volume: 27, Issue: 1, Pages: 99-108, Published: SEP 1997. https://doi.org/10.1016/S0168-874X(97)00007-3
4. Mosalam, Khalid M.; White, Richard N.; Gergely, Peter, Static response of infilled frames using quasi-static experimentation, JOURNAL OF STRUCTURAL ENGINEERING - ASCE, Volume: 123, Issue: 11, Pages: 1462-1469, Published: NOV 1997. https://doi.org/10.1061/(ASCE)0733-9445(1997)123:11(1462)
5. Mosalam, Khalid M.; White, Richard N.; Ayala, Gustavo, Response of infilled frames using pseudo-dynamic experimentation, EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS, Volume: 27, Issue: 6, Pages: 589-608, Published: JUN 1998. https://doi.org/10.1002/(SICI)1096-9845(199806)27:6<589::AID-EQE744>3.0.CO;2-K
6. Tabatabai, Seyed Mohammad R.; Mosalam, Khalid M., Computational platform for non-linear analysis/optimal design of reinforced concrete structures, ENGINEERING COMPUTATIONS, Volume: 18, Issue: 5-6, Pages: 726-743, Published: 2001. https://doi.org/10.1108/EUM0000000005785
7. Mosalam, Khalid M.; Mosallam, Ayman S., Nonlinear transient analysis of reinforced concrete slabs subjected to blast loading and retrofitted with CFRP composites, COMPOSITES PART B-ENGINEERING, Volume: 32, Issue: 8, Pages: 623-636, Published: 2001. https://doi.org/10.1016/S1359-8368(01)00044-0
8. Gliniorz, Kai-Uwe; Mosalam, Khalid M.; Natterer, Julius, Modeling of layered timber beams and ribbed shell frameworks, COMPOSITES PART B-ENGINEERING, Volume: 33, Issue: 5, Pages: 367-381, Article Number: PII S1359-8368(02)00020-3, Published: 2002. https://doi.org/10.1016/S1359-8368(02)00020-3

9. **Naito, Clay J.**; Moehle, Jack P.; Mosalam, Khalid M., Evaluation of bridge beam-column joints under simulated seismic loading, ACI STRUCTURAL JOURNAL, Volume: 99, Issue: 1, Pages: 62-71, Published: JAN-FEB 2002. https://www.concrete.org/publications/internationalconcreteabstractsportal.aspx?m=details&ID=11036
10. Mosalam, Khalid M.; **Naito, Clay J.**, Seismic evaluation of gravity-load-designed column-grid system, JOURNAL OF STRUCTURAL ENGINEERING - ASCE, Volume: 128, Issue: 2, Pages: 160-168, Published: FEB 2002. https://doi.org/10.1061/(ASCE)0733-9445(2002)128:2(160)
11. **Gardoni, Paolo**; Kiureghian, Armen D.; Mosalam, Khalid M., Probabilistic capacity models and fragility estimates for reinforced concrete columns based on experimental observations, JOURNAL OF ENGINEERING MECHANICS - ASCE, Volume: 128, Issue: 10, Pages: 1024-1038, Published: OCT 2002. https://doi.org/10.1061/(ASCE)0733-9399(2002)128:10(1024)
12. Mosalam, Khalid M.; **Naito, Clay J.**; **Khaykina, Svetlana**, Bidirectional cyclic performance of reinforced concrete bridge column-superstructure subassemblies, EARTHQUAKE SPECTRA, Volume: 18, Issue: 4, Pages: 663-687, Published: NOV 2002. https://doi.org/10.1193/1.1516751
13. **Gardoni, Paolo**; Mosalam, Khalid M.; Kiureghian, Armen D., Probabilistic seismic demand models and fragility estimates for RC bridges, JOURNAL OF EARTHQUAKE ENGINEERING, Volume: 7, Special Issue: S1, Pages: 79-106, Published: 2003. https://doi.org/10.1080/13632460309350474
14. **Sezen, Halil**; Whittaker, Andrew S.; **Elwood, Kenneth J.**; Mosalam, Khalid M., Performance of reinforced concrete buildings during the August 17, 1999 Kocaeli, Turkey earthquake, and seismic design and construction practice in Turkey, ENGINEERING STRUCTURES, Volume: 25, Issue: 1, Pages: 103-114, Article Number: PII S0141-0296(02)00121-9, Published: JAN 2003. https://doi.org/10.1016/S0141-0296(02)00121-9
15. Mosallam, Ayman S.; Mosalam, Khalid M., Strengthening of two-way concrete slabs with FRP composite laminates, CONSTRUCTION & BUILDING MATERIALS, Volume: 17, Issue: 1, Pages: 43-54, Article Number: PII S0950-0618(02)00092-2, Published: FEB 2003. https://doi.org/10.1016/S0950-0618(02)00092-2
16. **Arici, Yalin**; Mosalam, Khalid M., System identification of instrumented bridge systems, EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS, Volume: 32, Issue: 7, Pages: 999-1020, Published: JUN 2003. https://doi.org/10.1002/eqe.259
17. Mosalam, Khalid M.; Mahin, Stephen A.; Rojansky, Michael, Evaluation of seismic performance and retrofit of lightweight reinforced concrete shearwalls, ACI STRUCTURAL JOURNAL, Volume: 100, Issue: 6, Pages: 693-703, Published: NOV-DEC 2003. https://www.concrete.org/publications/internationalconcreteabstractsportal.aspx?m=details&ID=12835
18. **Lee, Tae-Hyung**; Mosalam, Khalid M., Probabilistic fiber element modeling of reinforced concrete structures, COMPUTERS & STRUCTURES, Volume: 82, Issue: 27, Pages: 2285-2299, Published: OCT 2004. https://doi.org/10.1016/j.compstruc.2004.05.013
19. Marino, Eduardo M.; Nakashima, Masayoshi; Mosalam, Khalid M., Comparison of European and Japanese seismic design of steel building structures, ENGINEERING STRUCTURES, Volume: 27, Issue: 6, Pages: 827-840, Published: MAY 2005. https://doi.org/10.1016/j.engstruct.2005.01.004
20. **Arici, Yalin**; Mosalam, Khalid M., Modal identification of bridge systems using state-space methods, STRUCTURAL CONTROL & HEALTH MONITORING, Volume: 12, Issue: 3-4, Pages: 381-404, Published: JUL-DEC 2005. https://doi.org/10.1002/stc.76
21. **Arici, Yalin**; Mosalam, Khalid M., Statistical significance of modal parameters of bridge systems identified from strong motion data, EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS, Volume: 34, Issue: 10, Pages: 1323-1341, Published: AUG 2005. https://doi.org/10.1002/eqe.482
22. **Lee, Tae-Hyung**; Mosalam, Khalid M., Seismic demand sensitivity of reinforced concrete shear-wall building using FOSM method, EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS, Volume: 34, Issue: 14, Pages: 1719-1736, Published: NOV 2005. https://doi.org/10.1002/eqe.506
23. Beall, Frank C.; **Li, Jian**; Breiner, Thomas A.; **Wai, James**; **Machado, Carlos**; Oberdorfer, Greg; Mosalam, Khalid, Small-scale rack testing of wood-frame shear walls, WOOD & FIBER SCIENCE, Volume: 38, Issue: 2, Pages: 300-313, Published: APR 2006. https://wfs.swst.org/index.php/wfs/article/view/1553
24. **Pan, Peng**; Tomofuji, Hiroshi; Wang, Tao; Nakashima, Masayoshi; Ohsaki, Makoto; Mosalam, Khalid M., Development of peer-to-peer (P2P) internet online hybrid test system, EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS, Volume: 35, Issue: 7, Pages: 867-890, Published: JUN 2006. https://doi.org/10.1002/eqe.561
25. **Hashemi, Alidad**; Mosalam, Khalid M., Shake-table experiment on reinforced concrete structure containing masonry infill wall, EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS, Volume: 35, Issue: 14, Pages: 1827-1852, Published: NOV 2006. https://doi.org/10.1002/eqe.612

26. Binici, Baris; Mosalam, Khalid M., Analysis of reinforced concrete columns retrofitted with fiber reinforced polymer lamina, COMPOSITES PART B-ENGINEERING, Volume: 38, Issue: 2, Pages: 265-276, Published: 2007. https://doi.org/10.1016/j.compositesb.2006.01.006
27. Mosalam, Khalid M.; **Talaat, Mohamed**; Binici, Baris, A computational model for reinforced concrete members confined with fiber reinforced polymer lamina: Implementation and experimental validation, COMPOSITES PART B-ENGINEERING, Volume: 38, Issue: 5-6, Pages: 598-613, Published: 2007. https://doi.org/10.1016/j.compositesb.2006.07.018
28. **Zhou, Feng**; Mosalam, Khalid M.; Nakashima, Masayoshi, Finite-element analysis of a composite frame under large lateral cyclic loading, JOURNAL OF STRUCTURAL ENGINEERING - ASCE, Volume: 133, Issue: 7, Pages: 1018-1026, Published: JUL 2007. https://doi.org/10.1061/(ASCE)0733-9445(2007)133:7(1018)
29. **Elkhoraibi, Tarek**; Mosalam, Khalid M., Towards error-free hybrid simulation using mixed variables, EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS, Volume: 36, Issue: 11, Pages: 1497-1522, Published: SEP 2007. https://doi.org/10.1002/eqe.691
30. Mosalam, Khalid M.; Mahin, Stephen A., Seismic evaluation and retrofit of asymmetric multi-story wood-frame building, JOURNAL OF EARTHQUAKE ENGINEERING, Volume: 11, Issue: 6, Pages: 968-986, Published: NOV 2007. https://doi.org/10.1080/13632460601188019
31. **Talaat, Mohamed**; Mosalam, Khalid M., Modeling progressive collapse in reinforced concrete buildings using direct element removal, EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS, Volume: 38, Issue: 5, Pages: 609-634, Published: APR 2009. https://doi.org/10.1002/eqe.898
32. Mosalam, Khalid M.; **Arici, Yalin**, Health monitoring of a bridge system using strong motion data, SMART STRUCTURES & SYSTEMS, Volume: 5, Issue: 4, Pages: 427-442, Published: JUL 2009. http://techno-press.org/content/?page=article&journal=sss&volume=5&num=4&ordernum=9
33. Mosalam, Khalid M.; Takhirov, Shakhzod M.; **Hashemi, Alidad**, Seismic evaluation of 1940s asymmetric wood-frame building using conventional measurements and high-definition laser scanning, EARTHQUAKE ENGINEERING & STRUCTURAL DYNAMICS, Volume: 38, Issue: 10, Pages: 1175-1197, Published: AUG 2009. https://doi.org/10.1002/eqe.888
34. **Lee, Tae-Hyung**; Mosalam, Khalid M., Identifying significant components of structures for seismic performance using FOSM method, JOURNAL OF THE EARTHQUAKE ENGINEERING SOCIETY OF KOREA, Volume: 13, Issue: 4, Pages: 37-45, Published: AUG 2009 (in Korean). https://www.researchgate.net/publication/250393806_Identifying_Significant_Components_of_Structures_for_Seismic_Performance_Using_FOSM_Method
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**INVITED PRESENTATIONS (in addition to papers presented at conferences)**

- Seismic evaluation and rehabilitation of concrete buildings, NCEER Workshop: US-Italian Workshop on Seismic Evaluation and Retrofit, Columbia University, NY, Dec. 12-13, 1996.
- Component fragility analysis using stochastic nonlinear fiber element model for reinforced concrete structures, First China-USA-Japan Workshop on Civil Infrastructures System, Shanghai, China, Nov. 4-6, 1998.
- Performance of reinforced concrete bridge joints subjected to bi-directional loading, 15th US-Japan Bridge Engineering Workshop, PWRI, Japan, Nov. 9-10, 1999.
- Seismic response of reinforced concrete components and systems: Experimental and computational approaches, Structural Engineering Seminar, University of Illinois at Urbana-Champaign, Dec. 6, 1999.
- Seismic response of concrete box-girder bridge subassemblies with traditional and headed reinforcement, Bridge Engineering Conference, Sharm El-Sheikh, Egypt, March 26-30, 2000.
- Seismic evaluation of waffle slab systems for industrial facility, 2nd US-Japan Workshop on Performance-Based Engineering for Reinforced Concrete Building Structures, Sapporo, Hokkaido, Japan, Sept. 11-13, 2000.
- Modal response of instrumented bridges in California, 18th US-Japan Bridge Engineering Workshop, St. Louis, Missouri, USA, Oct. 22-24, 2002.
- Reinforced concrete bridge beam-column joints: Experiments, computations, and design, Structural Engineering Seminar, University of Illinois at Urbana- Champaign, Oct. 6, 2003; and The University of Tokyo, Tokyo, Japan, Oct. 26, 2004.

- Large-scale shake-table experimentation on irregular multi-story wood-frame building, **Keynote lecture**, XIV Mexican National Congress on Earthquake Engineering, Guanajuato-Leon, Mexico, Nov. 19-22, 2003.
- Overview of research activities on seismic performance of structural systems at UC-Berkeley, Disaster Prevention Research Institute, Kyoto University, Kyoto, Japan, August 19, 2004.
- Retrofit of seismically vulnerable buildings in Egypt, International symposium on earthquake engineering commemorating tenth anniversary of the 1995 Kobe earthquake, Awaji, Kobe, Japan, Jan. 14, 2005.
- Recent research on masonry structures at UC-Berkeley, International workshop on building codes for traditional materials in Morocco, Ecole Nationale d'Architecture, Rabat, Morocco, May 10, 2005.
- Shake-table experiment on one-story RC structure with and without masonry infill, International Workshop on "Advances in Earthquake Engineering for Urban Risk Reduction," Istanbul, Turkey, May 30, 2005.
- Hybrid simulations on "hybrid" structural systems in nees@berkeley, Structural Engineering Seminar, Middle East Technical University, Ankara, Turkey, July 6, 2005.
- Progressive collapse modeling of reinforced concrete framed structures containing masonry infill walls, NEES/E-Defense Workshop on Collapse Simulation of Reinforced Concrete Building Structures, Kobe, Japan, Oct. 30, 2006.
- Computational model for FRP-confined RC members, International Symposium on Fiber Reinforced Polymer Reinforcement for Concrete Structures, University of Patras, Patras, Greece, July, 2007.
- Seismic research activities in developing countries: Morocco and Pakistan, Seminar to an Azerbaijani Delegation, PEER, April 15, 2008.
- Observations after 5/12/2008 Wenchuan earthquake based on field reconnaissance from 7/4/2008 to 7/7/2008, Wenchuan Earthquake Seminar, San Francisco, August 18, 2008.
- Seismic evaluation of structural insulated panels, International Engineering and Construction Conference, **Invited Paper**, Irvine, California, August, 2008. Also presented in American Society of Civil Engineers Architectural Engineering Institute's Annual Conference (ASCE-AEI), Denver, Colorado, Sept. 25, 2008.
- Seismic evaluation of wood house over garage, 14th World Conference on Earthquake Engineering, Beijing, China, Oct., 2008.
- Modeling progressive collapse in reinforced concrete framed structures, 14th World Conference on Earthquake Engineering, Beijing, China, Oct., 2008.
- Seismic evaluation of reinforced concrete frames with masonry infill walls: Experiments, observations, and simulations, **Keynote Lecture**, 11th Canadian Masonry Symposium, Toronto, Ontario, June 1, 2009.
- Modeling of unreinforced masonry infill walls considering in-plane and out-of-plane interaction, 11th Canadian Masonry Symposium, Toronto, Ontario, June 2, 2009.
- Observations and lessons learned from recent earthquakes related to reinforced concrete frames with and without masonry infill walls, Structural Engineering Association Of Northern California (SEAONC) Summer Seminar, June 17, 2009.
- Research activities on seismically-deficient RC frames with URM infill walls, **Keynote Lecture**, Kathmandu Workshop, Nepal, July 12, 2010.
- Seismic performance of substation post insulators, Structures Seminar, Tongji University, Shanghai, China, July 26, 2010.
- Mitigation of collapse risk in older concrete buildings with emphasis on behavior and modeling of corner beam-column joints, Structures Seminar, Tongji University, Shanghai, China, July 27, 2010.
- Modeling older-type reinforced concrete corner beam-column joints for progressive collapse simulation, Structures Seminar, Civil Engineering, Johns Hopkins University, Sept. 29, 2010.
- Collaboration between nees@berkeley and Civil Engineering, Tongji University, Tongji-Berkeley Alliance Conference, Tongji University, Shanghai, China, May 28-June 2, 2011.
- Modeling non-ductile reinforced concrete beam-column joints for progressive collapse simulation, Tongji University, Tongji-Berkeley Alliance Conference, Tongji University, Shanghai, China, May 28-June 2, 2011.
- Earthen structures: What engineers can do to save them? **Keynote Lecture**, Rabat Workshop, Morocco, June 27-28, 2011.
- Shaking table experiments and modeling of reinforced concrete bridge columns: Vertical acceleration, FRP repair, and size effect, **Keynote Lecture**, 4$^{th}$ Kwang-Hua Forum & Opening Symposium of Tongji Shaking Table Array, Shanghai, China, Dec. 10-12, 2011.
- Thrust 5: Materials, design and lifecycle, SinBerBEST Inaugural Workshop, Singapore, Jan. 11-13, 2012.
- Thrust 6: Cyber/physical testbeds, SinBerBEST Inaugural Workshop, Singapore, Jan. 11-13, 2012.
- Applications of 3D FEM in structural design and earthquake engineering, TNO DIANA US Seminar: Numerical analysis in earthquake engineering, University of California, Berkeley, May 22, 2012.

- Seismic performance of substation insulator posts for vertical–break disconnect switches, Quake Summit 2012, Boston, MA, July 11-12, 2012.
- Overview of nees@berkeley and hybrid simulation of substation equipment [Demo.], 3rd Workshop on China-USA Collaboration for Disaster Evolution/Resilience of Civil Infrastructure and Urban Environment, Richmond Field Station, University of California, Berkeley, August 13-14, 2012.
- Performance-based engineering approach to the best decision for energy–efficient and sustainable building design, First International Conference on Performance-based and Life-cycle Structural Engineering (PLSE 2012), **Invited Lecture**, Hong Kong, China, Dec. 5-7, 2012.
- Anidolic day-light concentrator in structural building envelope, First Annual International Conference on Architecture and Civil Engineering (ACE 2013), Singapore, March 18-19, 2013.
- Singapore-Berkeley building efficiency and sustainability in the tropics, Research Institute for Sustainable Urban Development (RISUD), Inauguration Ceremony and Seminar, Hong Kong, China, June 14, 2013.
- Decision–making for energy–efficient building design with emphasis on building envelope for daylight capture, **Invited Lecture**, RISUD International Workshop on Building Energy Efficiency, The Hong Kong Polytechnic University, Hong Kong, China, June 15, 2013.
- Overview of SinBerBEST's R&D collaboration, **Keynote Lecture**, Urban Sustainability R&D Congress 2013, June 27-28, 2013, Biopolis, Matrix Building, Singapore. Also, member of the **Closing Plenary Session on Perspectives and Insights from the Congress**.
- Progressive collapse simulation of vulnerable reinforced concrete buildings, **Keynote Lecture**, International Conference on Multi-Hazard Approaches to Civil Infrastructure Engineering (ICMAE), Chicago, IL, June 26-27, 2014; **Civil Engineering Seminar**, Tongji University, Shanghai, China, Dec. 14, 2015; and **Seminar**, Civil and Environmental Engineering, National University of Singapore, Singapore, Singapore, Jan. 11, 2016.
- Theoretical evaluation of hybrid simulation for classical problems in continuum mechanics, Tenth National Conference on Earthquake Engineering, Frontiers of Earthquake Engineering, Quake Summit 2014, Anchorage, Alaska, USA, July 21-25, 2014.
- Seismic response of bridges considering different ground motion selection methods, Istanbul Bridge Conference, Istanbul, Turkey, August 11-13, 2014.
- Seismic experimental evaluation of glass curtain wall with shaking table based on floor capacity demand spectrum, **Keynote Lecture**, ITU-ISTKA Project, Large-scale and/or on-site structural testing for seismic performance assessment, Closing Workshop, Istanbul, Turkey, Oct. 20, 2014.
- Laser scanning, modeling, and analysis for damage assessment and restoration of historical structures, Workshop on Seismicity of Historical Structures, **Keynote Lecture**, Istanbul, Turkey, Nov. 3-5, 2014.
- Recent advances in hybrid simulations: Applications to continuum structures, energy infrastructure and building envelopes, FAPESP Week CALIFORNIA, Berkeley, CITRIS, Berkeley, CA, Nov. 17-21, 2014.
- Preeminence in CEE: An interdisciplinary field of depth and breadth embodied by hybrid simulation developments & applications, CEE, UIUC, Vision and research talk, Dec. 8, 2014.
- Structural behavior of bent cap beams in as-built and retrofitted RC box-girder bridges, **Keynote Lecture**, 6$^{th}$ Kwang-Hua Forum on Innovations and Implementations in Earthquake Engineering Research, Shanghai, China, Dec. 12-14, 2014.
- Recent developments, applications and new horizons in hybrid simulation, Structural Engineering Seminar, Georgia Tech, Atlanta, GA, March 23, 2015; **High End Expert Lecture**, Tongji University, Shanghai, China, June 3, 2015; **CEE Distinguished Lecture**, Western University, London, Ontario, Canada, Nov. 5, 2015; **Keynote Lecture**, Hybrid 2020: State-of-the-art and future directions for hybrid modelling and simulation ETH, Zürich, Switzerland, June 1, 2016; **Seminar**, Universitat Politècnica de Catalunya, Departament d'Enginyeria de la Construcció (Polytechnic University of Catalonia, Department of Construction Engineering), CIMNE, Room O.C. Zienkiewicz, Barcelona, Spain, July 12, 2016; **Seminar**, Tsinghua Berkeley Shenzhen Institute (TBSI) Seminar, Shenzhen, Dec. 6, 2016; and **Keynote Lecture**, International Symposium on Advances in Structural Eng., Nanjing Tech Univ., Nanjing, China, Dec. 12, 2016.
- Techniques for determination of vulnerable reinforced concrete buildings and as-found geometry of historical structures, Eighth National Conference on Earthquake Engineering, **Keynote Lecture**, Istanbul, Turkey, May 11-14, 2015.
- Benefiting from latest academic trends for international & interdisciplinary academic research, **Technical Salon Presentation**, Tongji University, Shanghai, China, Dec. 12, 2015.
- Mission of PEER and collaboration within ILEE, Presentation to ILEE Review Panel, Tongji University, Shanghai, China, Dec. 14, 2015.

- Seismic design of steel structures, **Class Lecture**, Tongji University, Shanghai, China, Dec. 15, 2015.
- Investigation of reinforced concrete buildings with various collapse modes under extreme loads, **Keynote Lecture**, 2015-EXTREME International Colloquium on Engineering Structures for Extreme Loads, Nanjing, China, Dec. 20, 2015.
- Mission and major research components of the Pacific Earthquake Engineering Research (PEER) center, **Civil Engineering Seminar**, Tongji University, Shanghai, China, Dec. 14, 2015; Suzhou University of Science and Technology, Suzhou, China, Dec. 22, 2015; Tsinghua University, Beijing, China, Dec. 28, 2015; Institute of Catastrophe Risk Management (ICRM), Nanyang Technological University, Singapore, Jan. 11, 2016; **Open Discussion** Forum on GADRI Projects and Activities, Disaster Prevention Research Institute (DPRI), Kyoto University, Uji Campus, Collaborative Research Hub – Conference Room 301, Kyoto, Japan, March 23, 2016; **Keynote Lecture**, International Top-level Forum on Engineering Science and Technology Development Strategy, Innovation and Development of Structures & Structural Modal Properties Measurement and Applications, ***IDS STRUMO***, Chongqing, China, May 16, 2016; **Keynote Lecture**, 2016 SEEBUS – Engineering Challenges by Near-Fault Earthquakes, South Laboratory of National Center for Research on Earthquake Engineering, Tainan, Taiwan, Dec. 2, 2016; **Civil Engineering Seminar**, Shenzhen University, Shenzhen, China, July 28, 2017; and Sichuan University, Chengdu, China, July 13, 2018.
- RTHS application in wind engineering, Seminar, Disaster Prevention of Electrical Power System, Tongji Univ., China, Dec. 24, 2015.
- Material, design and lifecycle, 2016 SinBerBEST Annual Symposium Presentation, Singapore, Jan. 12, 2016.
- Cyber/Physical Testbeds, 2016 SinBerBEST Annual Symposium Presentation, Singapore, Jan. 12, 2016.
- Latest trends for international and interdisciplinary research, **Engineering Education Group Salon**, Tongji University, Shanghai, China, May 23, 2016.
- Simulation of earthquake-induced progressive collapse of reinforced concrete buildings and consequences on neighboring buildings, *XIX Mexican National Congress on Earthquake Engineering*, **Keynote Lecture**, Guanajuato-Leon, Mexico, July 1, 2016.
- Hazard analysis: Seismologists building the foundation for performance-based earthquake engineering, USGS Earthquake Science Center (ESC) Seminar, Menlo Park, California, USA, July 20, 2016.
- Welcome & objectives of the forum, Pacific Rim Forum on the Earthquake Resilience of Nuclear Facilities, UC Berkeley, Jan. 23-24, 2017.
- Shaking Table Tests of the Cable Tray System in Nuclear Power Plants, Pacific Rim Forum on the Earthquake Resilience of Nuclear Facilities, UC Berkeley, Jan. 23-24, 2017.
- Pacific Earthquake Engineering Research (PEER) center, Structural Engineering Seminar, UC-Davis, April 10, 2017.
- Efficient analytical and hybrid simulations using OpenSees, **Keynote Lecture**, OpenSees Days Europe: First European Conference on OpenSees, Porto, Portugal, June 19-20, 2017.
- Agile design of the building envelope for energy efficiency and human comfort, SinBerBEST2 Inaugural Workshop, Singapore, Aug. 2-3, 2017.
- High performance computing perspectives of PEER, Berkeley-PEER HPC Workshop, Berkeley, Sept. 28-29, 2017.
- Evaluation of a curtain wall system using performance-based earthquake engineering, Workshop on Performance-based Seismic Design of Structures, Resilience, Robustness, Tongji Univ., Shanghai, China, Oct. 12-15, 2017.
- Big data revolution: Machine learning & data-driven structural health monitoring, **Tencent Seminar**, Tsinghua Berkeley Shenzhen Institute (TBSI), Shenzhen, China, Dec. 25, 2017.
- Machine learning & data-driven structural health monitoring, **Tsinghua-Berkeley Shenzhen Institute Distinguished Faculty Seminar Series**, Tsinghua University, Beijing, China, Jan. 5, 2018.
- Welcome & PEER overview, 2018 PEER Annual meeting "PEER at 21: The Practice of Performance-Based Engineering for Natural Hazards," UC Berkeley, Jan. 18-19, 2018.
- Closure, wrap up & 2017 PEER blind prediction contest, 2018 PEER Annual meeting "PEER at 21: The Practice of Performance-Based Engineering for Natural Hazards," UC Berkeley, Jan. 18-19, 2018.
- Advances in earthquake engineering: Prevention and prediction, PEER – France Delegation Meeting, UC Berkeley, Feb. 14, 2018.
- Hybrid simulation: Past and future, PEER-MTS workshop on "Hybrid Simulation Technologies & Methods for Civil Engineering," http://www.mts.com/events/berkeley/, UC-Berkeley, Richmond, CA, 20-21 March 2018. Also presented in Swinburne-MTS workshop on "Hybrid Simulation Technologies & Methods for Engineering Applications," http://www.mts.com/events/swinburne/, Swinburne University of Technology, Melbourne , Australia, 6 July 2018.
- PEER at 21, PEER-MTS workshop, UC-Berkeley, 20-21 March 2018.

- PEER at 21: The practice of performance-based engineering for natural hazards, GADRI 2nd Open Discussion Forum, Kyoto, Japan, March 15, 2018.
- Multicriteria lifecycle analyses for sustainable and resilient building design, 6th International Symposium on Reliability Engineering and Risk Management, May 31-Jun 01, 2018, NUS, Singapore.
- New Directions in Structural Health Monitoring, **Invited Speaker**, RISUD Annual International Symposium (RAIS) 2018 – Inter-disciplinary Research for Societal Impact, June 30, 2018, 5th Cross-Strait Forum on Sustainable Urban Development, PolyU, Hong Kong. Also presented as a Structural Engineering Seminar, Chongqing Univ., July 12, 2018, Chongqing, China.

**SHORT COURSES AND WORKSHOPS**

- Concrete behavior and constitutive modeling, 10-weeks course, Middle East Technical University (METU), Ankara, Turkey, Feb-April, 2005.
- Seismic retrofit of RC beam-column joints using FRP, 2-hours short course, FIB short course on seismic retrofitting of concrete buildings with externally-bonded FRP materials, Ankara, Turkey, June, 24, 2005, and Istanbul, Turkey, June, 27, 2005.
- Overview of earthquake engineering for high school students, 2-days short course, National Student Leadership Conference (NSLC), University of California, Berkeley, 19-27 June 2006.
- Theory and application of nonlinear analysis, 3-hours short course, Pakistan- GeoHazard International (GHI) Project Workshop, Stanford University, 28 Oct. 2008.
- nees@berkeley 9th Hybrid Simulation Workshop, University of California, Berkeley, 24-25 Feb. 2011.
- Seismic vulnerabilities and deficiencies – Assessment and mitigation, Short Course, Rabat Workshop, Morocco, 27-28 June 2011.
- TNO DIANA US Seminar: Numerical analysis in earthquake engineering, 2-hours short course, University of California, Berkeley, May 22, 2012.
- Workshop on fragility of electrical equipment and components: Application of hybrid simulation in engineering practice, University of California, Berkeley, June 20–21, 2012.
- Real-time hybrid simulation and monitoring techniques, nees@berkeley 10th Hybrid Simulation Workshop, University of California, Berkeley, 28-29 June 2012.
- Finite element methods, 6-weeks course, NTU, Singapore, Aug.-Sept. 2012.
- Concrete behavior and constitutive modeling, 3-weeks course, NTU, Singapore, Nov. 2012.
- Structural dynamics and earthquake engineering, 6-weeks course, NTU, Singapore, Feb.-March 2013.
- Real-time hybrid simulation and monitoring techniques, nees@berkeley 10th Hybrid Simulation Workshop, University of California, Berkeley, 28-29 June 2012.
- 3rd Workshop on China-US Collaboration for Disaster Evolution/Resilience of Civil Infrastructure and Urban Environment, University of California, Berkeley, Aug. 13-14, 2012.
- Mini-Symposium (1-day short course) on Hybrid Simulation: Theory and Applications, Minho University, Guimarães, Portugal, October 2, 2012.
- A 2-day short course on Probabilistic Performance-based Earthquake Engineering, Minho University, Guimarães, Portugal, Oct. 3-4, 2012.
- A 2-day short course on Hybrid Simulation: Theory and Applications, Tongji University, China, Dec. 19-20, 2013.
- A 1-day short course on Hybrid Simulation: Theory and Applications, NTU, Singapore, Jan. 2014.
- Ten successful years of research within nees@berkeley, University of California, Berkeley, May 27-28, 2014.
- Real Time Hybrid Simulation of Interconnected Equipment as a New Approach for Product and Standard Development, Berkeley, Oct. 28, 2014.
- A 1-day course on Probabilistic Performance-based Earthquake Engineering, Santiago, Chile, December 16, 2014.
- A 2-day short course on Experimental Methods in Structural Engineering, Tongji University, China, June 4-5, 2015.
- A 2-day short course on Probabilistic Performance-based Earthquake Engineering, Tongji University, China, Dec. 17-18, 2015.
- A 1-day course on Probabilistic Performance-based Earthquake Engineering, UNAM, Mexico City, Mexico, June 28, 2016.
- A 2-weeks course on Hybrid System Design of Smart City, TBSI, Shenzhen, China, July 6-20, 2017.
- Performance-Based Cyber-Physical Modeling for Resilient Infrastructure Systems under Extreme Events, 3-hours 100-level short course, Center 2: Data Science and Information Technology, TBSI, Shenzhen, China, Dec. 20, 2017.
- A 3-weeks course on Hybrid System Design of Smart City, TBSI, Shenzhen, China, July 4-25, 2018.

**SYNERGISTIC ACTIVITIES (*selected*)**

1. Conducting the first large-scale real-life application to demonstrate use of "Dense-Packed Wireless Sensors" for damage detection and health monitoring of wood-frame structural systems: This was conducted by instrumenting several regions of a 3-story building using 55 2D wireless MEMS accelerometers developed by Berkeley Sensor and Actuator Center (BSAC, https://www-bsac.eecs.berkeley.edu/).

2. Development of NEES reconfigurable reaction wall seismic testing facility at UCB: The goal of NEES is to provide a geographically distributed collaboration to achieve significant improvement in the ability to model seismic behavior of civil infrastructure. The testing facility at UCB is designed to support development of next generation hybrid simulations to smoothly integrate physical and numerical simulations at multiple locations using the Internet. This objective is explored in several NSF funded projects for Hybrid On-Line Experiments: Theory and Applications (http://peer.berkeley.edu/laboratories/earthquake_simulator_lab.html & https://web.archive.org/web/20150424024600/http://nees.berkeley.edu/).

3. Public awareness of the impact of earthquakes on wood houses: 1999 National Geographic Imax movie "Forces of Nature," http://www.imaxmelbourne.com.au/movie/forces_of_nature and 2006 NBC Dateline, https://engineering.berkeley.edu/sites/default/files/docs/2006Fall.pdf, to show how a pre-code San Francisco wood house built over garage and its content would collapse in a major earthquake.

4. Team co-leader for the project "Building Pakistan Capacity in Earthquake Engineering": The project involves GeoHazards International (GHI) staff, practicing engineers from the San Francisco Bay Area and Pakistan, and academicians from Stanford and UCB. It involved developing training courses to practicing engineers as well as curriculum design. Moreover, research vision and activities are formulated for improving structural design and assessment of buildings in Pakistan. This lead to the development of the framed infill network, http://framedinfill.org/, by collaborating with GHI in this USAID project to educate engineers and builders about the role of infills in the seismic response of building frames by several documents in http://framedinfill.org/resources/technical-literature/ including the chapter "Seismic Analysis and Design of Masonry-Infilled Frames," Structural and Geotechnical Engineering, Encyclopedia of Life Support Systems (EOLSS) coordinated by UNESCO-EOLSS Joint Committee.

5. Formulation of a seismic-resistance building code for energy-efficient (green) low-cost earthen houses and historical architecture in Morocco: This multi-disciplinary project involved engineers, architects, and anthropologists to develop provisions for both builders and engineers to design and construct rammed earth buildings, http://www.ce.berkeley.edu/news/615.

6. Team leader of the NSF RAPID initiative for the 2010 devastating earthquake in Haiti to explore using the laser scanning for the first time in field reconnaissance (http://research.eerc.berkeley.edu/projects/trip_earthquake_2010haiti/NSF_RAPID_Haiti_UCBerkeleyFv3.htm): This technology was successfully used by Mosalam for seismic evaluation of different structures and infrastructure, e.g. concrete ductbanks of high voltage electrical cables. This noninvasive measurement technique was essential to evaluate construction imperfection and damage of tested large-scale specimens.

7. Team co-leader for the project "Singapore-Berkeley Building Efficiency and Sustainability in the Tropics (SinBerBEST)": The project (http://sinberbest.berkeley.edu/) involves more than 30 co-PIs from different disciplines of engineering and architecture from University of California, Berkeley and Singapore (Nanyang Technological University, NTU, and Singapore National University, NUS). The project aims to provide solutions for efficient use of energy in building construction and operation in tropical climate, e.g. Singapore (http://www.ce.berkeley.edu/newsletter/824). Moreover, organized and chaired the first symposium in "Building Efficiency and Sustainability in the Tropics," Singapore, January 2013.

8. Core PI for Lab 2C: Internet of Things & Societal Cyber Physical Systems: This laboratory is part of "Data Science & Information Technology Center," one of three centers of the Tsinghua-Berkeley Shenzhen Institute, http://tbsi.berkeley.edu/. This is an on-going research and educational partnership established in 2014 by the UCB, Tsinghua University and the Shenzhen municipal government on the initiative of promoting research collaboration and graduate student education. This lab focuses on research related to the core technology of network intelligent sensor systems and sensing data platforms and analysis to build a smart home and wearable device industry alliance through cooperation in the data layer.

9. Director of the Pacific Earthquake Engineering Research (PEER) Center (http://peer.berkeley.edu/): This multi-campus research center founded in 1996 as an NSF ERC includes 11 core institutions and 6 educational affiliates. The headquarters is located at UC Berkeley, where the center also includes the UC Berkeley's 1968 founded EERC Organized Research Unit (ORU). PEER is the primary earthquake engineering research arm of the state of California. More than 200 researchers from the different institutes participate towards an integrated performance-based engineering to alleviate the negative impacts of natural hazards such as earthquakes. The researchers span areas of structural and geotechnical engineering, geology, seismology, lifelines, transportation, risk management, and public policy. The headquarters under the leadership of the director sets the strategic plans for the center and performs the day to day operations of managing several mega projects funded by NSF, CA state and other governmental and private funding agencies, including operating several laboratories for experimental research, and maintaining and developing several important software platforms, and large databases.