

### **3D PRINTED GEOPOLYMERIC LATTICES: EFFECT OF DIFFERENT FILLER MATERIALS ON MECHANICAL PROPERTIES**

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Our group developed mixtures based on geopolymer for additive manufacturing of porous components via direct ink writing (DIW). We optimized the rheological properties in order to obtain suitable inks for the production of highly porous lattices. It should be noted that, as geopolymer mixtures are subjected to ongoing polycondensation reactions, their viscosity changes with time in what can be seen as a 4D printing process. Different materials were added to the mixture, such as glass and plastic fibers, as well as fillers like sand, to produce innovative 3D printed geopolymeric composites. The influence of these materials on the mechanical properties was evaluated.