

## General Biographical Information

### Basic Data

**LAURA N. LOWES**

Assistant Professor of Civil Engineering  
University of Washington  
233C More Hall, Box 352700  
Seattle, Washington 98195-2700  
(206) 685-2563  
lowes@u.washington.edu

### Educational History

Ph.D.	December 1999	University of California, Berkeley Dissertation: <i>Finite Element Modeling of Reinforced Concrete Beam-Column Bridge Connections</i>
M.S.C.E.	May 1993	University of California, Berkeley
B.S.C.E.	June 1992	University of Washington

### Employment History

Associate Professor, Department of Civil and Environmental Engineering, University of Washington, Seattle, WA, 2007-present.

Assistant Professor, Department of Civil and Environmental Engineering, University of Washington, Seattle, WA, 2000-2007.

Assistant Professor, Department of Civil and Environmental Engineering, Stanford University, 1999-2000.

Graduate Student Researcher, Department of Civil and Environmental Engineering, University of California, Berkeley, CA, 1993-1998.

### Awards and Honors

George D. Nasser Award, Precast / Prestressed Concrete Institute, 2005  
Japan Society for Promotion of Science, Short-Term Fellowship, 2002  
Terman Fellowship, School of Engineering, Stanford University, 1999-00  
Fannie and John Hertz Foundation Fellowship, 1992-97  
National Science Foundation Graduate Fellowship, 1992-95 (*declined*)

## Publications

### Refereed Journal Publications

Mitra\*, N., Mitra, S. and L.N. Lowes. "Probabilistic Model for Failure of Reinforced Concrete Interior Beam-Column Joints Subjected to Seismic Loading." *Structural Engineering and Mechanics, An International Journal*. Submitted January 2008.

Elwood, K.J., Matamoros, A. Wallace, J.W. Lehman, D.E. Heintz, J. Mitchell, A., Moore, M. Valley, M. Lowes, L.N., Comartin, C. and J.P. Moehle. "Update to ASCE/SEI 41 Concrete Provisions." *Earthquake Spectra*. 23(3) (2007): 493-523.

Tagawa\*, H., G. MacRae and L.N. Lowes. "Probabilistic Evaluation of Seismic Performance of 3D One-Way and Two-Way Steel Moment Frame Structures." *Earthquake Engineering and Structural Dynamics* 37(2008): 681-696.

Lowes, L.N. and G. Miller. "Model Building for Simulation of Nonlinear Structural Response." *Computers and Structures*. Accepted for publication.

Martin\*, J., J. Stanton, N. Mitra\* and L.N. Lowes, "Experimental Testing to Determine Concrete Fracture Energy Using a Simple Laboratory Test Setup." *ACI Materials Journal*. 104(6) (2007): 575-584.

Berry\*, M.P., D.E. Lehman and L.N. Lowes. "Lumped-Plasticity Models for Performance Simulation of Bridge Columns." *ACI Structural Journal*. Accepted for publication.

Tagawa\* H., G. MacRae and L.N. Lowes. "Seismic Reliability of 3D 1-Way and 2-Way Steel Moment Frame Structures Evaluated by Probabilistic Approach." *Journal of Structural and Construction Engineering, Transaction of AIJ (In Japanese)*. 618 (2007): 65-72.

Tagawa\* H., G. MacRae and L.N. Lowes. "Evaluation of Seismic Response of Multi-Story Structures Using Dynamic Stability Coefficients - Continuous Column Effects in Steel Moment Frames in Perspective of Dynamic Stability Part 1." *Journal of Structural and Construction Engineering, Transaction of AIJ (In Japanese)*. 618 (2007): 57-64.

Tagawa\*, H., G. MacRae and L.N. Lowes. "Evaluation of the Simplifications of 2D Moment Frames to 1D Coupled Shear-Flexural-Beam Model." *Journal of Structural and Construction Engineering, Transaction of AIJ (In Japanese)*. 609 (2006): 41-48

Mitra\*, N. and L.N. Lowes. "Evaluation, Calibration and Verification of a Reinforced Concrete Beam-Column Joint Model." *Journal of Structural Engineering, ASCE*. 133(1) (2007): 105-120.

Brown\*, P. and L.N. Lowes. "Fragility Functions for Modern Reinforced Concrete Beam-Column Joints." *Earthquake Spectra*. 23(2) (2007): 263-289.

Tagawa\*, H., G. MacRae and L.N. Lowes. "Hysteresis Loop Effects on Stability and Maximum Drift of Structures." *Journal of Structural and Construction Engineering, Transaction of AIJ (In Japanese)* 602 (2006): 137-144.

---

\* Indicates current or former graduate student

Pagni\*, C.A. and L.N. Lowes. "Fragility Functions for Older Reinforced Concrete Beam-Column Joints." *Earthquake Spectra* 22(1) (2006): 215-238.

Banks\*, G., L.N. Lowes and J. Stanton. "Analysis And Design for End Effects in Twisted Double Tees." *PCI Journal* 50(3) (2005): 40-59.

Lowes, L.N., J.P. Moehle and S. Govindjee. "A Concrete-Steel Bond Model for Use in Finite Element Modeling of Reinforced Concrete Structures." *ACI Structural Journal* 101(4) (2004): 501-511.

Lowes, L.N. and A. Altoontash\*. "Modeling the Response of Reinforced Concrete Beam-Column Joints." *Journal of Structural Engineering, ASCE* 129(12) (2003): 1686-1697.

Lowes, L.N. "Modeling the Response of Reinforced Concrete Bridge Beam-Column Joints. Subjected to Earthquake Loading." *Transportation Research Record* 1814(2002): 253-261.

Lowes, L.N. "A Concrete-Steel Bond Model for Use in Finite Element Modeling of Reinforced Concrete Structures." *ACI SP-205: Finite Element Analysis of Reinforced Concrete Structures*. Ed. K. Willam and T. Tanabe. Farmington Hills: American Concrete Institute (2001): 251-272.

Lowes, L.N. and J.P. Moehle. "Evaluation and Retrofit of Beam-Column T-Joints in Older Reinforced Concrete Bridge Structures," *ACI Structural Journal* 96(4) (1999): 519-532.

### **Fully Refereed Conference Proceedings**

Brown\*, P., J. Ji, P. Oyen\*, A. Sterns\*, D.E. Lehman, L.N. Lowes, D. Kuchma and J. Zhang. "Seismic Behavior, Analysis and Design of Complex Wall Systems." *Proceedings of the 8NCEE: 18-22 April 2006, San Francisco, CA*. Oakland: EERI, April 2006. Paper 532. 12 p.

Lowes, L.N., N. Mitra\*, A. Theiss\* and C. Paspuleti\*. "Modeling Non-Ductile RC Components and Application to the PEER Van Nuys Testbed." *Proceedings of the 8NCEE: 18-22 April 2006, San Francisco, CA*. Oakland: EERI, April 2006. Paper 1792. 9 p.

Mitra\*, N. and L.N. Lowes. "Modeling the Behavior of Reinforced Concrete Beam-Column Building Joints Subjected to Earthquake Loading." *Proceedings of the 8NCEE: 18-22 April 2006, San Francisco, CA*. Oakland: EERI, April 2006. 10 p.

Tagawa\*, H., G. MacRae, L.N. Lowes and A. Wada. "Dynamic Instability by Link-Element Deformation in Framed-Tube Structures." *Proceedings of the 8NCEE: 18-22 April 2006 San Francisco, CA*. Oakland: EERI, April 2006. 11 p.

Lowes, L.N. and A. Altoontash\*. "Modeling the Response of RC Beam-Column Joints." *Proceedings of the 7NCEE: 21-26 July 2002 Boston, MS*. Oakland: EERI, July 2002. 10 p.

Lowes, L.N. "Finite Element Modeling of Reinforced Concrete Beam-Column Connections," *Modeling of Inelastic Behavior of Reinforced Concrete Structures under Seismic Loads*. Ed. B. Shing and T. Tanabe. New York: American Society of Civil Engineers, June 2001. pp. 276-296.

Lowes, L.N., Govindjee, S. and J.P. Moehle. "Analysis of Reinforced-Concrete Beam-Column Bridge Joints," *Proceedings of the Sixth U.S. National Conference on Earthquake Engineering, Seattle, Washington, 31 May – 4 June 1998*. Oakland: EERI, 1998. Paper 85. 12 p.

## Abstract and Non-Refereed Conference Proceedings and Other Non-Journal Articles

Birely\*, A., Lehman, D.E., Lowes, L.N. Hart, C., Marley, K, Kuchma, D. "Investigation of the Seismic Behavior and Analysis of Reinforced Concrete Structural Walls." *Proceedings of the 14<sup>th</sup> World Conference on Earthquake Engineering. October 2008 Beijing, China 2008.*

Hart, C., Marley, K, Kuchma, D., Birely\*, A., Lehman, D.E., Lowes, L.N. "Testing of RC Walls Using Advanced Load-Control and Instrumentation Methods." *Proceedings of the 14<sup>th</sup> World Conference on Earthquake Engineering. October 2008 Beijing, China 2008.*

Lehman, D.E., Lowes, L.N., Birely\*, A., Doepker\*, B., Kuchma, D. Hart, C., Marley, K. "Performance Assessment of Modern Walled Buildings." *Proceedings of the SEAOC 2008 Convention September 2008, Kona, HI*

Doepker\*, B., Lehman, D.E., Lowes, L.N. "Evaluation of Practical Methods for Analysis of Reinforced Concrete Walls," *Proceedings of the 2008 NEES Annual Meeting 18-20 June 2008, Portland, OR.*

Doepker\*, B., Lehman, D.E., Lowes, L.N. "Evaluation of Practical Methods for Analysis of Reinforced Concrete Walls," *Proceedings of the 2008 Structures Congress and Exposition 24-26 May 2008, Vancouver, B.C.*

Lowes, L.N., Lehman, D.E., Kuchma, D. and J. Zhang. "Investigation of the Seismic Behavior and Analysis of Reinforced Concrete Structural Walls Using the UIUC NEES Facility." *Proceedings of the 2007 Structures Congress and Exposition. 16-19 May 2007, Long Beach, CA.*

Mohr\*, D., Lehman, D.E. and L.N. Lowes. "Performance-Based Design and Nonlinear Modeling of Coupled Shear Walls and Coupling Beams." *Proceedings of the 2007 Structures Congress and Exposition. 16-19 May 2007, Long Beach, CA.*

Doepker\*, B.D., Lehman, D.E. and L.N. Lowes, "Modeling the Behavior of Large Scale Shake Table Tests Using Linear Elastic Time History Methods," *Proceedings of the NEES/UCSD Seminar on Analytical Modeling of Reinforced Concrete Walls for Earthquake Resistance. San Diego, CA. December 2006.*

Tagawa\*, H., G. MacRae and L.N. Lowes. "Probabilistic Evaluation of Seismic Performance of 3D One-Way and Two-Way Steel Moment-Frame Structures." *Proceedings of STESSA 2006: Behavior of Steel Structures in Seismic Areas, August 14-17 2006, Yokohama, Japan.* Structural Stability Research Council. 2006. 20 p.

Mitra\*, N. and L.N. Lowes. "Modeling the Response of RC Beam-Column Joints." *13<sup>th</sup> World Conference on Earthquake Engineering. 1-6 August 2004 Vancouver, B.C. Canada.* 2004. Paper 1001. 11 p.

Tagawa\*, H., G. MacRae and L.N. Lowes. "Evaluation of 1D Simple Structural Models for 2D Steel Frame Structures." *13<sup>th</sup> World Conference on Earthquake Engineering. 1-6 August 2004 Vancouver, B.C. Canada.* 2004. Paper 1863. 11 p.

Tagawa\*, H., G. MacRae and L.N. Lowes. "Evaluation and Mitigation of P- $\Delta$  Effects on 2D Frame Behavior." *Proceedings of the 2004 Annual Stability Conference, March 24-27 2004, Long Beach, CA, USA.* Structural Stability Research Council. 2004. 20 p.

Tagawa\*, H., G. MacRae and L.N. Lowes. "Evaluation and Mitigation of P-D Effects on 2D Frame Behavior." *STESSA 2003: Proceedings of the Conference on Behaviour of Steel Structures in Seismic Areas, 9-12 June 2003, Naples, Italy.* 2003. pp. 463-470.

Mormann\*, M. D. Lehman, L. Lowes, J. Stanton. "Modeling the Earthquake Response of Reinforced Concrete Beam-Column Joints." *Proceedings of the 2003 ASCE/SEI Structures Congress and Exposition: Engineering Smarter, May 2003.* pp 329-334.

Lowes, L.N. "Modeling the Earthquake Response of RC Joints." *The Fourth U.S.-Japan Workshop on Performance-Based Earthquake Engineering Methodology for Reinforced Concrete Building Structures, 22-24 October 2002, Toba, Japan.* 2002. pp. 295-306.

Lowes, L.N. and A. Altoontash\*. "Modeling the Response of RC Beam-Column Joints." *Performance of Structure from Research to Design, Proceedings of the 2002 Structures Congress and Exposition. 4-6 April 2002, Denver, Colorado.* Washington, D.C.: ASCE, 2002. 2 p.

Naito, C.J., L.N. Lowes, S. Govindjee and J.P. Moehle. "Design of Innovative Reinforced Concrete Joints," *Proceedings of the 2nd National Seismic Conference on Bridges and Highways, 8-11 July 1997.* Sacramento: Calif. Dept. of Transportation, 1997. 17 p.

Lowes, L.N., C.J. Naito and C.R. Thewalt. "Performance and Design of Constructible Reinforced Concrete Beam-Column Connections," *Proceedings of the Fourth Annual Caltrans Seismic Research Workshop, 8-10 July 1996.* Sacramento: Calif. Dept. of Transportation, 1996. 11 p.

Lowes, L.N. and J.P. Moehle. "Behavior and Rehabilitation of Beam-Column T-Joints in Older Reinforced Concrete Bridge Structures," *Proceedings of the Eleventh World Conference on Earthquake Engineering 23-28 June 1996, Acapulco, Mexico.* Paper 668. 8 p.

Lowes, L.N. and J.P. Moehle. "Behavior and Rehabilitation of Older Reinforced Concrete T-Joints" *Proceedings of the Fourth U.S. Conference on Lifeline Earthquake Engineering, Report: Technical Council on Lifeline Earthquake Engineering Monograph No. 6.* New York: American Society of Civil Engineers, 1995. pp. 596-603.

Lowes, L.N. and J.P. Moehle. "Behavior and Retrofitting of Older Reinforced Concrete Tee Joints," *Proceedings of the Third Annual Caltrans Seismic Research Workshop, June 1994.* Sacramento: California Dept. of Transportation, 1994.

Lowes, L.N. and J.P. Moehle. "Seismic Behavior of As-Built and Upgraded Reinforced Concrete Beam-Column Connections," *Proceedings of the Tenth U.S.-Japan Bridge Engineering Workshop: Design, Modeling, Experimentation and Performance, Lake Tahoe, Nevada.* 1994.

## **Books and Editing**

Lowes, L.N. and F. Filippou, Editors. *ACI SP-237: Finite Element Analysis of Reinforced Concrete Structures: Proceedings of the International Workshop on Simulation of Post-Peak Response, November 2003.* Farmington Hills: American Concrete Institute. November 2006. 310 p.

Lowes, L.N. and G. Miller, Editors. *Proceedings of the 2003 ASCE/SEI Structures Congress and Exposition: Engineering Smarter, May 2003.* 1284 p.

## Project Reports

Lowes, L.N., N. Mitra\* and A. Altoontash\*. *A Beam-Column Joint Model for Simulating the Earthquake Response of Reinforced Concrete Frames*. PEER Report 2003/10. Berkeley: PEER, University of California, February 2004. 70 p.

Pagni\*, C.A. and L.N. Lowes. *Prediction of the Economic Impact of Damage to Older RC Beam-Column Joints*. PEER Report 2003/17. Berkeley: PEER, University of California, February 2004. 80 p.

Lowes, L.N. *Finite Element Modeling of Reinforced Concrete Beam-Column Bridge Connections*. Dissertation. University of California, Berkeley. 1999.

Lowes, L.N., D. Figuera, C.J. Naito and C.R. Thewalt. *Experimental Verification of Embedded Concrete Gages Under Cyclic Compression and Tension*. Document prepared for the California Department of Transportation, Division of Structures, March 1996.

Lowes, L.N. and J.P. Moehle. *Seismic Behavior and Retrofit of Older Reinforced Concrete Bridge T-Joints*. Report No. UCB/EERC-95/09. Berkeley: EERC, University of California, September 1995.

Moehle, J.P., Editor, *Preliminary Report on the Seismological and Engineering Aspects of the January 17, 1994 Northridge Earthquake. Preliminary Findings from Field Investigations by a Team from the University of California, Berkeley Immediately Following the Earthquake*. Report No. UCB/EERC-94/01. Berkeley: EERC, University of California, January 1994.

## Other Scholarly Activity

### Invited Lectures, Seminars and Presentations

*Nonlinear Analysis of Reinforced Concrete Walls Using OpenSees Beam-Column Elements*, 2007 NEES Annual Meeting. May 2007, Snowbird, UT.

*Seismic Behavior, Analysis and Design of Complex Wall Systems*. US-Japan NEES/E-Defense Collaborative Earthquake Engineering Research Program Planning Meeting. Kobe, Japan. November 2006.

*X-Ray Tomography Investigation of Concrete-Steel Bond*. International Workshop: Microstructure and Micromechanics of Stone Based Infrastructure Materials. Blacksburg, Virginia. October 2006.

*Prediction of Damage to Older RC Beam-Column Joints*. International Workshop on Performance-Based Seismic Design (PBSD) -- Concepts and Implementation. Bled, Slovenia. June 2004.

*Advances in Structural Simulation*. Pacific Earthquake Engineering Research Center, NSF Site Review. May 2004.

*Modeling the Earthquake Response of Beam-Column Joints*. 4<sup>th</sup> U.S.-Japan Workshop on Performance-Based Seismic Design Methodology for Concrete Buildings. Toba, Japan. October 2002.

*Numerical Simulation of Structural Response* Pacific Earthquake Engineering Research Center, NSF Site Review. May 2001.

*Finite Element Modeling of Reinforced Concrete Beam-Column Connections*. Seminar on Post-Peak Behavior of RC Structures Subjected to Seismic Loads, Tokyo. October 1999.

### Presentations Given at Conferences

“Investigation of the Seismic Behavior and Analysis of Reinforced Concrete Structural Walls.” 14<sup>th</sup> World Conference on Earthquake Engineering. October 2008 Beijing, China. Presentation by A. Birely\* .

“Evaluation of Practical Methods for Analysis of Reinforced Concrete Walls,” 2008 NEES Annual Meeting. June 2008, Portland, OR.

“Evaluation of Practical Methods for Analysis of Reinforced Concrete Walls,” 2008 Structures Congress and Exposition. 24-26 May 2008, Vancouver, B.C.

“Investigation of the Seismic Behavior and Analysis of Reinforced Concrete Structural Walls Using the UIUC NEES Facility,” 2007 Structures Congress and Exposition. 16-19 May 2007, Long Beach, CA.

“Performance-Based Design and Nonlinear Modeling of Coupled Shear Walls and Coupling Beams,” Structures Congress and Exposition. 16-19 May 2007, Long Beach, CA.

“Evaluation of Blind Predictions of the Response of Beam-Column Joints,” ACI Spring Convention, 22-26 April 2007, Atlanta, GA.

“Blind Prediction of the Response of Beam-Column Joints Using a Joint Super Element,” ACI Spring Convention, 22-26 April 2007, Atlanta, GA. Presented by N. Mitra .

“Practical Model of RC Beam-Column Joints,” PEER\* Center Annual Meeting. San Francisco, CA. January 2007. Poster presented by A. Birely .

“Modeling the Behavior of Large Scale Shake Table Tests Using Linear Elastic Time History Methods,” NEES/UCSD Seminar on Analytical Modeling of Reinforced Concrete Walls for Earthquake Resistance. San Diego, CA. December 2006. Presentation by B. Doepker\* .

“Probabilistic Evaluation of Seismic Performance of 3D One-Way and Two-Way Steel Moment-Frame Structures.” STESSA 2006: Behavior of Steel Structures in Seismic Areas. Yokohama, Japan. August 2006. Presented by H. Tagawa\* .

“Seismic Behavior, Analysis and Design of Complex Wall Systems.” Eighth National Conference on Earthquake Engineering. San Francisco, CA. April 2006.

“Modeling Non-Ductile RC Components and Application to the PEER Van Nuys Testbed.” Eighth National Conference on Earthquake Engineering. San Francisco, CA. April 2006.

“Modeling the Behavior of Reinforced Concrete Beam-Column Building Joints Subjected to Earthquake Loading.” Eighth National Conference on Earthquake Engineering. San Francisco, CA. April 2006. Poster presented by N. Mitra\* .

“Dynamic Instability by Link-Element Deformation in Framed-Tube Structures.” Eighth National Conference on Earthquake Engineering. San Francisco, CA. April 2006. Poster presented by H. Tagawa\* .

“Strut-and-Tie Modeling for Seismic Design.” ACI Spring Convention. Charlotte, NC. March 2006.

“Strut-and-Tie Modeling of Interior Beam-Column Joints for Seismic Design.” ACI Spring Convention. Charlotte, NC. March 2006.

“OpenSees Development and Validation Efforts at University of Washington.” OpenSees Developers Symposium. Berkeley, CA. August 2005.

“EDP-DM-DV Relationships for RC Components.” PEER Center Annual Meeting. Walnut Creek, CA. April 2005.

“Seismic Behavior, Analysis and Design of Complex Wall Systems.” National Science Foundation and NEES Consortium Inc. NEESR-05 Informational Webcast. December 2004.

“Modeling the Response of RC Beam-Column Joints.” 13<sup>th</sup> World Conference on Earthquake Engineering. Vancouver, B.C. Canada. August 2004. Presented by N. Mitra\*

“Evaluation of 1D Simple Structural Models for 2D Steel Frame Structures.” 13<sup>th</sup> World Conference on Earthquake Engineering. Vancouver, B.C. Canada. August 2004. Poster presented by H. Tagawa\* .

“Evaluation and Mitigation of P-D Effects on 2D Frame Behavior.” The Annual Stability Conference, Long Beach, CA. March 2004. Presented by H. Tagawa\* .

"Evaluation and Mitigation of P-D Effects on 2D Frame Behavior." STESSA 2003: Naples, Italy. June 2003. Presented by H. Tagawa .

"Modeling the Earthquake Response of Reinforced Concrete Beam-Column Joints." 2003 ASCE/SEI Structures Congress and Exposition: Engineering Smarter, Seattle, WA. May 2003. Presented by M. Mormann .

"The Impact of Bond on the Response of RC Beam-Column Joints." US-Japan Workshop on Finite Element Analysis of Reinforced Concrete. Maui, Hawaii. November 2003.

"Modeling the Earthquake Response of RC Joints." International Conference on Advances and New Challenges in Earthquake Engineering Research. Harbin, China. August 2002.

"Modeling the Response of RC Beam-Column Joints." ASCE/SEI Structures Congress. Denver, Colorado. April 2002.

"A Concrete-Steel Bond Model for Use in Finite Element Modeling of Reinforced Concrete Structures," American Concrete Institute, Toronto, Canada, October 2000.

"Seismic Response of Anchored Headed Reinforcement," American Concrete Institute, Toronto, Canada, October 2000.

"Seismic Response of Anchored Headed Reinforcement," American Concrete Institute, San Diego, California, March 2000.

"Analysis of Reinforced Concrete Beam-Column Bridge Connections," John A. Blume Center Affiliates Meeting, Stanford, California, May 1999.

"Analysis of Reinforced-Concrete Beam-Column Bridge Joints," Sixth U.S. National Conference on Earthquake Engineering," Seattle, Washington. June 1998.

"Performance and Design of Constructible Beam-Column Connections," Fourth Caltrans Seismic Research Workshop, Sacramento, California. July 1996.

"Behavior and Rehabilitation of Beam-Column T-Joints in Older Reinforced-Concrete Bridge Structures," 11<sup>th</sup> World Conference on Earthquake Engineering. Mexico. June 1996.

"Rehabilitation of Older Reinforced-Concrete Bridge Joints," SEMM Student Colloquia, University of California, Berkeley. September 1995.

"Behavior and Rehabilitation of Older Reinforced-Concrete T-Joints," Fourth U.S. Conference on Lifeline Earthquake Engineering, San Francisco, California. April 1995.

"Behavior and Retrofitting of Older Reinforced-Concrete Tee-Joints," Third Annual Caltrans Seismic Research Workshop, Sacramento, California. June 1994.

### **Professional Society Memberships**

American Concrete Institute, full member since 1999.

American Society of Civil Engineers, full member since 1999.

Earthquake Engineering Research Institute, full member since 1999.

**Other: Journal Reviews Made Since Fall 2000**

Journal	Approximate Number
<i>American Concrete Institute, Structures Journal</i>	4
<i>American Concrete Institute, Special Publications</i>	2
<i>Canadian Journal of Civil Engineering</i>	1
<i>Computer-Aided Civil and Infrastructure Engineering</i>	4
<i>Earthquake Spectra, EERI</i>	6
<i>International Journal of Solids and Structures</i>	1
<i>Journal of Advanced Concrete Technology</i>	1
<i>Journal of Civil Engineering and Management</i>	1
<i>Journal of Earthquake Engineering</i>	4
<i>Journal of Earthquake Engineering and Structural Dynamics</i>	2
<i>Journal of Materials in Civil Engineering, ASCE</i>	2
<i>Journal of Structural Engineering, ASCE</i>	15
<i>Journal of Zhejiang University SCIENCE</i>	2
<i>Materials and Structures</i>	2

## **Graduate Students**

### **Chaired Doctoral Degrees**

Anna Birely, co-chaired with Dr. Lehman, in progress

Jingjuan Li, in progress

Nilanjan Mitra, graduated December 2006, currently employed at California Polytechnic State University, San Luis Obispo.

Hiro Tagawa, co-chaired with Dr. Greg MacRae, graduated June 2005.

### **Chaired Master Degrees**

Blake Doepker, co-chaired with Dr. Lehman, M.S. thesis to be completed June 2008

Anna Birely, M.S. degree (non-thesis), degree to be conferred June 2008

Claudio Osses-Henriquez, co-chaired with Dr. Lehman, M.S. thesis completed August 2007

Danya Mohr, co-chaired with Dr. Lehman, M.S. thesis completed June 2007

Peter Brown, M.S. thesis completed June 2008

Paul Oyen, co-chaired with Dr. Lehman, M.S., August 2006

Aaron Sterns, M.S. degree (non-thesis), March 2006

Julie Buktenica, M.S. degree (non-thesis), March 2006

Jeremy Jacobs, M.S. degree (non-thesis), March 2006

Adam Theiss, M.S. thesis completed June 2005

Zane Kayner, M.S. degree (non-thesis), March 2005

Jeremy Jacobs, M.S. degree (non-thesis), December 2004

Catherine Pagni, M.S. thesis completed August 2003

Chaitanya Paspuleti, M.S. thesis completed December 2002

### **Other Student Supervision (membership on degree and/or reading committees)**

#### **Ph.D. Committees**

Jae Won Jang, degree March 2007

Mike Berry, degree 2006

Tyler Ranf, degree March 2007

Alex Lindblad, degree 2006

Jung Han Yoo, degree June 2006

#### **M.S. Committees**

Jon Padvorac, M.S. thesis completed 2008

Tyler Sprague, M.S. thesis completed 2006

Joshua Martin, M.S. thesis completed 2006

Gregory Banks, M.S. thesis completed 2004

Haoli Camarillo, M.S. thesis completed 2003

Mohan Chippada, M.S. degree (non-thesis) 2003

Andrew Ayling, M.S. thesis completed 2003

Tomas E. Tomasson, M.S. thesis completed 2002

Alex Lindblad, M.S. thesis completed 2001

Jae Won Jang, M.S. thesis completed 2001

Ahmad El Hussein, M.S. thesis completed 2001

## Research Activities

### Sponsored Research

- 2008-12 *NEESR-SG: Smart and Resilient Steel Walls for Reducing Earthquake Impacts.* P.I. J. Berman with Co-P.I.s L. Lowes, T. Okazaki (UM), M. Bruneau (UB), and K.C. Tsai (NCREE). Funded by NSF.
- 2008-11 *NEESR-SG: Performance-Based Design of Squat Concrete Walls of Conventional and Composite Construction.* P.I. A. Whittaker (UB) with Co-P.I.s B. Stojadinovic (UCB) and A. Lynn (CalPoly). Funded by NSF.
- 2007-10 *MRI: Acquisition of Equipment to Simulate Collapse of Engineered Systems under Extreme Loads.* P.I. Lehman with Co-P.I.s C. Roeder, G. Miller, J. Stanton, L. Lowes. Funded by NSF.
- 2005-07 *Database and Simulation Models for RC Components.* Funded by NSF through the PEER Center.
- 2004-09 *NEESR-SG: Seismic Behavior, Analysis and Design of Complex Wall Systems.* Funded by NSF. P.I. Lowes with Co-P.I.s D.E. Lehman, D. Kuchma (UIUC) and Jian Zhang (UCLA).
- 2004-08 *An X-Ray Tomography Investigation of Bond in Reinforced Concrete.* Funded by NSF with \$70,000 in matching funds from the College of Engineering and Department of Civil and Environmental Engineering. P.I. Lowes with Co-P.I.s G. Turkiyyah and J. Stanton.
- 2003-05 *Modeling of Structural Damage for Old RC Components.* Funded by NSF through the PEER Center.
- 2003-04 *Workshop for FEARCS: Simulation of Collapse of Concrete Structures: From Research to Practice.* Funded by NSF.
- 2001-03 *Van Nuys Testbed Simulation.* Funded by NSF through the PEER Center.
- 2000-02 *Modeling of Structural Damage for Old RC Components.* Funded by NSF through the PEER Center.
- 2000-01 *Fiber-Optic Sensors for Model-Based Simulation and Health Monitoring of Civil Structures.* Funded by the Office of Technology Licensing, Stanford University. P.I. G. Deierlein with Co-P.I. L. Lowes.
- 1999-02 *Development and Verification of a Bond-Zone Model.* Funded by NSF through the PEER Center.
- 1998-00 *Seismic Response of Anchored Headed Reinforcement.* Funded by the California Department of Transportation and the Chevron Corporation. P.I. Dawn E. Lehman with L. Lowes and administered by J.P. Moehle.

## Service

### Departmental Service

2006-07	CEE Strategic Hiring Plan Committee
2006-07	Chi-Epsilon Advisor
2006	Advisor for the Seismic Design Competition
2005	CEE Safety Committee Member
2002-04	CEE Executive Committee Member
Spring 2003	Coordinator for Structures Group Graduate Student Recruiting Weekend
Fall 2003	CEE Undergraduate Curriculum Review Committee
2001	Organizer for 2001 Evan's Lecture

### College Service

2001	CEE Chair Search Committee Member
------	-----------------------------------

### University Service

None

### Professional Society Service

*Chair*, American Concrete Institute - American Society of Civil Engineering Committee 447, Finite Element Analysis of Reinforced Concrete Structures. 2003-present. Activities include: establishing committee objectives, organizing semi-annual meetings, supporting the development of committee documents.

*Member*, American Concrete Institute - American Society of Civil Engineering Committee 445, Sub-Committee A: Shear and Torsion: Strut-and-Tie Modeling of RC Structures. 2003-present. Activities include: development of guideline for use of strut-and-tie modeling to support design of structures for earthquake loading.

*Member*, ASCE Methods of Analysis Committee

*Member*, ASCE/SEI 2003 Structures Congress Organizing Committee

*Member*, ASCE 2003 Structural Mechanics Conference Organizing Committee

### Community Service

None

## **National and Governmental Service**

October 2005 – February 2008: Network for Earthquake Engineering Simulation (NEES) Consortium, Inc., Information Technology Strategy Committee (ITSC). The committee charge is with monitoring and advising the research activities of NEES Cyberinfrastructure Center (NEESit) to ensure that research activities result in products that will contribute to the advancement of earthquake engineering. NEESit has an approximately \$4 million annual budget provided by NSF and administered by NEES Consortium, Inc.

May – December 2005: United States Geological Survey, Advanced National Seismic System, System Response Monitoring Committee. Activities supported the ANSS National Steering Committee by reviewing pre-proposals to recommend a short-list of instrumentation projects for which full proposals should be requested, reviewing full proposals to recommend a list of instrumentations projects to be funded through the ANSS, providing advice on any modifications in the criteria and process for following year.

May 2005, NSF Review Panel

April – December 2004, United States Geological Survey (USGS), Advanced National Seismic System (ANSS), Structural Instrumentation Guideline Committee. The ANSS is a USGS initiative to modernize and broadly expand earthquake monitoring and reporting in the United States. The Structural Instrumentation Guideline Committee developed guidelines identifying prioritize needs for data collected from ANSS monitored structures and geo-systems, provided procedures to identify and prioritize candidate structures and geo-systems, and provided recommendation on procedures and practices for instrumentation installation and operation.

March 2003, NSF Review Panel

December 2002, NSF Review Panel

January 2002, NSF Review Panel

June 2001, NSF Review Panel

February 2001, NSF Review Panel

April 1999, NSF Review Panel