**Acoustic Design and Additive Manufacturing**

**Keywords:** Acoustics, Sound Absorption, Additive Manufacturing

**Urbanism Department (/Chair of Environmental Technologies and Design)**

**Area of Research:** Computation & Performance

**Research Summary:** This PhD is part of the research project ADAM: Acoustic by parametric Design and Additive Manufacturing. The main goal, is to develop sound absorbing structures for broadband absorption; by taking advantage of digital design and Additive Manufacturing techniques. ADAM aims at developing and validating the acoustics theory that describes the relationship between geometry and acoustic performance of interference absorbers. These relations will be encoded in a computational design tool that enables highly customizable solutions for noise and reverberation control. To achieve its goals, the research is based on laboratory tests and simulations and will gradually lead to a series of big scale prototypes that will be applied and tested in various locations in the Netherlands. The project receives support from STW and contributions from related industries (Materialise, Peutz, Merford and ARUP).

**Research Methodology:**

Simulations, prototyping, physical measurements, parametric design, case studies.

**Key Publications:**

