

PEER Projects Overview

Amarnath Kasalanati
Khalid Mosalam



PEER Researchers' Workshop, August 15, 16, 2024

TSRP Awards 2016 – 2023

| Year | Proposals Funded | | Percent | Solicited | Funded | Percent |
|--------------|------------------|-----------|------------|---------------------|--------------------|------------|
| 2016 NoRFP | 7 | 7 | - | \$577,572 | \$577,572 | - |
| 2017 PreRFP | 4 | 4 | - | \$444,703 | \$444,703 | - |
| 2017 RFP | 47 | 17 | 36% | \$ 4,801,433 | \$1,498,723 | 31% |
| 2018 RFP | 47 | 11 | 23% | \$ 5,279,057 | \$1,471,309 | 28% |
| 2019 RFP | 44 | 14 | 32% | \$ 4,953,596 | \$1,210,466 | 24% |
| 2020 RFP | 34 | 12 | 35% | \$ 1,722,841 | \$ 594,449 | 35% |
| 2021 RFP | 19 | 9 | 47% | \$ 1,434,058 | \$ 488,391 | 34% |
| 2022 RFP | 28 | 10 | 36% | \$ 2,261,555 | \$ 750,949 | 33% |
| Total | 228 | 84 | 37% | \$21,474,815 | \$7,036,562 | 33% |

64 Unique PI's

Avg per Project: \$84K

Avg per Year: \$880K

TSRP 2019



Title: A3: Fire Performance of Steel-Frame Buildings using OpenSees
PI: Erica Fisher, OSU



Title: A3: Leveraging Leading Indicators for Wildfire Risk Reduction
PI: Rune Storesund, UC Berkeley
Co-PIs: Karlene Roberts, UC Berkeley



Title: M1: Probabilistic Simulation-Based Evaluation of the Effect of Near-Field Spatially Varying Ground Motions on Distributed Infrastructure Systems
PI: Floriana Petrone, UNR, Co-PIs: Norm Abrahamson, UC Berkeley; David McCallen, UNR



Title: M2: A Pacific Rim Forum on Regional-Scale Simulations of Earthquake Ground Motions and Infrastructure Response for PBEE of Transportation Systems, **PI:** David McCallen, UNR, Co-PIs: Norm Abrahamson, UC Berkeley; Floriana Petrone, UNR



Title: S1, T2, T5: Fracture of Deficient Steel Details in Pre-Northridge Transportation Infrastructure Structures
PI: Amit Kanvinde, UC Davis
Collaborators: James Malley and Robert Pekelnicky, Degenkolb



Title: S2: Ground Improvement-Based Protection of Transportation Infrastructure: Validation of PBE via Centrifuge and Numerical Modeling
PI: Tara Hutchinson, UC San Diego, Co-PI: John McCartney, UC San Diego



Title: S3: Performance Based Economic Loss Assessment Due to a Hypothetical Large Southern Earthquake based on the Disruption and Recovery of Port of Los Angeles Freight Traffic
PI: Ertugrul Taciroglu, UC Los Angeles, Co-PI: Kenichi Soga, UC Berkeley



Title: T1, T2: Workshop of Pre- and Post-processing Tools for OpenSees
PI: Frank McKenna, UC Berkeley
Co-PIs: Filip Filippou, UC Berkeley; Joel Conte, UC San Diego



Title: T1: A Comprehensive Database of RC Column Tests
PI: John Wallace, UC Los Angeles



Title: T1: Text Analytics on Social Media for Resilience-Enabled Extreme Events Reconnaissance
PI: Laurent El Ghaoui, UC Berkeley



Title: T2: Meshfree Large-Strain Framework for Seismic Response of Ground-Structural Systems: Development and Open Source Tool
PI: Ahmed Elgamal, UC San Diego
Co-PI: Jiun-Shyan Chen, UC San Diego



Title: T2: OpenSees Implementation of 3D Embedded Pile Element for Enhance Soil-Pile Interaction Analysis of Bridge Systems Subject to Liquefaction and Lateral Spreading
PI: Pedro Arduino, UW



Title: T2: Reduced-Order Models for Dynamic Soil-Structure Interaction Analyses of Buried Structures
PI: Domniki Asimaki, Caltech
Co-PI: Elnaz Seylabi, UNR



Title: T4: Identification of Transportation Network Corridors, for Enhancing Network Resilience
PI: Jack Baker, Stanford

TSRP 2020



Title: G1: Liquefaction Evaluation of Gravelly Soils: An Integrated Laboratory Testing and Numerical Modeling Approach

PI: Adda Athanasopoulos-Zekkos, UC Berkeley



Title: G1: Advancing the Practice of Cyclic Softening Assessments of Silts and Clays

PI: Armin Stuedlein, Oregon State University



Title: G2: A System-Level Study to Evaluate the Role of Soil Gradation on Seismically Induced Embankment Deformations **PI:** Jason DeJong, UCSD. Co-PIs: Mike Beaty (Beaty Engineering) Thomas Westover (Cornforth Consultants)



Title: G2: Prediction of Seismic Compression of Unsaturated Backfills

PI: John McCartney, UC San Diego



Title: M1: Correlation of Ground Motion Duration with Spectral Acceleration and Implications for Expected Bridge Performance

PI: Tracy Becker, UC Berkeley. Co-PI: Jennie Watson-Lamprey



Title: M3: Deep Learning Based Surrogate Modeling for Uncertainty Quantification in Soil-Structure Interaction Problems

PI: Elnaz Seylabi, University of Nevada, Reno



Title: M6: Autonomous Drones for Inspection-Driven Exploration of Structures

PI: Raja Sengupta, UC Berkeley. Co-PI: ZhiQiang Chen



Title: M7: Seismic Performance of Isolated Bridges under Extreme Shaking

PI: Gilberto Mosqueda, UC San Diego



Title: S3: A Critical Examination of Material Strain Limits for Performance-based Seismic Design of Modern Pier and Wharf Structures **PI:** Machel Morrison, UC San Diego. Co-PI: Jose Restrepo



Title: T2: Calibration and Verification of OpenSees Models for Simulating the Response through Collapse of Nonplanar RC Walls **PI:** Laura Lowes, University of Washington



Title: T2: Implementation of Frequency-Dependent Impedance Function in OpenSees

PI: Jian Zhang, UC Los Angeles



Title: T4: Machine Learning for Analysis and Risk Management of Complex Infrastructure Systems

PI: Jack Baker, Stanford

TSRP 2021



A3 - Development of PBE for other Natural Hazards
Workshop Title: Behavior of Steel Structures in Fire: A Workshop on Fundamentals and Simulation Tools
PI: Erica Fischer, Oregon State University; Co-PIs / Collaborators: Negar Elhami - Khorasani, Thomas Gernay, Ali Ashrafi



G1 - Liquefaction Triggering Criteria
Workshop Title: Workshop Towards Consensus on Liquefaction Susceptibility
PI: Armin Stuedlein, Oregon State University; Co-PIs / Collaborators: Jonathan P. Stewart, T. Matthew

Evans



M3 - Uncertainty Quantification
Workshop Title: PBSD of Bridges: Current Practice and Future Developments
PI: Jose Restrepo, UC San Diego
Co-PIs / Collaborators: Joel P. Conte, Sashi Kunnath, Ian Buckle,

Norm Abrahamson



R1 - Regional-scale Simulation of Networks
Project Title: PEER Online Tool for Access to Simulated Ground Motions from Large Magnitude Events
PI: Norman Abrahamson, UC

Berkeley



R1 - Regional-scale Simulation of Networks
Project Title: Surrogate Models of Highway Bridges for Regional-scale Earthquake Simulations of Transportation Networks
PI: Greg Deierlein, Stanford

University



R1 - Regional-scale Simulation of Networks
Project Title: Identification of Critical Ground-Motion and Bridge Features for Performance Assessment of Regional Transportation Networks

PI: Marc Eberhard, University of Washington; Co-PIs / Collaborators: Jeffrey Berman, Nasser Marafi, Chris Motter



R1 - Regional-scale Simulation of Networks
Project Title: Development of the PEER Simulated Ground-Motion Database (PEER-SGD) for PBEE of Transportation Systems
PI: David McCallen, University of

Nevada, Reno; Co-PI / Collaborator: Florina Petrone

TSRP 2022



Topic 2 - Forward uncertainty quantification; **Project Title:** Probabilistic Regional Seismic Risk Assessment of a Los Angeles Bridge Network using a New Generation of Fragility Functions **PI: Henry Burton, UCLA;** Co-PIs /

Collaborators: Yazhou Xie, McGill University, Ibbi Almufti, ARUP, Jamie Padgett, Rice University



Topic 2 - Forward uncertainty quantification; **Project Title:** Stochastic Simulator-based Uncertainty Quantification for Seismic Responses of Bridges **PI: Ziqi Wang, UC Berkeley** Co-PIs / Collaborators: Marco

Broccardo, University of Trento



Topic 3 - Cost effective instrumentation and data collection; **Project Title:** Next Generation Liquefaction Susceptibility Database and Modelling; **PI: Jonathan P. Stewart, UCLA;** Co-PIs / Collaborators: Scott

J. Brandenburg, UCLA



Topic 6 - Going beyond earthquakes; **Project Title:** Cascading Seismic and Tsunami Loads for the Design of Open Wharves; **PI: Andre Barbosa, Oregon State University;** Co-PIs / Collaborators: Claudia Reis, Oregon

State University



Topic 2 - Forward uncertainty quantification
Project Title: Bayesian Inference for Mechanics-based Digital Twinning of Bridges
PI: Hamed Ebrahimian, University of Nevada, Reno



Topic 3 - Cost effective instrumentation and data collection; **Project Title:** Performance Monitoring of Centennial Bridge
PI: Matthew DeJong, UC Berkeley Co-PIs / Collaborators: Laura

Lowes, University of Washington



Topic 3 - Cost effective instrumentation and data collection; **Project Title:** Next Generation Liquefaction Susceptibility Database: Expansion of the Laboratory Component to Leverage Pacific Northwest Soils;
PI: Armin Stuedlein, Oregon State University



Topic 2 - Forward uncertainty quantification; **Project Title:** Regional Scale Simulation of Uncertain Responses of Transportation Infrastructure Soil-Structure Systems **PI: Boris Jeremic, UC Davis;** Co-PIs / Collaborators:

Norm Abrahamson, UC Berkeley



Topic 3 - Cost effective instrumentation and data collection; **Project Title:** Informing Predictions from Above with Community Data from Below: A Hierarchical AI Ground Failure Model for Rapid Response and

Simulation; **PI: Brett Maurer, University of Washington**



Topic 5 - Social vulnerability and disparities in seismic risk and impacts; **Project Title:** Community Sentiment Analysis for Identifying Social Vulnerability Following Earthquakes; **PI: Sifat Muin, USC;** Co-PI / Collaborator: Kristina

Lerman, USC

PEER-Bridge Program (15 Projects)



An Updated LRFD-Based Design Procedure for Bridge Decks

PI: Lijuan "Dawn" Cheng, UC Davis

Co-PI: Thomas Murphy



Advanced Guidelines for Stability Design of Slender Reinforced Concrete Bridge Columns

PI: Michael Scott, Oregon State University

Co-PI: Mark Denavit



Hazard-Based Risk and Cost-Benefit Assessment of Temporary Bridges in California

PI: Floriana Petrone, UNR



Liquefaction-Induced Ground Settlement Procedure

PI: Jonathan Bray, UC Berkeley



Statistical Variation of Seismic Damage Index (DI) of California Bridges

PI: Farzin Zareian, UC Irvine

Co-PIs: Norm Abrahamson, Saïid Saïidi



Bridge Rapid Assessment Center for Extreme Events (BRACE2)

PI: Khalid Mosalam, UC Berkeley

In-Service Structural Evaluation of Box Beam Overhead Sign Structures



Remaining fatigue life assessment of bridge decks based upon a numerical-experimental SYSCOM System-Component-Material-based approach

PI: Alessandro Palermo, UCSD



Prioritizing Regional Needs for Recovery Bridges through Post-earthquake Corridor Identification and System Fragility Assessment of the SF Region

PI: Kenichi Soga, UCB



PI: Tracy Becker, UC Berkeley

Project Title: Uncertainty Quantification for Meeting Bridge Design Objectives



PI: Yousef Bozorgnia, UCLA

Project Title: New Near-Fault Adjustment Factors for Caltrans Seismic Design Criteria (SDC)



PI: Scott J. Brandenberg, UCLA
co-PI: Jonathan P. Stewart, UCLA

Project Title: Next Generation Liquefaction (NGL) Models for Predicting Triggering and Manifestation of Liquefaction



PI: Michele Barbato, UC Davis
co-PI: Alexander Forrest, UC Davis

Project Title: Development of Performance-Based Multi-hazard Engineering (PBME) Framework



PI: Raja Sengupta, UC Berkeley
co-PI: Mark Mueller, UC Berkeley

Project Title: Development of Autonomous Drone Inspection for Bridge Maintenance



PI: Farzin Zareian, UC Irvine

Project Title: Caltrans Risk Based Seismic Design (CT-RBSD) for Bridges

with Inclusion of Climate Change and Bridge Vulnerability

15 Projects: \$4.375 Million

Average per Project: \$292K - Overhead

Fiscal Year 25/26 Research Proposal Timeline

- **7/15/2024** **Initiate Research Cycle**
TSC/SPB/SAB review
- **9/20/2024** **Research Proposal Due to OEEAR**
Structure Policy Board Briefing
Technical Steering Committee Briefing
Finalize Research Request Form and ranking
- **11/1/2024** **Research Request Due to DRISI**
PSC review and ranking
Scorer's meeting
- **3/6/2025** **Prioritized List Due to RDAC**
Executive review
- **3/19/2025** **RDAC meeting. Approved research slate distributed.**
- **8/31/2025** **Approved Research Contract Packages Due**
2024 PEER Annual Meeting



TSRP: Allocation

| <u>Type of Extreme Event</u> | <u>No. of Projects</u> | <u>Amount</u> |
|------------------------------|------------------------|--------------------|
| Earthquake | 74 | \$6,240,608 |
| Tsunami | 5 | \$ 519,398 |
| Fire Following EQ | 5 | \$ 276,556 |
| Total | 84 | \$7,036,562 |

| <u>Type of Research</u> | <u>No. of Projects</u> | <u>Amount</u> |
|------------------------------|------------------------|---------------------|
| Theoretical | 5 | \$ 367,941 |
| Computational | 48 | \$ 3,696,153 |
| Experimental | 17 | \$ 2,023,984 |
| Database, Field Data, AI, ML | 13 | \$ 873,484 |
| Social and Community | 1 | \$ 75,000 |
| Total | 84 | \$ 7,036,562 |

| <u>PBEE Phase</u> | <u>No. of Projects</u> | <u>Amount</u> |
|-------------------|------------------------|---------------------|
| Hazard | 19 | \$ 1,470,336 |
| Analysis | 39 | \$ 3,506,616 |
| Damage | 13 | \$ 1,040,736 |
| Loss | 10 | \$ 799,688 |
| Total | 81* | \$ 6,817,376 |

* Some projects (e.g., PBE for Tsunamis) includes all phases

TSRP Projects – Reports

| Year | Number of Projects | Completed | Currently Active | Reports |
|--------------|--------------------|-----------|------------------|-----------|
| 2016 PreRFP | 7 | 7 | 0 | 2 |
| 2017 PreRFP | 4 | 4 | 0 | 2 |
| 2017 RFP | 17 | 16 | 1 | 10 |
| 2018 RFP | 11 | 10 | 1 | 6 |
| 2019 RFP | 14 | 8 | 6 | 5 |
| 2020 RFP | 12 | 6 | 6 | 6 |
| 2021 RFP | 9 | 2 | 7 | 2 |
| 2022 RFP | 10 | 0 | 10 | |
| Total | 84 | 53 | 31 | 33 |

20 Missing Reports & 14 Incomplete Projects

3 Requirements



PEER

PACIFIC EARTHQUAKE ENGINEERING RESEARCH CENTER

Research Project Highlight

Implementation of Frequency-Dependent Impedance Functions in OpenSees

discrete-time filters. An example of such time-domain approximation is shown in *Figure 2* for the rocking IF of a rigid disk on elastic half-space. While the implementation of this solution in OpenSees looks simple, the stability of the entire system is not guaranteed even if the IF filter is itself stable. In this project, we propose to implement any analytically or numerically calculated frequency-dependent IF through recursive filters in OpenSees and such that the dynamic analysis of the entire structural system with SSI can be stable.

Deliverables

A PEER report and several conference and journal papers describing the methodology and verification examples along with the OpenSees module for frequency-dependent IF implementation.

Research Impact

The dynamic nonlinear time-history analysis plays a critical role in PEER Performance-Based Engineering (PBE). While nonlinear behavior of the structures can be modeled with relatively good accuracy, the soil-foundation subsystem is still highly uncertain. One of the sources of the uncertainties is the frequency-dependent behavior of the soil-foundation impedance function. Current FE modeling softwares are not capable of including frequency-dependency in the time domain unless IF is modeled through physical lumped parameter models. However, there is no unique and general way to develop such lumped models for any IF. Also, there is no solution to guarantee the stability of the entire system. This project will provide engineers and researchers with an extended version of the OpenSees by which they can carry out more accurate nonlinear time-history analysis while frequency-dependent soil-structure interaction effects are taken into account.



PEER

PACIFIC EARTHQUAKE ENGINEERING RESEARCH CENTER

Research Project Highlight

Implementation of Frequency-Dependent Impedance Functions in OpenSees

Project Images

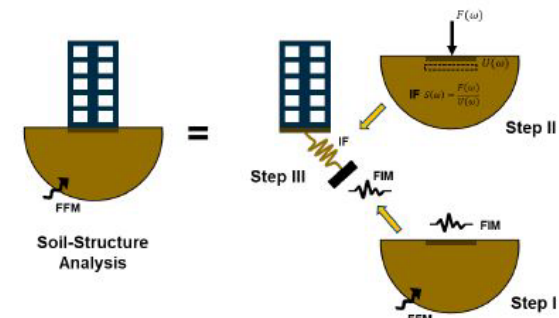


Figure 1. Substructure method

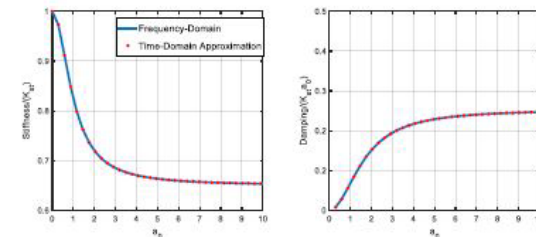


Figure 2. Exact and time-domain approximation of frequency-dependent stiffness and damping terms of impedance function versus dimensionless frequency.

n



3 Requ

- Propose starts

[Implementation and OpenSees](#)

- [Towards Multi-Tier Modeling Impacts on Transportation Networks](#)

[Influence of Vertical Design of Bridges Isolated Pendulum Bearings](#)

- [High-Performance Computing Distributed Multi-Layered Transportation Networks](#)

[Fluid-Structure Interaction Scripting Capabilities](#)



PACIFIC EARTHQUAKE ENGINEERING RESEARCH CENTER

A Granular Framework for Modeling the Capacity Loss and Recovery of Regional Transportation Networks under Seismic Hazards: A Case Study on the Port of Los Angeles

Michael Benedict Virtucio¹
Barbaros Cetiner²
Bingyu Zhao^{1,3}
Kenichi Soga¹
Ertugrul Taciroglu⁴

¹Department of Civil and Environmental Engineering
University of California, Berkeley, USA

²NHERI SimCenter

University of California, Berkeley, USA

³TU Wien, Austria

⁴Department of Civil and Environmental Engineering
University of California, Los Angeles, USA

PEER Report No. 2024/05
Pacific Earthquake Engineering Research Center
Headquarters at the University of California, Berkeley
June 2024

PEER 2024/05
June 2024

unding

[PEER Report: 2021/02](#)

[PEER Report: 2021/04](#)

[PEER Report: 2019/08](#)

[PEER Report: 2021/05](#)

[PEER Report: 2019/06](#)



Reports

Projects Beginning in 2023:

| Title of Project | PI Name | Affiliation | Report/ Publication |
|---|---------------------|----------------------------|------------------------|
| Coastal Seismic and Tsunami Loads for the Design of Open Wharves | Anthe Barbosa | Oregon State University | |
| Probabilistic Regional Seismic Risk Assessment of a Los Angeles Bridge Network using a New Generation of Feasible Functions | Henry Burton | UC Los Angeles | |
| Performance Monitoring of Centennial Bridge | Matthew Dejong | UC Berkeley | |
| Bayesian Inference for Mechanics-based Digital Twinning of Bridges | Hamed Ebrahimi | University of Nevada, Reno | |
| Regional Scale Simulation of Uncertain Responses of Transportation Infrastructure-Soil-Structure Systems | Boris Jeremic | UC Davis | |
| Informing Predictions from Above with Community Data from Below: A Hierarchical AI Ground Failure Model for Deeply Nonlinear and Simulation | Bruce Meurer | University of Washington | |
| Community Seismicity Analysis for Identifying Social Vulnerability Following Earthquakes | Sifat Muin | USC | |
| Next Generation Liquefaction Susceptibility Database and Modeling | Jonathan P. Siemert | UC Los Angeles | |
| Next Generation Liquefaction Susceptibility Database: Expansion of the Laboratory Component to Low-velocity Pacific Northwest Soils | Arrin Stuedlein | Oregon State University | |
| Stochastic Simulation-based Uncertainty Quantification for Seismic Responses of Bridges | Zep Wang | UC Berkeley | |

Projects / Workshops Beginning in 2022:

| Title of Project | PI Name | Affiliation | Report/ Publication |
|---|-------------------|----------------------------|------------------------|
| PEER Online Tool for Access to Simulated Ground Motions from Large Magnitude Events | Norman Abrahamson | UC Berkeley | |
| Surrogate Models of Highway Bridges for Regional-scale Earthquake Simulations of Transportation Networks | Greg Deierlein | Stanford University | |
| Identification of Critical Ground Motion and Bridge Features for Performance Assessment of Regional Transportation Networks | Marc Eberhard | University of Washington | |
| Workshop: Behavior of Steel Structures in Fire: A Workshop on Fundamentals and Simulation Tools | Erica Fischer | Oregon State University | |
| Development of the PEER Simulated Ground-Motion Database (PEER-SGM) for PEER of Transportation Systems | David McClellan | University of Nevada, Reno | |
| Workshop: PEER of Bridges: Current Practice and Future Developments | Jose Restrepo | UC San Diego | |
| Workshop: Towards Consensus on Liquefaction Susceptibility | Arrin Stuedlein | Oregon State University | PEER Report 2022-02 |

Projects Beginning in 2021:

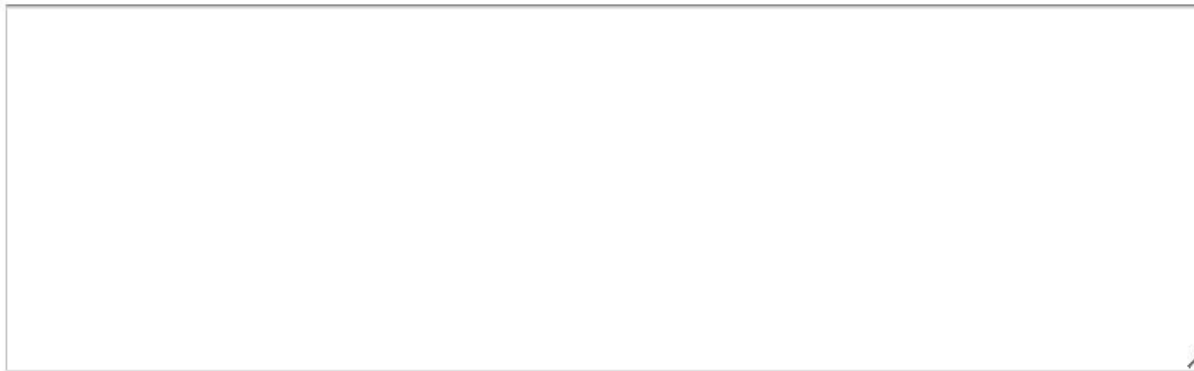
| Title of Project | PI Name | Affiliation | Report/ Publication |
|---|-------------------------|----------------------------|------------------------|
| Liquefaction Evaluation of Gravelly Soils: An Integrated Laboratory Testing and Numerical Modeling Approach | Akile Athanasiou-Zarkos | UC Berkeley | |
| Machine Learning for Analysis and Risk Management of Complex Infrastructure Systems | Jack Baker | Stanford | |
| Correlation of Ground Motion Duration with Spectral Acceleration and Implications for Impacted Bridge Performance | Tracy Bricker | UC Berkeley | |
| A System-Level Study to Evaluate the Role of Soil Gradation on Seismically Induced Embankment Deformations | Jewin Dejong | UC Davis | |
| Calibration and Verification of OpenSees Models for Simulating the Response of a Collapse of Non-planar RC Walls | Laura Lemos | University of Washington | |
| Prediction of Seismic Compression of Unsaturated Backfills | John McCartney | UC San Diego | PEER Report 2022-06 |
| A Critical Examination of Material Strain Limits for Performance-based Seismic Design of Modern Pier and Wharf Structures | Michel Morison | UC San Diego | |
| Seismic Performance of Isolated Bridges under Extreme Shaking | Gilberto Mosqueda | UC San Diego | |
| Autonomous Drones for Inspection-driven Exploration of Structures | Raja Sengupta | UC Berkeley | |
| Deep Learning-based Surrogate Modeling for Uncertainty Quantification in Soil-Structure Interaction Problems | Ortiz Seylah | University of Nevada, Reno | |
| Advancing the Practice of Cyclic Shear Assessments of Silts and Clays | Arrin Stuedlein | Oregon State University | PEER Report 2022-01 |
| Implementation of Frequency-Dependent Impedance Function in OpenSees | Jun Zhang | UC Los Angeles | |

Projects Beginning in 2020:

| Title of Project | PI Name | Affiliation | Report/ Publication |
|--|-------------------|----------------------------|------------------------|
| OpenSees Implementation of 3D Embedded Pie Elements for Enhance Soil-Pile Interaction Analysis of Bridge Systems Subjected to Liquefaction and Lateral Severeities | Pedro Arias | University of Washington | |
| Reduced-Order Models for Dynamic Soil-Structure-Interaction Analysis of Buried Structures | Dorreski Asmaki | Caltech | |
| Identification of Transportation Network Corridors for Enhancing Network Resilience | Jack Baker | Stanford | PEER Report 2021-09 |
| Modifying Large-Strain Framework for Seismic Response of Ground-Structural Systems: Development and Open Source Tool | Alfred Hajjar | UC San Diego | |
| Text Analytics on Social Media for Resilience-enabled Extreme Events Reconnaissance | Laurent El Ghazal | UC Berkeley | |
| Fire Performance of Steel-frame Buildings using OpenSees | Erica Fischer | Oregon State University | |
| Ground Improvement-based Protection of Transportation Infrastructure: Validation of PBI via Centrifuge and Numerical Modeling | Tara Hutchinson | UC San Diego | |
| Fracture of Deficient Steel Details in Pre-Northridge Transportation Infrastructure Structures | Arrin Stuedlein | UC Davis | |
| A Pacific Rim Corridor Regional-Scale Simulations of Earthquake Ground Motions and Infrastructure Response for PEER of Transportation Systems | David McClellan | University of Nevada, Reno | PEER Report 2022-04 |

Collaboration

The following projects have collaboration potential with my project.
Review PEER website for project info here: [TSRP](#), [PEER-Bridge](#) & [Lifelines](#).

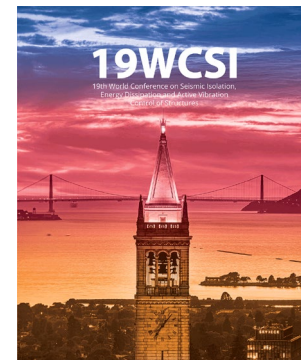
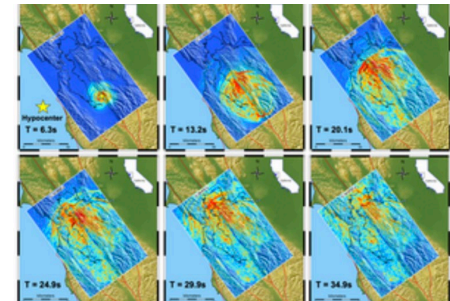


DR. THOMAS O'ROURKE



Upcoming Events & Activities

- The 21st IFIP Working Conf. on Reliability & Optimization of Structural Systems (*Aug 18-21, 2024*)
- PEER Annual Meeting (*Tentatively January 16-17, 2025*)
- 2024 Blind Prediction Contest (*Details in presentation by Jose Restrepo*)
- Request For Proposal (RFP) (*Oct 2024, focused on Experimental Work*)
- PEER-LBNL Workshop (*Spring 2025*)
- AI & Fire Workshop (Collaboration with NFPA & SFPE) (*May 2025*)
- Workshop on PBSB for Bridges (*2025*)
- 19WCSI (*Sept 15-19, 2025*)



Team



Zulema Lara



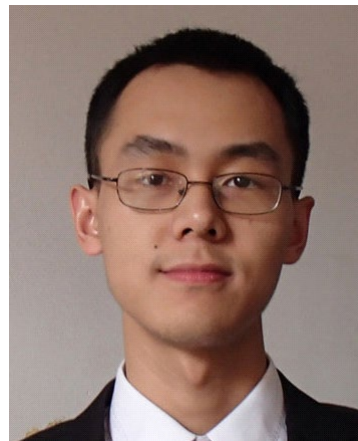
Erika Donald



Christina Bodnar-Anderson



Gabriel Vargas



Jiawei Chen



Selim Günay

Thank You !



TSRP Fund Allocation Over the Years

