POLLY B. MURRAY

Boulder, CO ⋄ barbara.murray@colorado.edu

EDUCATION

University of Colorado Boulder — Boulder, CO
Structural Engineering and Structural Mechanics | GPA: 3.68
Ph.D Student in Civil Engineering — *2018 - Present*
M.S. in Civil Engineering — *December 2018*

Tufts University — Medford, MA
B.S. in Civil Engineering — *May 2014*
Howe Walker Award for leadership in ASCE Student Chapter, 2014

Coursework | Earthquake Engineering, Structural Dynamics, Matrix Analysis of Frame Structures, Adv. Steel Design, Adv. Concrete Design, Foundation Design, Engineering Risk and Decision Analysis, Experimental Methods in Structural Engineering, CAD for Engineers, Numerical Methods, Building Information Modeling, Adv. Mechanics of Materials

EXPERIENCE

University of Colorado Boulder — Boulder, CO
Research Assistant — *2017 - present*

- Develop nonlinear OpenSees models to study seismic performance of ductile RC buildings
- Pair laboratory testing results and field observations with model output
- Investigate strategies to improve repairability and reduce economic losses in modern buildings

Grader — *2017*

- Graded homework assignments and exams for undergraduate probability and statistics class

Earthquake Engineering Research Institute Student Leadership Council
Co-president — *2019-2020*

- Lead and delegate tasks to the the council subcommittees
- Collaborate with the other co-president and EERI staff to coordinate the Undergraduate Seismic Design Competition and student workshops during the EERI Annual Meeting
- Work with National Earthquake Conference Executive Committee to coordinate conference events

Seismic Design Competition Chair — *2018-2019*

- Planned and judged the Undergraduate Seismic Design Competition at the EERI Annual Meeting
- Documented the competition through photography and videography

Student Activities Chair — *2017-2018*

University of Auckland — Auckland, New Zealand
Visiting Researcher — *2018*

- Developed model to support testing of extracted subassemblies from damaged RC building

C&C Consulting Engineers — Boston, MA
Civil Engineer — *2014-2016*

- Inspected bridges and prepared rating reports including calculations and drawings for MassDOT Complex Bridges
- Developed expertise in survey data collection and presentation as team member for AECOM and MBTA projects

Fay, Spofford & Thorndike Burlington, MA
Engineering Technician *2013*

- Prepared 3D models for engineering presentations and visualization using 3DS Max
- Worked as a drafter for bridge design and other projects in AutoCAD

Tufts University Medford, MA
Teaching Assistant *2012-2013*

- Graded homework and supervised lab testing for bridge engineering course

Tufts University ASCE Chapter Medford, MA
President *2013*

- Created mentorship program for freshmen and sophomore engineers
- Organized annual Boston Society of Civil Engineers Section dinner
- Planned speakers and outreach events for students

Secretary *2012*
Freshman Representative *2011*

Center for Engineering Outreach and Education, Tufts University Medford, MA
STOMP Fellow *2013-2014*

- Developed middle school lesson plans and taught introductory programming and engineering using Lego Robotics, Mindstorms, and Scratch

TECHNICAL STRENGTHS

Modeling and Analysis	MATLAB, OpenSees, AutoCad, Revit, SAP2000
Software & Tools	MS Office, LaTeX

PUBLICATIONS AND PRESENTATIONS

Liel, Murray, Elwood. *Assessing reparability of damaged buildings based on impairment of serviceability and collapse performance.* To be presented at the 2020 World Conference on Earthquake Engineering, Sendai, Japan, September 2020.

Murray, Liel, Bullock. *Simulating performance of earthquake damaged buildings in subsequent events using machine learning.* To be presented at the 2020 World Conference on Earthquake Engineering, Sendai, Japan, September 2020.

Hess, Murray, Srubar, Liel. *The effect of urban location on the economic viability of repairing or demolishing buildings with earthquake damage.* EERI 2019 Annual Meeting. Vancouver, Canada, March 2019.

Murray. *OpenSees modelling of ductile reinforced concrete building damaged in 2016 Kaikoura earthquake.* QuakeCoRE Emerging Researchers Chapter Auckland Meeting, Auckland, New Zealand, August 2018.