

# VitroGeoWaste III

**Processing of organic waste by laser radiation for potential application as reinforcement for ceramic and glass-ceramic laminates**

**Oral presentation  / Poster presentation**

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**Abstract:** The possibility of applying laser radiation to transform organic waste from livestock farming into carbonaceous products in the form of fibres or particles for subsequent application to ceramic and glass-ceramic substrates has been studied.

For this purpose, IR nanosecond laser radiation (1064nm) has been applied to organic waste for its conversion into carbonaceous fibres or particles and their subsequent application to ceramic and glass-ceramic products, which have been formulated using raw materials from recycling (recycled glass and chamotte materials), in order to obtain stoneware ceramic laminates with high mechanical strength.

The obtained and sintered materials have been structurally characterised by X-ray diffraction and morphologically characterised by scanning electron microscopy (SEM/EDX), while the carbonaceous particles have been characterised by IR spectroscopy (FT-IR).