

Marios Mavros

CONTACT

INFORMATION

1 University Avenue
2109 Aglantzia, Cyprus

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EDUCATION

University of California, San Diego, California, USA

Ph.D. in Structural Engineering

December 2015

- Dissertation: "Experimental and Numerical Investigation of the Seismic Performance of Reinforced Masonry Structures," advisor: Prof. Benson Shing

University of California, San Diego, California, USA

M.S. in Structural Engineering

March 2012

- G.P.A.: 3.98/4.00

National Technical University of Athens (NTUA), Athens, GREECE

Diploma in Civil Engineering

September 2010

- Thesis: "Investigation of effective length in members of diagonal braces," advisor: Prof. Charis Gantes
- G.P.A.: 9.48/10.00 (Ranked first)

RESEARCH AREAS

Finite Element Modeling.

Earthquake Engineering.

Reinforced Masonry and Reinforced Concrete.

PROFESSIONAL EXPERIENCE

University of Cyprus, Nicosia, Cyprus

Lecturer

January 2020 -

Simpson Gumpertz & Heger, Waltham, Massachusetts, USA

Project Consultant

September 2010 -August 2019

Main tasks:

- Nonlinear finite element analysis.
- Structural evaluation.
- Product development.
- Risk analysis.
- Optimization.

University of California, San Diego, California, USA

Graduate Student Researcher

September 2010 - September 2015

Main tasks:

- Nonlinear dynamic finite element analysis of reinforced masonry structures.
- Constitutive modeling and element formulation for finite element analysis.
- Full-scale shake-table testing of two multistory reinforced masonry structures .

JOURNAL

PUBLICATIONS

[1] Ahmadi, Farhad; Mavros, Marios; Shing, Benson; Klingner, Richard; and McLean, David (2013). "Displacement-based Seismic Design for Reinforced Masonry Shear-wall Structures, Part 1: Background and Trial Application." *Journal of Earthquake Spectra.*, DOI: 10.1193/120212EQS345M.

[2] Ahmadi, Farhad; Mavros, Marios; Shing, Benson; Klingner, Richard; and McLean, David (2013). "Displacement-based Seismic Design for Reinforced Masonry Shear-wall Structures, Part 2: Validation with Shake-table Tests." *Journal of Earthquake*

- [3] Stavridis, Andreas; Ahmadi, Farhad; Mavros, Marios; Shing, Benson; Klingner, Richard; and McLean, David; (2015). "Shake-table Tests of a Full-scale Three-story Reinforced Masonry Shear Wall Structure." *ASCE Journal of Structural Engineering*, DOI: 10.1061/(ASCE)ST.1943-541X.0001527.
- [4] Mavros, Marios; Ahmadi, Farhad; Shing, Benson; Klingner, Richard; McLean, David; and Stavridis, Andreas; (2015). "Shake-table Tests of a Full-scale Two-story Shear-dominated Reinforced Masonry Wall Structure." *ASCE Journal of Structural Engineering*, DOI: 10.1061/(ASCE)ST.1943-541X.0001528.
- [5] Kottari, Alexandra; Mavros, Marios; Murcia-Delso, Juan; and Shing, Benson; (2017). "Interface model for bond-slip and dowel-action behavior" *ACI Structural Journal*, DOI: 114. 10.14359/51689870.
- [6] Mavros, Marios; Panagiotou, Marios; Koutromannos, Ioannis; Alvarez, Rodolfo; Restrepo, Jose I. (2022). "Seismic Analysis of a Modern 14-story RC Core Wall Building System Using the BTM-shell Methodology" *Earthquake Engineering and Structural Dynamics*, DOI: 10.1002/eqe.3627.

CONFERENCE
PUBLICATIONS

- [1] Stavridis, Andreas; Mavros, Marios; Ahmadi, Farhad; Shing, Benson; Klingner, Richard; and McLean, David. "Shake-Table testing of a 3-story, full-scale reinforced masonry wall system." In: *15th International Brick and Block Masonry Conference*, June 03-06, 2012.
- [2] Mavros, Marios; Ahmadi, Farhad; Shing, Benson; Klingner, Richard; and McLean, David. "Seismic Performance of a Two-Story Reinforced Masonry Building Designed with a Displacement-Based Method." In: *10th National Conference on Earthquake Engineering*, July 21-25, 2014.
- [3] Mavros, Marios; Koutromannos, Ioannis and Shing, Benson. "Nonlinear finite element analysis of reinforced masonry structures subjected to earthquake forces." In: *12th North American Masonry Conference*, May 17-20, 2015.
- [4] Kottari, Alexandra; Mavros, Marios; Murcia-Delso, Juan; and Shing, Benson. "Interface model for bond-slip and dowel-action behavior" In: *Engineering Mechanics Institute 2017*, June 4-7, 2017.
- [5] Mavros, Marios; Panagiotou, Marios; Koutromannos, Ioannis; Alvarez, Rodolfo; Restrepo, Jose I. (2021). "Seismic Analysis of a Modern 14-story RC Core Wall Building System Using the BTM-shell Methodology" In: *Engineering Mechanics Institute 2021*, May 25-28, 2021.
- [6] Panagiotou, Marios; Koutromannos, Ioannis; Mavros, Marios; Deng, Xianjue; Alvarez, Rodolfo; Restrepo, Jose I.; Murcia-Delso, Juan; Acero, Gabriel (2021). "Nonlinear Beam-Truss Model (BTM) for Seismic Performance Evaluation of Reinforced Concrete Wall Buildings" In: *SEAOC Convention 2021*, September 22-25, 2021.
- [7] Mavros, Marios; Panagiotou, Marios; Koutromannos, Ioannis; Alvarez, Rodolfo; Restrepo, Jose I. (2022). "Computational Fully Nonlinear Seismic Performance Investigation of a Modern 14-story Core Wall Building in Los Angeles" In: *12th National Conference on Earthquake Engineering 2022*, June 22 - July 1, 2022.

- [8] Mavros, Marios; Panagiotou, Marios; Koutromannos, Ioannis; Alvarez, Rodolfo; Restrepo, Jose I. (2022). "Computational performance assessment and failure analysis of reinforced concrete wall buildings under seismic loads" In: *Numerical Modeling Strategies for Sustainable Concrete Structures 2022*, July 4-6, 2022.

TEACHING EXPERIENCE	<p>Lecturer <i>University of Cyprus, Nicosia, Cyprus</i></p> <ul style="list-style-type: none"> • CEE 341 Design of Reinforced Concrete Structures January 2020 - September 2020 • CEE 400 Earthquake Engineering September 2020 - • CEE 540 - Behavior and Design of Reinforced Concrete Structures January 2020 - • CEE 545 - Nonlinear Analysis of Structures September 2020 - <p>Teaching assistant <i>University of California, San Diego</i></p> <ul style="list-style-type: none"> • SE 211 - Advanced RC/PC January - March 2013 • SE 221 - Earthquake Engineering April - June 2013-2014 • SE 201A - Advanced Structural Analysis September - December 2014
GRANTS	<p>University of Cyprus</p> <ul style="list-style-type: none"> • Start-up Grant <i>2020</i> <i>Project title: Modeling of reinforced concrete</i> €50,000
RESEARCH SUPERVISION	<p>University of Cyprus</p> <ul style="list-style-type: none"> • Modeling of the Varina-Enon bridge accounting for creep phenomena <i>MSc 2022</i>
REVIEWER FOR JOURNALS	<ul style="list-style-type: none"> • Earthquake Engineering and Structural Dynamics <i>2020 -</i> • Journal of Structural Engineering <i>2017 -</i>
HONORS AND AWARDS	<p>University of California, San Diego, Department of Structural Engineering</p> <ul style="list-style-type: none"> • Englekirk Fellowship, 2010-2011 <p>Foundation of State Scholarships Greece</p> <ul style="list-style-type: none"> • Fellowship of State Scholarships Greece, granted to the top 3 undergraduate students of each school every year, 2005-2008 • Award of State Scholarships Greece, granted to the top undergraduate student of each school every year, 2005-2008 <p>National Technical University of Athens</p> <ul style="list-style-type: none"> • Mathematics Award "Christos Papakyriakou", Mathematics Department of National Technical University of Athens, 2005 and 2006 • Mathematics Award "Nikolaou Kritikou", Mathematics Department of National Technical University of Athens, 2006 <p>A.G. Leventis Foundation</p> <ul style="list-style-type: none"> • A.G. Leventis Foundation educational grant, 2010 - 2013 <p>Other</p> <ul style="list-style-type: none"> • Representative of Cyprus in the International Physics Olympiad in Taiwan, Selected at regional and then national level, 2003 • Silver Medal, Pan Cyprian Mathematical Olympiad, 2002
LEADERSHIP SKILLS	<ul style="list-style-type: none"> • Second Lieutenant of the Cyprus Army, leader and coordinating officer for small army unit (selected through exams), during compulsory military service, 2003-2005 • Founder of the Hellenic Student Association at UC San Diego, Treasurer, 2013-2015

- **Member of organizing committee of the Educational Trip 2015**, www.edutrip.gr, 2015

COMPUTER
SKILLS

Programming Languages

- Python, Matlab, Fortran

Softwares

- ABAQUS, FEMAP, ANSYS Workbench, FEAP, LS-DYNA
- Mathematica, MathCad
- Microsoft Office (Word, Excel, Power Point)
- Autocad 2D (AutoCAD 2006 LEVEL I, Certificate No 2324487), Autocad 3D (AutoCAD 2007 LEVEL II, Certificate No 2356107), 3D Studio Max (Autodesk VIZ 2007 Level I, Certificate No 2375130)