

EMRE DEMIR

EDUCATION

- University of Missouri** **Columbia, MO, USA**
Ph.D., Civil Engineering – Transportation **May 2013**
- Dissertation title: “Identification and Characterization of Network Paths”
- Newcastle University** **Newcastle upon Tyne, UK**
M.Sc., Transport Engineering and Operations **Oct 2008**
- Dissertation title: “Vehicle and Household Characteristics and Their Contributions to Carbon Footprint in Tyne-Wear Region”
- Boğaziçi University (ABET Accredited)** **Istanbul, Turkey**
B.Sc., Civil Engineering **Jun 2007**
- Project title: “Preliminary Design of an Interchange on E-5 Motorway”

POSITIONS

Research

Research Assistant, Department of Civil & Environmental Engineering, University of Missouri (Dec 2009 – May 2013)

Inferring network paths from discrete point observations

- Developed unique automated optimization methodology that infers road paths from travel data (e.g., Global Positioning Systems (GPS) point observations).
- Compared the new model with the traditional techniques, and presented the superiority of the new algorithm.

Associating discrete observations of activities with epoch based ancillary data

- Developed a methodology of matching GPS and physical activity measurements.
- Explored GPS observations matched with accelerometry data on a Geographic Information Systems (GIS) environment.

Assessing geospatial context of travel paths inferred

- Associated geographical features such as land use/land cover and recreational opportunities with transportation related activities.

Evaluating path similarity and comparing travel paths

- Developed methodologies assessing the extent to which a set of travel paths correspond to one another using optimization techniques and available GIS tools.

Graduate Student, School of Civil Engineering & Geosciences, Newcastle University (Aug 2007 – Aug 2008)

Assessing environmental effects of urban transportation

- Developed a technique to analyze carbon footprints of short distance urban trips.

Summer Intern, Transportation & Infrastructure Department, Tekfen Engineering Company (Jun – Jul 2005, Feb and Sep 2006)

Assisting office work on transportation projects

- Analyzed and checked horizontal alignment measures in a highway project.
- Used language skills to translate foreign roadway projects, reports, maps etc.

Summer Intern, Olympiakent Housing Project Department, Soyak Real Estate Construction Company (Sep 2005)

Accomplishing on site duties

- Managed employee groups to complete tasks in parking lots, pedestrian ways.

Summer Intern, Istanbul Metro Extension Project, Yuksel Construction Company (Aug 2005)

Reporting daily work on site

- Checked truss systems and their framework of a station.

Teaching

Teaching Assistant, Civil Engineering Department, Istanbul Kultur University (Oct 2008 – Jul 2009)

- Semester-long projects
- Problem solving sessions
- Office hours
- Review sessions
- Grading
- Online course materials
- Assisted with courses:
 - Transportation Engineering and Infrastructure
 - Strength of Materials and Statics
 - Surveying
 - Introduction to Civil Engineering

RESEARCH INTERESTS

- Transportation analysis and modeling
- Transportation optimization
- Geographic Information Systems
- Transportation Infrastructure
- Global Positioning Systems
- Data Mining

TEACHING INTERESTS

- Transportation analysis and modeling
- Geographic Information Systems
- Transportation infrastructure
- Transportation planning
- Surveying
- Strength of materials and statics

PUBLICATIONS

Peer-reviewed Journals

- Matisziw, T.C. and Demir, E., 2012. Inferring network paths from point observations. *International Journal of Geographic Information Science*, 26 (10), 1979–1996.

In Preperation

- Matisziw, T.C. and Demir, E., “Evaluating similarity among observed paths of travel”, to be submitted to *Transportation Research Part B*.
- Matisziw, T.C., Demir, E., and Nilon, C.H., “Assessing physical activity and exposure to landuse along the journey to school”, to be submitted to *Social Science & Medicine*.

PRESENTATIONS & POSTERS

- Demir, E., Matisziw, T.C., Nilon, C.H., Wilhelm-Stanis, S., McElroy, J., Sayers, S., and LeMaster, J., “Transportation infrastructure effects on the journey to school”, Traffic and Safety Conference sponsored by the Institute of Transportation Engineers, Columbia, MO, May 2013.
- Demir, E., and Matisziw, T.C., 2013. “Evaluating spatial similarity of network paths”, EURO Working Group on Locational Analysis (EWGLA) Conference, Ankara, Turkey, April 2013.
- Demir, E., and Matisziw, T.C., 2012. “Evaluating path similarity”, North American Regional Science Association International (RSAI) Conference, Ottawa, ON, Canada, November 2012.
- Matisziw, T.C., Demir, E., Nilon, C.H., Wilhelm-Stanis, S., McElroy, J., Sayers, S., and LeMaster, J., “Measuring opportunity for recreation: The exposure to urban landuse during the journey to school”, Active Living Research (ALR) Annual Conference, San Diego, CA, March 2012.
- Demir, E., and Matisziw, T.C., 2011. “Measuring opportunity for recreation: The journey to school”, North American Regional Science Association International (RSAI) Conference, Miami, FL, November 2011.

FELLOWSHIPS

- The Robert Wood Johnson Foundation Fellowship (Dec 2009 – May 2013).
- Professional Presentation Travel Fellowship from the Graduate School at the University of Missouri (Mar 2013).
- Academic Travel Scholarship from the Graduate Professional Council at the University of Missouri (Oct 2011).
- Full scholarship for Ph.D. education in the US from the Turkish Ministry of National Education (Aug 2009 – May 2011).
- Full scholarship for undergraduate education in Turkey from the Turkish Prime Ministry (Sep 2002 – Jun 2007).

PROFESSIONAL AFFILIATIONS

- North American Regional Science Council (NARSC), member since 2011.
- Institute of Transportation Engineers (ITE), member since 2009.

LANGUAGES

English fluent, Turkish native, German and Russian basic

COMPUTER SKILLS

GIS Software: ESRI's ArcGIS, TransCAD

Programming Languages: Python, C/C++

Optimization: LINGO, Gurobi

Transportation Software: VISSIM, AutoCAD, 12d Model 7

Environments: Windows, Macintosh

Computational Products: MATLAB, AMPL

Statistical Software: SPSS

Word Processing and Presentation: Microsoft Office, MathType

PROFESSIONAL DEVELOPMENT

- Courses titled "Preparing Engineering Faculty and Professionals I-II," (Jan – Dec 2011).
- Introduction to Business Life Seminars, Participation Certificate, (Apr 2007).
- Project Management Basis Certificate, (Oct 2006).
- Edward de Bono Six Hats Consideration Techniques, Participation Certificate, (Oct 2005).