

Zehra Çağnan

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Posta Kutusu No. 106
Lefkosa, Mersin 10
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EDUCATION

- May 2005* **Doctor of Philosophy in Civil and Environmental Engineering:**
Cornell University, College of Engineering, Ithaca, New York, USA
Concentrations: Structural Engineering and Risk Analysis, Communication and Policy
Dissertation Title: Post-Earthquake Restoration Modeling for Critical Lifeline Systems
Dissertation Advisor: Rachel Davidson
- June 2001* **Master of Science Degree in Civil Engineering:**
Middle East Technical University, Ankara, Turkey
Concentrations: Structural and Earthquake Engineering
Thesis Title: Three Dimensional Nonlinear Dynamic Analysis of a Reinforced Concrete
Frame Building in Bolu
Thesis Advisor: Polat Gülkan
- June 1999* **Bachelor of Engineering Degree in Civil Engineering:**
University of London, University College London, United Kingdom
First Class Honors

ACADEMIC EXPERIENCE

- June 2007-
Present* **Assistant Professor at Middle East Technical University – Northern Cyprus Campus,
Civil Engineering Program**
- Fall 2007-
June 2007* **Full time Instructor at Middle East Technical University – Northern Cyprus Campus,
Civil Engineering Program**
- Fall 2006-
Fall 2007* **Part time Instructor at Middle East Technical University – Northern Cyprus Campus,
Civil Engineering Program**
- 2003-Fall 2005* **Research Assistant at Cornell University, School of Civil and Environmental
Engineering**
- 1999-2001* **Research Assistant at Earthquake Engineering Research Center, Middle East Technical
University**

PROFESSIONAL EXPERIENCE

- April 2005-
May 2006* **Project Engineer:** Üçok Design, Architects and Engineers Associated- Kyrenia, Cyprus
- Summers 1997
& 1998* **Junior Engineer:** SETKA Construction Company – Nicosia, Cyprus

AWARDS & HONORS

- 2003 Multidisciplinary Center for Earthquake Engineering Research, **2003 Best Student Article Competition Honorable Mention**
- 2003 Cornell University, School of Civil and Environmental Engineering, **George Winter Graduate Traveling Fellowship in Structural Engineering**
- 2003 **TCLEE Student Fellowship 2003** for the paper ‘*Post-earthquake Lifeline Service Restoration Modeling*’ from the organizing committee of the 6th U.S. Conference and Workshop on Lifeline Earthquake Engineering
- 2001 - 2002 Cornell University, School of Civil and Environmental Engineering, **Graduate Research Scholarship** (presented twice)
- 1999 University of Cambridge, **Trinity College Overseas Fees Bursary**
- 1999 Cambridge Commonwealth Trust, **Trinity Bursary**
- 1999 **United Kingdom Overseas Research Students Award**
- 1999 University of London, University College London, **Graduate School Research Scholarship**
- 1999 University of London, University College London, **Faculty of Engineering Medal** for academic year 1998 – 99
- 1999 The Institution of Civil Engineers (United Kingdom) **Prize for outstanding undergraduate work in Civil Engineering**
- 1999 University of London, University College London, **L.F. Vernon – Harcourt Prize** for best performance in Civil & Environmental Engineering Dep. for academic year 1998 – 99
- 1998 University of London, University College London, **Goldsmid Prize** for excellence in Civil Engineering for academic years 1997 – 98 and 1996-97 (presented twice)
- 1995-1998 **British Council Chevening Scholarship**
- 1993 University of London, **Award for an outstanding performance** in the General Certificate of Education-mathematics examination

PROFESSIONAL MEMBERSHIPS

- 2006-2008 Executive Board Member of Turkish Cypriot Chamber of Civil Engineers
- 2002-Fall 2005 Member of Multidisciplinary Center for Earthquake Engineering Research-Student Leadership Council
- Fall 2002-Fall 2005 President of Cornell University Student Chapter, Earthquake Engineering Research Institute
- Fall 2002-Present Member of Earthquake Engineering Research Institute
- Fall 2006-Present Member of Seismological Society of America
- 1999- Present Member of Turkish Cypriot Chamber of Civil Engineers

COMPUTER SKILLS

- Operating Systems* UNIX, MS-Windows 98/NT/2000/XP, Linux
- Languages* Fortran, Java
- Math Packages* MathCad, MatLab
- Analysis Packages* SAP2000, Drain3DX, Probrina Orion 2000
- Simulation Packages* Promodel, Arena, Swarm
- Other* ARCGIS, MAPINFO, SQL, DATA, @Risk, AutoCAD, Microsoft Office

PUBLICATIONS

Journal Papers:

Çağnan, Z., and G. B. Tanircan. 2008. Seismic Hazard Assessment for Cyprus, *Journal of Seismology* (forthcoming).

Durukal, E., M. Erdik, Z. Çağnan and K. Sesetyan. Istanbul Earthquake: Issues with the Compulsory Insurance, *Natural Hazards Review*, ASCE (submitted).

Strasser, F.O., J.J. Bommer, K. Sesetyan, M. Erdik, Z. Çağnan, J. Irizarry, X.Goula, A. Lucantoni, F. Sabetta, I.E. Bal, H.Crowley, and C. Lindholm, 2008. A Comparative Study of European Earthquake Loss Estimation Tools for an Earthquake Scenario in İstanbul, *Journal of Earthquake Engineering*, Vol. 12, pp. 246-256.

Çağnan, Z., K. Şeşetyan, C. Zülfişkar, M.B. Demirciođlu, Ç. Kariptaş, E.Durukal and M. Erdik. 2008. Development of Earthquake LossMap for Europe, *Journal of Earthquake Engineering*, Vol.12, pp.37-47.

Xu, N., S.D. Guikema, R. Davidson, L.K. Nozick, Z. Çağnan and K. Vaziri. 2007. Optimizing Scheduling of Post-earthquake Electric Power Restoration Tasks, *Earthquake Engineering and Structural Dynamics*, Special issue on electric power.

Çağnan, Z., and R. Davidson. 2007. Discrete Event Simulation of Post-earthquake Restoration Process for Electric Power Systems, *International Journal of Risk Assessment and Management*.

Çağnan, Z., R. Davidson. and S.D. Guikema. 2006. Post-Earthquake Restoration Planning for Los Angeles Electric Power, *Earthquake Spectra*, EERI .

Reviewed Publications in Conference Proceedings:

Zülfişkar, C., Z.Çağnan, E.Durukal, and M. Erdik. 2007. İstanbul Deprem Erken Uyarı ve Acil Müdahale Sistemi İstasyon Kayıtlarının İncelenmesi. In *Proc. of 6. Ulusal Deprem Mühendisliđi Konferansı in İstanbul, Turkey. October 16-20, 2007.*

Çağnan, Z., C.Zülfişkar, E.Durukal, and M. Erdik. 2007. Avro-Akdeniz Bölgesi için Geliştirilen Eş Zamanlı Deprem Hasar Dağılımı Hesaplama Yöntemleri. In *Proc. of 6. Ulusal Deprem Mühendisliđi Konferansı in İstanbul, Turkey. October 16-20, 2007.*

Erdik, M., E.Dur, E.Durukal, Z.Cağnan, N.Kilic, E.Uckan, E.Safak, H.Alcik, A.Mert, 2007. IGDAS Deprem Acil Müdahale Sistemi. In *Proc. of 2nd International Natural Gas Management Symposium in Istanbul, Turkey, April 24-26, 2007.*

Guikema, S.D., N.Xu, R.Davidson, L.K. Nozick, and Z. Çağnan. 2006. Optimization of Teams in Post-Earthquake Electric Power Restoration. In *Proc. of the 8th National Conference on Earthquake Engineering in San Francisco, USA. April 18-22, 2006.*

Guikema, S.D., R. Davidson and Z. Çağnan. 2004. Efficient Simulation-based Discrete Optimization. In *Proc. of the 2004 Winter Simulation Conference in Washington, D.C .USA. December 5-8, 2004.*

Çağnan, Z., and R. Davidson. 2004. Post-earthquake Restoration Modeling of Electric Power Systems. In *Proc., 13th World Conference on Earthquake Engineering in Vancouver, BC, Canada, August 1-6, 2004.*

Çağnan, Z., and R. Davidson. 2003. Post-earthquake Lifeline Service Restoration Modeling. In *Proc. TCLEE 2003, 6th U.S. Conference and Workshop on Lifeline Earthquake Engineering in Long Beach, CA, August 10-13 , 2003*, pp 255-264.

Çağnan, Z., and P. Gülkan. 2002. Analysis of an RC Frame Building Damaged During the 12 November 1999 Düzce Earthquake. In *Proc. EURO DYN2002, 4th International Conference on Structural Dynamics, Munich, Germany, September 2-5, 2002*, pp 1329-1334.

Other Publications:

Zulfikar, A.C., Cagnan, Z., Sesetyan, K., Demircioglu, M., Durukal, E.; Erdik, M., (2008) "Development of a Shake Map Archive for Recent Earthquakes in Turkey" *Geophysical Research Abstract, EGU 2008, Vienna, Austria.*

Çağnan, Z., K. Sesetyan, C. Kariptas, C. Zulfikar, M. Demircioglu, E. Durukal, and M. Erdik. 2007. Near Real Time Earthquake Loss Assessment Methodology for Europe. *American Geophysics Union 2007 Fall Meeting Proceedings, San Francisco, United States of America.*

Erdik, M., Z., Çağnan, C. Zulfikar, E. Durukal, K. Sesetyan, M. Demircioglu, C. Kariptas. 2007. Development of Shakemap Methodologies. *American Geophysics Union 2007 Fall Meeting Proceedings, San Francisco, United States of America.*

Çağnan, Z., Ç. Kariptaş and M. Erdik. 2007. A Study on the Correlation of Topographic Slopes and Site Classifications. *Network of Research Infrastructures for European Seismology Project Internal Report, Kandilli Observatory and Earthquake Research Institute, Istanbul, Turkey.*

Çağnan, Z., C. Zulfikar, E. Durukal and M. Erdik. 2007. Issues with the Development of Analytical Iso-Seismal Maps. *Network of Research Infrastructures for European Seismology Project Internal Report, Kandilli Observatory and Earthquake Research Institute, Istanbul, Turkey.*

Çağnan, Z., C. Tüzün, U. Hancılar, C. Zulfikar, E. Durukal and M. Erdik. 2007. Preliminary Report on Building and Casualty Vulnerability Relationships. *Network of Research Infrastructures for European Seismology Project Internal Report, Kandilli Observatory and Earthquake Research Institute, Istanbul, Turkey.*

Zulfikar, C., Z. Çağnan, E. Durukal, and M. Erdik. 2007. Consistency of Site Response in İstanbul Based on Data from the İstanbul Earthquake Rapid Response System. *Geophysical Research Abstract, Vol.9, 09119, EGU 2007, Vienna, Austria.*

Çağnan, Z., C. Zulfikar, E. Durukal, and M. Erdik. 2007. Development of Shakemap Methodologies for Europe. *Geophysical Research Abstract, Vol.9, 08139, EGU 2007, Vienna, Austria.*

Bignami, C., M.F. Buongiorno, Z. Cagnan, M.G. Ciminelli, M. Corsi, M. Musacchio, O. Ozel, G. Pace, D. Pellegrino, S. Perelli, S. Rurigliano and S. Stramondo. 2007. A Prototype System Based on Satellite Data to Support the End Users for Damage Assessment: the PREVIEW Project. *Geophysical Research Abstract, Vol.9, 03068, EGU 2007, Vienna, Austria.*

Berardino, P., C. Bignami, M.F. Buongiorno, Z. Cagnan, M.G. Ciminelli, M. Constantini, M. Corsi, T. Ganas, R. Lanari, F. Malvaros, F. Minati, M. Musacchio, O. Ozel, G. Pace, D. Pellegrino, S. Perelli, S. Rurigliano and S. Stramondo. 2007. The Eurorisk-Preview Project: Earthquake Prone Areas Monitored by means of ENVISAT and ERS Data. *Geophysical Research Abstract, Vol.9, 04981, EGU 2007, Vienna, Austria.*

Davidson, R. and Z. Çağnan. 2004. Restoration Modeling of Lifeline Systems. In *MCEER Research Accomplishments 2003-2004*, Multidisciplinary Center for Earthquake Engineering Research, Buffalo, NY, pp 55-64.

Çağnan, Z. 2004. Post-earthquake Lifeline Service Restoration Modeling. In *Student Research Accomplishments 2002-2003, MCEER-03-SP06*, Multidisciplinary Center for Earthquake Engineering Research, Buffalo, NY, pp 101-106.

SELECTED PRESENTATIONS

August 2008 Invited presentation at the Turkish Cypriot Chamber of Civil Engineers' Remembering 1999 Marmara Earthquake Meeting, Nicosia, Cyprus, "The Historical Earthquakes of Cyprus."

December 2007 Invited presentation at the American Geophysics Union Fall Meeting 2007, San Francisco, USA, "The Early Warning and Rapid Response System in İstanbul."

- April 2007 Invited presentation at the European Geosciences Union General Assembly 2007, Vienna, Austria, “Shakemap Methodologies for Europe.”
- January 2007 Invited presentation at the Preview Project Earthquakes and Volcanoes Workshop, Rome, Italy, “On Preview Project Turkish Test Sites.”
- January 2007 Invited presentation at the NERIES Project 1st Workshop on Developing Rapid Shakemap and Loss Estimation Capacity for Europe, Istanbul, Turkey, “Issues with the Development of Analytical Iso-Seismal Maps.”
- May 2006 Invited presentation at the NATO Advance Research Workshop, İstanbul, Turkey, “Lifeline Earthquake Risk.”
- August 2004 Invited presentation at the 13th World Conference on Earthquake Engineering in Vancouver, BC, Canada. “Post-earthquake Restoration Modeling of Electric Power System.”
- January 2004 Invited presentation at the Multidisciplinary Center for Earthquake Engineering Annual Meeting in Los Angeles, California. “Restoration Modeling of Lifeline Systems.”
- August 2003 Invited presentation at the 6th US Conference and Workshop on Lifeline Earthquake Engineering in Long Beach, California. “Post-earthquake Lifeline Service Restoration Modeling.”