### What research projects are available?

#### Project 1: Rapid and Quantitative Non-Destructive Evaluation (NDE) of Concrete Corrosion in Urban Bridges

**Structural Engineering:** Can we efficiently use rapid NDE scanning to quantify embedded steel rebar corrosion in concrete structures?

#### Project 2: Assessing Infrastructure Sustainability using ENVISION

**Environmental Engineering:** What innovative infrastructure alternatives can reduce cost, environmental and societal impacts?

#### Project 3: Mixed-Methods to Evaluate Emerging Transportation Technology

**Transportation Engineering:** What are the impacts of emerging transportation technologies on urban mobility, access, and equity?

#### Project 4: Web-based Wide Area Monitoring and Control of Virtual Power Plant

**Electrical Engineering:** Can a wireless VPP sensor network ensure service continuity of critical power loads in urban settings?

#### Project 5: Sustainability Assessment for Green Building and Retrofitting

**Industrial Engineering:** What green building technologies are most important for achieving desired objectives?

#### Project 6: Materials Prediction by Simulations for Sustainable Engineering Development

**Physics:** Is it possible to discover “tailored” engineering materials solely from our knowledge of the periodic table?

### What is the goal of the NSF RET Program?

Facilitate professional development of STEM teachers through cutting edge experimental and theoretical research.

Motivate high school students towards engineering careers.

### Are you interested in…

- Learning about how engineering can be used to enhance resiliency and sustainability of urban communities?
- Participating in state-of-the-art research related to infrastructure issues and funded by the prestigious National Science Foundation?
- Developing hands-on classroom activities and curricular modules to enhance students’ interest in engineering?
- Developing long-term networking and collaborative relationships with UTA community and other STEM teachers?

If your answer is yes to any of the above questions, please consider applying for the:

**UTA Research Experience for Teachers (RET) summer program**

### Benefits to teachers include:

- Opportunity to work with UTA faculty and graduate students on state-of-the-art research related to urban infrastructure sustainability and resiliency.
- Opportunity to develop interactive classroom activities and curricular modules infused with engineering ideas.
- Share ideas and modules with other STEM teachers.
- Continuing education credits.
- $5,200 program participation stipend.

Participating teachers will conduct a workshop at their school to teach other teachers what they have learned and participate in RET project assessment (surveys, classroom observations, etc.).

**Summer program dates:** June 5 – July 14, 2023

Two teachers from the same school may be selected, so please encourage one of your colleagues to apply! Teachers from groups under-represented in STEM are especially encouraged to apply.

Applicants may apply only electronically by scanning this QR code or at link below: Pre-Service Teachers Application

For more information please [click here](#)

Applications must be received at UT Arlington by 5 p.m. on Wednesday, March 15, 2023. Contacts are:

Dr. Nur Yazdani, Professor of Civil Engineering  
817-272-0676 or [Yazdani@uta.edu](mailto:Yazdani@uta.edu)

Dr. Melanie Sattler, Professor of Civil Engineering  
817-272-5410, [Sattler@uta.edu](mailto:Sattler@uta.edu)