Graduate Opportunities in Safe Transportation and Resilient Systems

# GAANN- GOSTARS Fellowship Project

Adviser: Cheryl Bodnar, Ph.D.

**Title: Motivation towards Doctoral Degree Completion**

**Description:** As we strive towards the goal of recruiting and retaining a diverse population of transportation engineering professionals, it is essential to understand what motivates CEE students to continue to persist towards degree completion. This study will leverage Expectancy Value Theory (EVT) to determine the relationships between individual beliefs and students' capabilities associated with tasks that they are undertaking as part of their degree. The research question this project will address is "*What influences does the GAANN program have on doctoral students' motivation towards degree completion?*" The study will apply explanatory mixed methods through an EVT survey followed by semi-structured interviews to better understand the survey results.

**Impact on GAANN:** This project provides the opportunity to better understand the motivating factors that encourage CEE doctoral students to persist towards degree completion. As such, it will provide key information on how programmatic elements may be improved upon to ensure all GOSTAR fellows succeed in completing their doctoral degree.

**Impact on GOSTAR:** This project will allow the student to develop a background in expectancy value theory and the factors that are relevant to degree completion. Throughout the project, the student will learn both quantitative and qualitative research methods as well as how these can be incorporated into a mixed methods study design to address engineering education problems.

**Tentative Plan**

| **Semester** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** |
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| Task | Literature review; IRB submission; Develop and deploy survey to GAANN fellows; Analyze survey results | | | Conduct and analyze semi-structured interviews based on survey results to understand motivation of GAANN fellows. Conduct Year 2 survey and analyze results | | | Apply previously developed methods for Year 3 data collection with all GAANN Fellows (provides longitudinal analysis). | | |
| Outcome | Baseline data for GAANN fellow's motivation for degree pursuit. | | | Holistic understanding of fellows' motivation and programmatic influences on that motivation. | | | Multi-year results for the motivation of GAANN Fellows and recommendations for future GAANN programs. | | |
| Deliverable | Refereed conference proceeding | | | Refereed conference proceeding and journal | | | Refereed conference proceeding and journal | | |
| Graduation | | | | | | | | | **Summer 2025** |