

CIVIL & ENVIRONMENTAL ENGINEERING GRAD STUDENT SEMINAR

3D-Printable Geopolymer Concrete Rheology

Friday, September 25
12:30 PM
COE A322

Mohammed
Abdellatef, Ph.D.

ASSISTANT PROFESSOR
Florida Atlantic University

ABSTRACT: The modern construction industry has been exploring the use of additive manufacturing technologies, commonly referred to as concrete 3D printing, to optimize several factors that affect the time and cost of the construction process. Unlike conventional concrete, 3D-printed concrete is a pseudo-solid material that enables layer-extrusion techniques without the need for formwork. For successful 3D printing, the concrete material must possess several rheological characteristics, such as layer and global stability, pumpability, printability, and buildability, to ensure continuous extrusion and stable printing. These characteristics could be mapped onto time-dependent rheological parameters, such as static and dynamic yield stress and thixotropy. This presentation aims to introduce the fundamentals of concrete rheology to explain the behavior of 3D-printable concrete materials.



This event is sponsored by FAMU-FSU College of Engineering and
Department of Civil and Environmental Engineering

