

MARIA KOLIOU, Ph.D., E.I.T.

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EDUCATION

2010-2014	<u>Doctor of Philosophy (Ph.D.)</u> in Civil Engineering (Structural and Earthquake Engineering Program) University at Buffalo, The State University of New York, Buffalo, NY, U.S.A. Dissertation Title: “ Seismic Analysis and Design of Rigid Wall-Flexible Roof Diaphragm Buildings ”, Advisor: Dr. Andre Filiatrault
2009-2010	<u>Master of Science (M.S.)</u> in Civil Engineering (Structural and Earthquake Engineering Program) University at Buffalo, The State University of New York, Buffalo, NY, U.S.A Thesis Title: “ Seismic Protection of Electrical Transformer-Bushing Systems by Stiffening Techniques ”, Advisor: Dr. Andre Filiatrault
2003-2008	<u>Diploma in Civil Engineering</u> (5-year program, Structural and Earthquake Engineering Cycle) Department of Civil Engineering, School of Engineering, University of Patras, Greece Diploma Thesis Title: “ Analysis and Design of Composite Bridges ”, Advisor: Dr. Athanasios Triantafyllou

SELECTED AWARDS AND HONORS

2015	Best of the Best Poster Award , 2015 SEI Congress, Structural Engineering Institute, Portland, OR
2014	2014 Liu Huixian Earthquake Engineering Scholarship Award , The US-China Earthquake Engineering Foundation (USA) and The Huixian Earthquake Engineering Foundation (China)
2014	Travel Award , 10 th US National Conference on Earthquake Engineering, Earthquake Engineering Research Institute, US Federal Emergency Management Agency, USGS and the Pankow Foundation
2014	1st place Award , 2014 CSEE Graduate Student Poster Competition, University at Buffalo
2013	New York State/Graduate Student Employees Union (GSEU) Professional Development Award , University at Buffalo, GSEU, Professional Development Awards Committee
2013	Irving H. Shames Outstanding Teaching Assistant Award Exemplary performance as a teaching assistant, Department of Civil, Structural and Environmental Engineering, University at Buffalo
2012	Travel Award , 2012 Annual EERI Meeting & National Earthquake Conference, Memphis (April 10–13, 2012), Earthquake Engineering Research Institute and Federal Emergency Management Agency
2011	CSEE Chair’s Graduate Recognition Award , Outstanding academic achievement and significant contribution to the Department of Civil, Structural and Environmental Engineering, University at Buffalo
2010-2011	Fellowship , Structural Engineering and Earthquake Simulation Laboratory (SEESL), University at Buffalo
2010	1st place Award , 2010 CSEE Graduate Student Poster Competition, University at Buffalo

PROFESSIONAL MEMBERSHIPS

2013-Present	Member, Precast/Prestressed Concrete Institute (PCI), U.S.A.
2012-Present	Member, Society of Women Engineers (SWE), U.S.A.
2012-Present	Member, American Concrete Institute (ACI), U.S.A.
2011-Present	Member, American Society of Civil Engineers (ASCE), U.S.A.
2009-Present	Member, Earthquake Engineering Research Institute (EERI), U.S.A.

PROFESSIONAL LICENSING

April 2013-Present	Engineer in Training (E.I.T.), Michigan
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APPOINTMENTS

Aug. 2015-Present	Post-doctoral Fellow , Department of Civil and Environmental Engineering, Colorado State University
Sept. 2014-Aug. 2015	Post-doctoral Researcher , Department of Civil, Structural and Environmental Engineering, University at Buffalo
Sept. 2014-Present	Technical Consultant , Applied Technology Council (ATC), Redwood City, CA, U.S.A.
2009-2014	Research Assistant , Department of Civil, Structural and Environmental Engineering, University at Buffalo
Summer 2013	Teaching Assistant , European Centre for Training and Research in Earthquake Engineering, Pavia, Italy
Summer 2013	Adjunct Lecturer , Department of Civil, Structural and Environmental Engineering, University at Buffalo
2012-2014	Technical Subcontractor/Consultant National Institute of Building Sciences (NIBS), Washington, DC, U.S.A., Part of Ph.D. dissertation
2011-2013	Teaching Assistant , Department of Civil, Structural and Environmental Engineering, University at Buffalo

REFEREE WORK – REVIEWER

2013-Present ASCE Journal of Structural Engineering

TECHNICAL COMMITTEES

- Aug. 2014-Present Member of a Working Group of the **FEMA-funded ATC-116 Project** “Solutions to the Issue of Short Period Building Performance”
- Oct. 2012-Sept. 2014 Member of a Working Group of the **FEMA-funded Project to the National Institute of Building Science** “Development of Independent Design Provisions for Rigid-Wall/Flexible-Diaphragm Buildings”

PUBLICATIONS

Refereed Journal Papers

- J1. **Koliou, M.**, Filiatrault, A., Kelly, D.J. and Lawson, J. (2015), “Buildings with Rigid Walls and Flexible Roof Diaphragms I: Evaluation of Current United States Seismic Provisions”, *ASCE Journal of Structural Engineering* (Under review).
- J2. **Koliou, M.**, Filiatrault, A., Kelly, D.J. and Lawson, J. (2015), “Buildings with Rigid Walls and Flexible Roof Diaphragms II: Evaluation of a New Seismic Design Approach Based on Distributed Diaphragm Yielding”, *ASCE Journal of Structural Engineering* (Under review).
- J3. **Koliou, M.**, Filiatrault, A., Kelly, D.J. and Lawson, J. (2015), “Distributed Yielding Concept for Improved Seismic Collapse Performance of Rigid Wall-Flexible Diaphragm Buildings”, *ASCE Journal of Structural Engineering* (In press).
- J4. **Koliou, M.**, Filiatrault, A. and Reinhorn, A.M. (2013), “Seismic Response of High Voltage Transformer Bushing Systems Incorporating Flexural Stiffeners I: Numerical Study”, *Earthquake Spectra*, 29 (4), 1335-1352.
- J5. **Koliou, M.**, Filiatrault, A. and Reinhorn, A.M. (2013), “Seismic Response of High Voltage Transformer Bushing Systems Incorporating Flexural Stiffeners II: Experimental Study”, *Earthquake Spectra*, 29 (4), 1353-1367.
- J6. Gogou, R. and **Koliou, M.** (2009), “Seismic Evaluation of Monuments-Methods of Repairing and Strengthening”, *Journal of Association of Civil Engineers of Greece*, Athens, Greece, pg. 30 (In Greek).

Selected Refereed Conference Papers

- C1. **Koliou, M.**, Filiatrault, A., Kelly, D.J. and Lawson, J. (2015), “Distributed Yielding Concept for Improved Seismic Collapse Performance of Buildings with Rigid Walls and Flexible Roof Diaphragms”, *2016 Structures Congress*, Phoenix, AZ, 14-17 February 2016 (abstract accepted).
- C2. **Koliou, M.**, Filiatrault, A., Kelly, D.J. and Lawson, J. (2015), “Improved Seismic Response of Buildings with Rigid Walls and Flexible Wood Roof Diaphragms through a New Seismic Design Approach Based on Distributed Diaphragm Yielding”, *2nd ATC SEI Conference on Improving the Seismic Performance of Existing Buildings*, San Francisco, CA, 10-12 December 2015 (abstract accepted)
- C3. Lawson, J., Kelly, D.J., **Koliou, M.** and Filiatrault, A. (2014), “Evaluating Existing and Proposing New Seismic Design Provisions for Rigid Wall – Flexible Diaphragm Buildings”, *2014 SEAOC Convention*, Indian Wells, CA, 10-13 September 2014.
- C4. **Koliou, M.**, Filiatrault, A., Kelly, D.J. and Lawson, J. (2014), “Two-Dimensional Numerical Framework for Seismic Collapse Assessment of Rigid Wall-Flexible Diaphragm Structures”, *10th US National Conference on Earthquake Engineering*, Anchorage Alaska, 21-25 July 2014.
- C5. **Koliou, M.**, Filiatrault, A. and Reinhorn, A.M. (2014), “Seismic Studies on Electrical High Voltage Transformer-Bushing Systems Incorporating Flexural Stiffeners”, *10th US National Conference on Earthquake Engineering*, Anchorage Alaska, 21-25 July 2014.
- C6. **Koliou, M.**, Filiatrault, A. and Reinhorn, A.M. (2011), “Seismic Protection of Transformer-Bushing Systems Incorporating Flexural Stiffeners”, *Proceedings of the Eurodyn 2011, 8th International Conference on Structural Dynamics*, Leuven, Belgium, 4-6 July 2011.

Selected Conference Presentations

- C7. Lawson, J., **Koliou, M.**, Kelly, D.J. and Filiatrault, A. (2015), “Evaluation of Wall Anchorage Force Provisions in Rigid Wall – Flexible Diaphragm Buildings”, *2015 Structures Congress*, Portland, OR, 23-25 April 2015 (*Best of the Best Poster Award*).
- C8. **Koliou, M.**, Filiatrault, A., Kelly, D.J. and Lawson, J. (2014), “Simplified Design Methodology for Rigid-Wall Flexible Diaphragm Structures”, *2014 Structures Congress*, Boston, MA, 3-5 April 2014.
- C9. **Koliou, M.** and Filiatrault, A. (2013), “Seismic Collapse Performance Evaluation of Tilt-up Structures Incorporating Flexible Diaphragms”, *2013 Structures Congress*, Pittsburgh, PA, 2-4 May 2013.
- C10. **Koliou, M.**, Filiatrault, A. and Reinhorn, A.M. (2011), “Seismic Protection of High Voltage Transformer-Bushing Systems Incorporating Flexural Stiffeners”, *Quake Summit 2011, NEES & MCEER Annual Meeting*, Buffalo, NY, 8-10 June 2011.

Selected Technical Reports/Book Chapters

- R1. FEMA (2015), “Seismic Design of Rigid Wall-Flexible Diaphragm Buildings: An Alternate Procedure”, FEMA P1026, Federal Emergency Management Agency, Washington, DC. (*Contributing author*)
- R2. **Koliou, M.**, Filiatrault, A., Reinhorn, A.M. and Oliveto, N.D. (2012), “Seismic Protection of Electrical Transformer-Bushing Systems by Stiffening Techniques”, MCEER Technical Report-MCEER-12-0002, Buffalo, NY.
- R3. Reinhorn, A.M., Filiatrault, A., Muhammad, F., Oliveto, N.D., Oikonomou, K., and **Koliou, M.** (2011), “Evaluation of Transformer Bushings-Current and Recommended Practice”, MCEER Task Report-MCEER-TR-11-01, Buffalo, NY.

Invited Presentations

- I1. **Koliou, M.** (2014), “Seismic Collapse Assessment of Rigid Wall-Flexible Roof Diaphragm Buildings”, 2014 Durham School Ph.D. Symposium, Omaha, NE, U.S.A., March 12-14, 2014

12. **Koliou, M.** (2012), “Dampers and Isolators”, 9th Annual Undergraduate Seismic Design Competition (in conjunction with 2012 EERI Annual Meeting and National Earthquake Conference), Memphis, TN, U.S.A., April 10-13, 2012

PROFESSIONAL LEADERSHIP AND ACTIVITIES

- 2011-2014 **Student Leadership Council (SLC) of Earthquake Engineering Research Institute (EERI)**
- Member, as representative of the UB-EERI Student Chapter (2011-2014), Treasurer (2012-2013)
- 2011-2014 **Student Chapter of Earthquake Engineering Research Institute (EERI) at the University at Buffalo (UB-EERI Student Chapter)**
- Member (2009-2014), Past President (2013-2014), President (2012-2013), Treasurer (2011-2012)
- 2009- 2014 **Graduate Student Association of the Department of Civil, Structural and Environmental Engineering (CSEE-GSA), University at Buffalo**
- Member (2009-2014), President (2010-2011), Alternate Senator (2009-2010)
- 2009- 2014 **Hellenic Graduate Student Association (HGSA), University at Buffalo**
- Member (2009- 2014), President (2009-2010), Treasurer (2010-2011), Secretary (2012-2013)

OUTREACH AND OTHER ACTIVITIES

- 2013 **2013 SEAS Future Faculty Workshop**, May 13, 2013, School of Engineering and Applied Sciences, University at Buffalo, The State University of New York (nominated participant)
- 2013 **Nominated Student Representative**, 2013 Civil, Structural and Environmental Engineering Advisory Panel, University at Buffalo, The State University of New York
- 2013 **Nominated Student Representative**, 2013 School of Engineering Advisory Panel, University at Buffalo, The State University of New York
- 2012 **Member of Organization Committee, Student Symposium at Quake Summit 2012**, NEES Annual Meeting
- 2012 **Member of Organization Committee, 2012 Tech Wars Competition**, Outreach activity for middle and high school students from Western New York
- 2011 **Member of Organization Committee, Student Symposium at Quake Summit 2011**, NEES & MCEER Annual Meeting

GRADUATE COURSEWORK

- Structural Dynamics, Earthquake Engineering, Advanced Solid Mechanics, Advanced Mathematics
- Reinforced Concrete, Steel Structures, Composite Materials and Structures
- Advanced Structural Analysis, Advanced Finite Element Analysis
- Experimental Methods in Structural Engineering, Non Destructive Evaluation and Structural Health Monitoring
- Structural Control (Passive supplemental damping and seismic isolation), Base Isolation
- Blast Engineering, Probabilistic Analysis and Design

COMPUTER SKILLS

- Computer Programming Languages: FORTRAN 90/95, MATLAB
- Symbolic Programming Software: MAPLE, MATHEMATICA
- Computer-Aided Design Software: AUTOCAD
- Structural Analysis Software: SAP2000, RUAUMOKO, ETABS
- General-purpose Finite Element Software: ABAQUS, LS-DYNA

LANGUAGE SKILLS

- English and French (Proficient in writing, reading and speaking), Greek (Native)