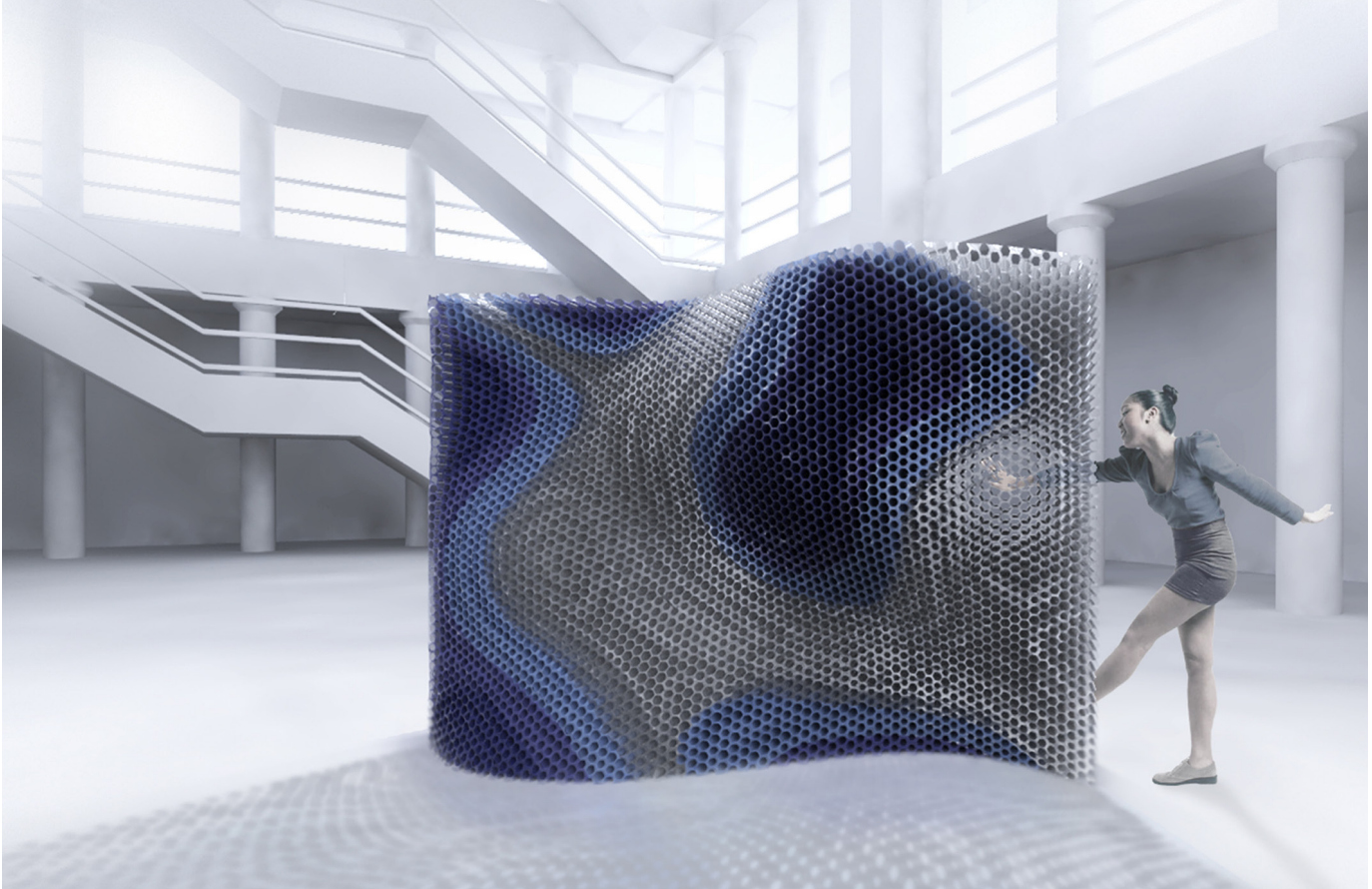


VISCOPLASTY

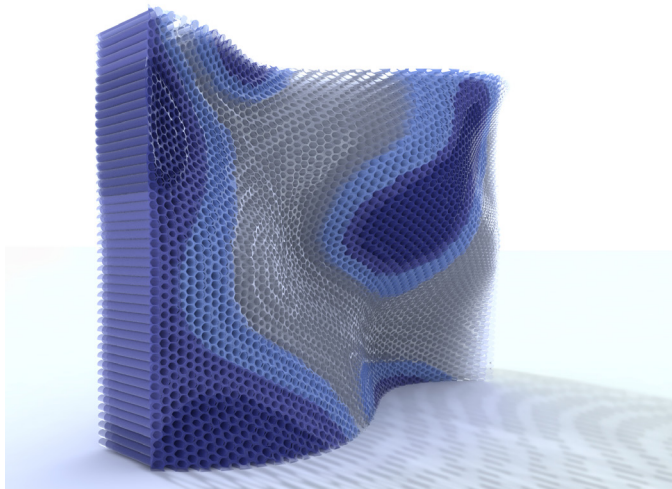
Sofia Bennani
Alexandra Singer-Bieder
Agathe Michel



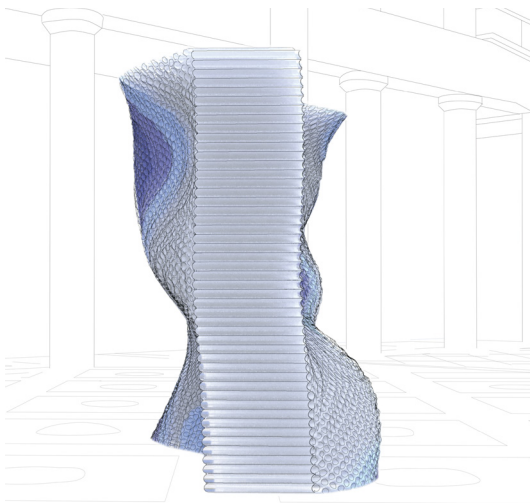
1 Front view of the ViscoPlasty wall in the atrium

ViscoPlasty proposes an installation using Straw-k: a flexible, fast, and feasible fabrication process, which operates on the plasticity of discrete, standard components to create a dynamic, aggregate surface. Requiring no binding agents, Straw-k uses heat to transform homogenous components into a material mapped with varied haptic and formal properties, able to respond to different lighting, acoustic, and structural desires.

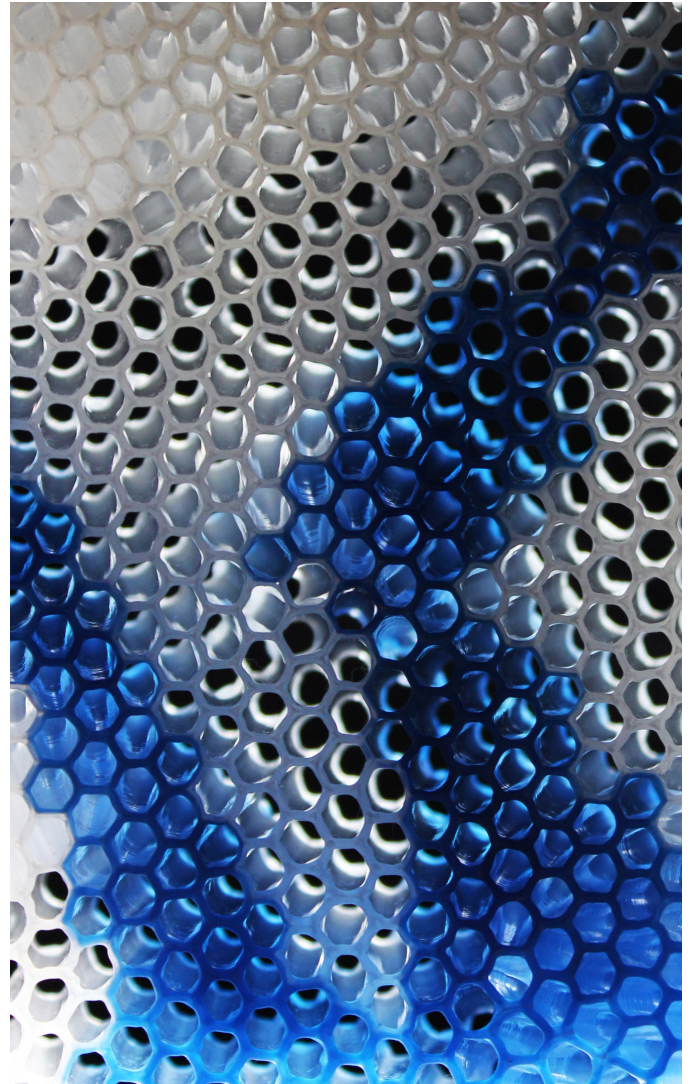
Our research aims to explore the potential properties of the Straw-k through the creation of a bespoke pipe component and the employment of three-dimensional robotic paths for the positioning and the welding process. By designing a bespoke plastic pipe with a dimension larger than that of a consumer straw, we can create a material that more effectively and dynamically controls light and sound at the human scale. Further, we could develop and evaluate more complex reliefs by positioning pipes in three dimensions and melting along curved surfaces. The ViscoPlasty wall will provide a rich visual and tactile experience through its manipulation of surface and light at multiple scales. Like human skin, the ViscoPlasty wall affords two readings: the overall effect is of an expansive, rippled surface while up close, the surface expands and contracts according to the effects of the flame.



2 Side view of the ViscoPlasty wall in the atrium



3 Side view of the ViscoPlasty wall in the atrium



4 Picture of the transparent and blue prototype and light effect

IMAGE CREDITS

All image credits to Authors (2014).

SOFIA BENNANI, AGATHE MICHEL AND ALEXANDRA SINGER-BIEDER

Sofia Bennani left Morocco after highschool to study architecture in Paris where she met Agathe Michel and Alexandra Singer-Bieder, 2 French undergraduates. They worked together on many architectural, urban and experimental projects and decided to participate in the Tex Fab Plasticity competition together for its challenging aspect in the digital fabrication field. Sofia and Alexandra graduated from the Ecole Spéciale d'Architecture in 2013 with their research project Straw-k exhibited and rewarded by the school for its originality, and won in May 2014 the young talent prize for Africa Design Award. After studying architecture for four years in ESA, Agathe is beginning the Digital Knowledge master at ENSAPM in Paris to specialize in digital fabrication and computation.

Sofia and Alexandra are currently preparing their registration exam for the French board after working respectively one year in Paris and London, where Sofia is still working at KILO Architecture in Paris.