KONSTADINOS (KOSTAS) G. GOULIAS
Professor
Department of Geography
University California, Santa Barbara
Email: goulias@geog.ucsb.edu

Professional Preparation:

Ph.D. Civil Engineering—Major in Transportation and Minors in Stochastic Processes and Statistics. Department of Civil Engineering, University of California, Davis, September 1991. Dissertation: Long-Term Forecasting with Dynamic Microsimulation.

M.S. Civil Engineering—Major in Transportation Engineering. Department of Civil Engineering, The University of Michigan, Ann Arbor, Michigan, August 1987.

Laurea in Civil Engineering (B.S. & M.S.C.E.), Universita degli Studi della Calabria, Dipartimento di Pianificazione Territoriale (Land Use Planning Department), College of Civil Engineering, Cosenza, Italy, March 1986. Thesis: Econometric Models for the Forecast of Travel Demand: A Hierarchical Approach of Mode Choice (*In Italian*).

Recent Honors:

Executive Board Member, International Association for Travel Behaviour Research (2010–2013)

Emeritus Member, Committee on Traveler Behavior and Values (2009–). Transportation Research Board of the National Academies

Member, Cadre of Experts for Strategic Plan for Advanced Travel Modeling at Chicago Metropolitan Agency for Planning (CMAP), Chicago, IL, October 2009–June 2010

Current Relevant Research Projects:

(1) *Principal Investigator* (April 2009–July 2011) with C.R. Bhat at UT Austin and R.M. Pendyala at ASU. SCAG Activity-based Travel Demand Model Development: Development of SIMAGENT, Southern California Association of Governments. $1,040,000. In this two phase project we develop an activity scheduling model system and insert it into the overall model system of a mega region. A new microsimulation tool is designed and interfaced with a variety of other regional models. The policy tool produced at the end of this project is named SimAGENT (Simulator of Activities, Greenhouse Emissions, Networks, and Travel) and estimates Greenhouse gas emissions for different policy scenarios. Key elements include a synthetic population generator and an evolutionary engine and models that account for the complex interactions among persons and their environment.

(2) *Principal Investigator* (January 2009–December 2011) Development of Next Generation Agent-based Simulation. UC Lab Fees Program. UC Office of the President. $870,000. In this project, realistic agents are created using observed and reported data from persons and their households including a variety of time use, activity participation, and travel surveys combined with large databases available from public agencies and private companies. Also key is the inclusion of weekly rhythms in the life of people, their interactions with other people within their strongest and most influential social network (i.e., the household), and people's complex interactions with the built environment. In this project, different modeling techniques are developed, tested, evaluated, and implemented to demonstrate them in applications.

(3) *Principal Investigator* (August 2009–December 2010) Forecasting with Dynamic Microsimulation: Design, Implementation, and Demonstration (Year 22), $102,000. In this project we develop a new travel demand forecasting system that integrates demographic microsimulation with urban simulation and travel demand model systems.

Publications:

2010

Deutsch K. E, S.Y. Yoon, and K.G. Goulias. Modeling Sense of Place Using a Structural Equation Model, GEOTRANS Technical paper, Department of Geography, University of California, Santa Barbara.

Dalal P. and K.G. Goulias. Geovisualization of opportunity accessibility in Southern California: an exploration of spatial distribution patterns using geographic information systems for equity analysis, GEOTRANS Technical paper, Department of Geography, University of California, Santa Barbara.

Yoon S.Y., M. Doudnikoff, and K.G. Goulias. Spatial Analysis of the Propensity to Escort Children to School in Southern California. GEOTRANS Technical paper, Department of Geography, University of California, Santa Barbara.

Chen, Y., S. Ravulaparthy, K. Deutsch, P. Dalal, S.Y. Yoon, T. Lei, K.G. Goulias, R.M. Pendyala, C.R. Bhat, and H-H. Hu. Development of Opportunity-based Accessibility Indicators, GEOTRANS Technical paper, Department of Geography, University of California, Santa Barbara.

Paleti, R., N. Eluru, C.R. Bhat, R.M. Pendyala, T.J. Adler, and K.G. Goulias. The Design of a Comprehensive Microsimulator of Household Vehicle Fleet Composition, Utilization, and Evolution, Technical paper, Department of Civil, Architectural & Environmental Engineering, The University of Texas at Austin.

Sidharthan, R., C.R. Bhat, R.M. Pendyala, and K.G. Goulias. A Model of Children's School Travel Mode Choice Behavior Accounting for Spatial and Social Interaction Effects, Technical paper, Department of Civil, Architectural & Environmental Engineering, The University of Texas at Austin.

de Abreu e Silva J., C. Morency, A. Daurien, and K.G. Goulias. Using Structural Equations Modeling to unravel the influence of land use patterns on travel behavior of workers in Montreal. Presentation at the World Conference on Transport Research, July 11–15, Lisbon Portugal.

Goulias K.G., Y. Chen, C.R. Bhat, N. Eluru, R.M. Pendyala, and L.C. Konduri. Greenhouse Gas Emission Scenarios of Land Use Change Using a Large Scale Continuous-Time Activity-Based Microsimulation Model System in Southern California: Design, Implementation, Preliminary Findings, and Future Plans. Presentation at the World Conference on Transport Research, July 11–15, Lisbon Portugal.

Yoon S.Y. and K.G. Goulias. An Intra-Household Assessment of Land Use and Activity—Travel Behavior Patterns in California. Presentation at the World Conference on Transport Research, July 11–15, Lisbon Portugal.

Goulias K.G. Companionship and Altruism in Daily Activity Time Allocation and Travel by Men and Women in the Same Households. Presentation at 32nd Time Use Conference, 7–10 July, Paris, France.

Yoon S.Y. and K.G. Goulias. The Impact of Time-Space Prism Accessibility on Time Allocation and its Propagation Through Intra-Household Interaction. Presentation at the 3rd Conference on Innovations in Travel Modeling, May 10–12 Tempe, Arizona.

Yoon, S.Y. and K. G. Goulias. Constraint-Based Assessment of Intra-household Bargaining on Time Allocation to Activities and Travel Using Individual Accessibility Measures. Paper presented at the 89th Annual Transportation Research Board Meeting and included in the CD ROM proceedings (Paper10-1820).

Deutsch K. E. and K.G. Goulias. Exploring Sense-of-Place Attitudes as Indicators of Travel Behavior. Paper presented at the 89th Annual Transportation Research Board Meeting and included in the CD ROM proceedings (Paper 10-0070).

Dalal P. and K.G. Goulias. Literacy, Access, and Mobility: An Analysis from Sylhet, Bangladesh. Paper to be presented at the 89th Annual Transportation Research Board Meeting and included in the CD ROM proceedings (Paper 10-0390).