FEWSTERN

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Title: **Professor**

Institution: **Geography, UTK**

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Education:

PhD: 1999 MS: BS:

General Areas of Expertise:

GIS/geospatial analysis, dynamic modeling

Short Bio:

Dr. Tran is an environmental geographer and GIS/geospatial analyst. His primary research interests include integrated regional vulnerability assessment, the use of artificial intelligence (e.g., fuzzy set theory, neural network, and cellular automata) in geographic analysis and modeling. He has been in the core team of the U.S. EPA's Regional Vulnerability Assessment (ReVA) program since 2000.

Five Representative Publications:

McManamay RA, Nair SS, DeRolph CR, Ruddell BL, Morton AM, Stewart RN, Troi MJ, Tran L, Kim H, Bhaduri BL (2017). US cities can manage national hydrology and biodiversity using local infrastructure policy. Proceedings of the National Academy of Sciences. vol. 114, no. 36: 9581–9586

Tran, L.T., O'Neill, R.V., Bruins, R., Smith, E.R., and Harden, C. (2015). Linking land use/land cover with climatic and geomorphologic factors in regional mean annual streamflow models with spatial regression approach, Progress in Physical Geography, 39(2): 258-274.

Tran, L.T. (2016). An Interactive Method to Select a Set of Sustainable Urban Development Indicators, Ecological Indicators, 61(2): 418–427.

Tran, L.T., O'Neill, R.V., Smith, E.R., Bruins, R., and Harden, C. (2013). Application of Hierarchy Theory to Cross-Scale Hydrologic Modeling of Nutrient Loads, Water Resources Management, 27(5): 1601-1617.

Tran, L.T., O'Neill, R.V. (2013). Detecting the effects of land use/land cover on mean annual streamflow in the Upper Mississippi River Basin, USA, Journal of Hydrology, 499(30): 82–90.

FEWSTERN Symposium 2017 Presentation Title and Abstract:

Exploring ways for integration of the food-energy-water (FEW) nexus research with life cycle assessment Abstract. The presentation discusses major modeling approaches seen in current FEW research. Then it highlights a holistic approach and propose a super-matrix framework that describes the complex relationship among various components of the FEW nexus. The proposed super-matrix framework could be defined for systems across different spatial scales (e.g., from the global to the national, and local scale) and sectors (e.g., FEW, ecosystems, land, etc.). The framework also aims at integrating quantitative and qualitative information (e.g., expert judgment), which often appear difficult in complex FEW assessments.