

Ph.D. FUNDING OPPORTUNITIES



DOCTORAL FELLOWSHIP IN MULTIMODAL TRANSPORTATION SYSTEMS PLANNING AND ANALYSIS Advisor : Dr. Alex Karner

Data describing transportation system performance are rapidly increasing in scale, scope, and availability. Cell phone traces, social media activity, smart transit fare cards, and real time transit vehicle information have begun to supplement legacy approaches to modeling travel demand. These data provide higher degrees of temporal and spatial resolution than existing travel surveys and can be used to shed new light on integrated system performance. While some of these sources are proprietary, expensive, and problematic with respect to privacy concerns, others are not. PhD students are sought to conduct original research on these and related topics with expertise in data management, programming, geographic information

science, or statistics; substantive interests in social equity and environmental sustainability; and a desire to convert data into useful and actionable information which members of the public and planners can use to make informed decisions about the future of their cities and regions. It is expected that the final products of this research will lead to transformational changes in transportation planning practice through the creation of open source software and tools that can be deployed to address ongoing challenges related to affordable housing, transportation accessibility, and automobile dependence. **Questions pertaining to the fellowship may be directed to Dr. Alex Karner (alex.karner@design.gatech.edu).**



DOCTORAL FELLOWSHIP IN U.S. ROBOTICS INDUSTRY AND ECONOMIC DEVELOPMENT Advisor: Dr. Nancey Green Leigh

Funded through a NSF study titled, Workers, Firms, and Industries in Robotic Regions, the proposed research will generate data and conduct analyses about the U.S. robotics industry and the economic impacts of robotics technology. It will do so on the heels of a significant leap in robotic capabilities that has enabled robot-human collaboration. It will situate robot use and diffusion in a regional context, building on the investigators' previous work identifying and characterizing the U.S. robotics industry and

the regions that host research, development, and commerce relating to robotics. By identifying regional factors that lead to innovations in robotics technologies and influence local firms' decisions to use robots, this research seeks to equip local policy makers with knowledge to foster competitive and resilient places in the context of rapid technological change. **Questions pertaining to the fellowship may be directed to Dr. Nancey Green Leigh (nancey.leigh@design.gatech.edu)**



DOCTORAL FELLOWSHIPS IN TRANSPORT PLANNING, ANALYTICS, AND EMERGING TECHNOLOGIES

Advisor: Dr. Catherine L. Ross

Cutting-edge technologies, data availability, e-commerce, emerging energy alternatives, and changing travel preferences will cause dramatic shifts in the travel experience. In addition, they offer the promise of significantly increasing the safety and efficiency of our transportation system. While the research agenda and our commitment to unleashing the potential benefits of these and other recent developments is important there are other equally significant drivers. The research must be understood and integrated within the context of multi-jurisdictional stakeholder involvement, evolving policy and planning, health, public and private sector perspectives, global competitiveness and resiliency. This coalescence is the basis for structuring our transportation future and that is a primary objective

of the fellowships. The Organization for Economic Co-operation and Development (OECD) predicts that global air passenger traffic could double in 15 years, air freight could triple in 20 years, and port handling of containers could quadruple by 2030. Autonomous vehicles have made significant progress in recent times and on-demand transport services are revolutionizing accessibility and can bring mobility for many not well served in our cities, rural areas, and regions. The doctoral fellowships will fund students to contribute to the development and deployment of tools and knowledge that transform transportation system performance. **Questions pertaining to the fellowship may be directed to Dr. Catherine Ross (catherine.ross@design.gatech.edu).**



DOCTORAL FELLOWSHIP IN PLANNING SMART AND RESILIENT CITIES

Advisor: Dr. Subhro Guhathakurta

The rapid increase in urbanization around the world has presented a range of environmental challenges such as the depletion of non-renewable resources; air, water, and land pollution; and high rates of climate-altering emissions. These pressures have demanded planning responses that go beyond the traditional approaches, requiring integration of more high resolution spatial and temporal information to optimize urban service delivery for the varying demands of a highly diverse population. Cities are being challenged to become "smarter" in serving the demand for its services that enhances livability without compromising sustainability or resilience in the face of climate change. However, few guidelines exist for making the transition to the new form of planning to realize the idea of smart cities. In this

research, we will investigate future scenarios linking urban developments to energy, water, transportation inter-linkages and develop new decision-making tools to optimize resource use while enhancing the quality of life. This endeavor will require cross-disciplinary skills such as spatial data analytics, the design of infrastructure and delivery services, computational expertise including coding, economic and social analysis, and policy and planning approaches, among others. The candidate will be working with a diverse team and participate in a supportive learning environment that is uniquely multi-disciplinary and globally dispersed. **Questions pertaining to the fellowship may be directed to Dr. Subhro Guhathakurta (subhro.guhathakurta@design.gatech.edu).**



DOCTORAL FELLOWSHIP IN COMMUNITY DEVELOPMENT AND EQUITY PLANNING

Advisor: Dr. Nisha Botchwey

The School of City and Regional Planning invites applications for a doctoral fellowship in Community Development and Equity Planning under the direction of Associate Professor Nisha Botchwey. The fellowship covers tuition and salary for a period of between one and four years and, pending the outcome of a separate application process, may also carry a Georgia Tech President's Fellowship, which would provide additional salary support. The successful applicant will conduct research on composite indicators of race, ethnicity, and equality that contribute to community development across the United States. The project will leverage

existing national data sources and require original qualitative data collection. The results are expected to be relevant to researchers, practitioners, and policy makers seeking the achievement of just, sustainable, and prosperous cities and regions. Candidates are sought with backgrounds in planning, geography, statistics, public policy, GIS, or other related disciplines; experience working with various datasets and databases; and strong skills in geographic information systems. **Questions pertaining to the fellowship may be directed to Dr. Nisha Botchwey (nisha.botchwey@design.gatech.edu).**