## Georgia Tech, Atlanta, Georgia

Students at Georgia Tech will take on designing and building a science-based installation in Atlanta’s historic Piedmont Park during the summer of 2021. The installation titled ‘*Murmur*’ is the outcome of a two-semester project in the ‘*Parametric Precast Studio’* taught by Professor Tristan Al-Haddad at the Digital Fabrication Laboratory. *Murmur* is a temporary installation in Piedmont Park that activates space by collecting and projecting sound. Specific to the ellipse of the Magnolia Hall Lawn, two precast concrete structures are organized on its central axis. Each structure operates as a parabolic sound dish by collecting, focusing, and amplifying sound waves between corresponding focal points. Additionally, the structures serve as auditory performance bandshells dispersing sound to gathered people. The combination of hyper focused sound movement and broad dispersal develops a dynamic, dual experience that fosters a playful dialogue between people. The pieces will be cast in a fiber-reinforced terrazzo and will be polished to the level of 800 grit to aid in the auditory reflections off the surface of the concrete. The forms were generated using parametric modeling in Rhino/Grasshopper and were CNC routed to create the structural framework which was then ‘skinned’ by hand by the student team.

Unique Program Aspects

* Students will design, build and construct full-size structures near campus.
* Students will work directly inside of DEX by Gate’s Atlanta plant to cast and polish the precast elements in a black and white marble terrazzo finish.
* Students work in a fully equipment CNC fabrication environment to build digitally fabricated molds.

Faculty:

Course lead

Professor Tristan Al-Haddad

Structural consultant

Professor Russell Gentry, PE

Industry Partners and Guests

DEX by Gate Precast

Craig Smith

Gate Precast

Mo Wright

Tindall Corp.

Rob Smith

Georgia/Carolinas PCI

Peter Finsen

Ray Clark

Piedmont Park Conservancy

Howard Wertheimer

City of Atlanta Parks Department

Robert Witherspoon

Student Statistics

A total of 19 students ranging from undergrad to graduate levels participated in the course.

Link to concept:

<https://www.dropbox.com/s/z7ye33aijwreivt/MURMUR_Presentation.pdf?dl=0>

Link to photos and video of fabrication process:

<https://www.dropbox.com/sh/zfnw9xmv6xktrcb/AABPJT7m0Wkvgcc-fEA98AkMa?dl=0>