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Practice based 3D surface design research: Zooplankton Lamp & Particle fluid lamp

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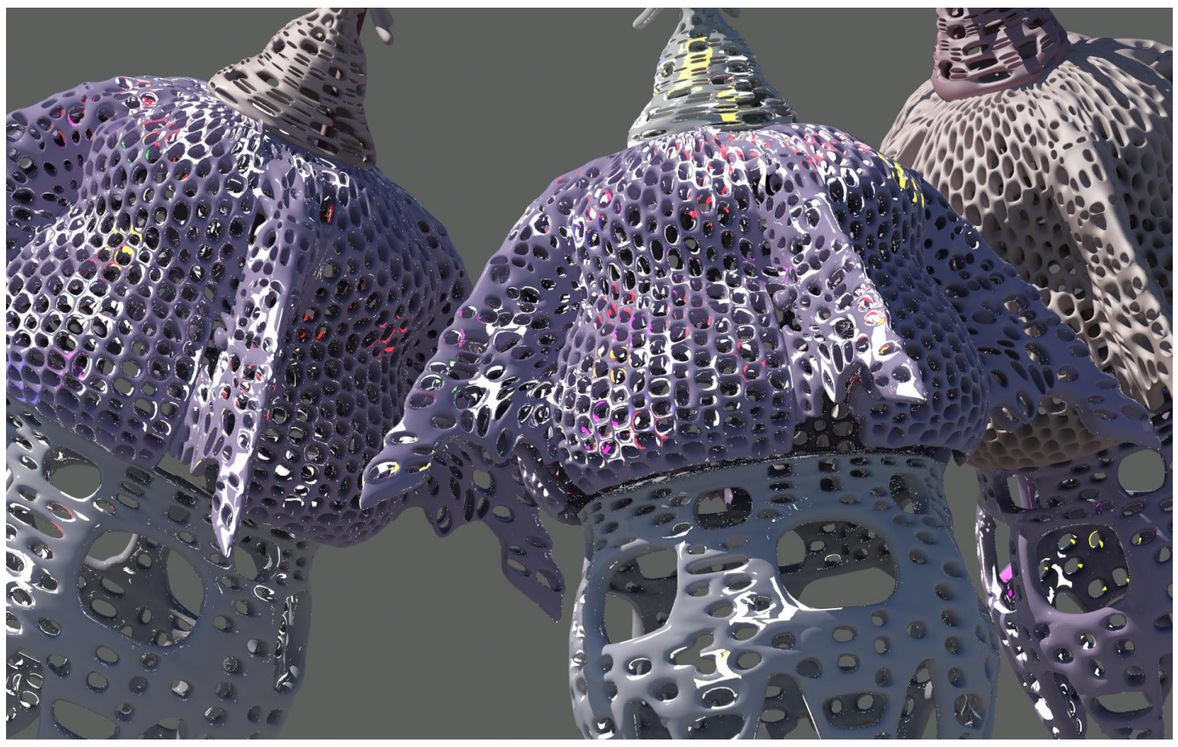
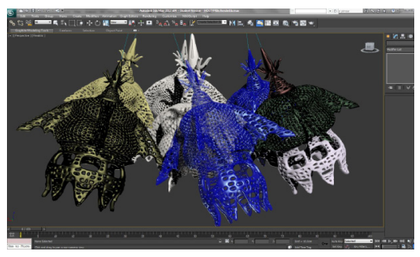
PRACTICE BASED 3D SURFACE DESIGN RESEARCH

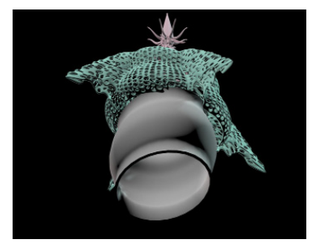
University of HUDDERSFIELD
Inspiring tomorow's professionals

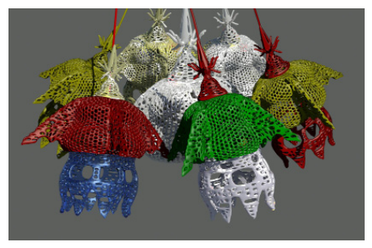
Andrew Taylor & **Ertu Unver**
Surface Design 3D Design

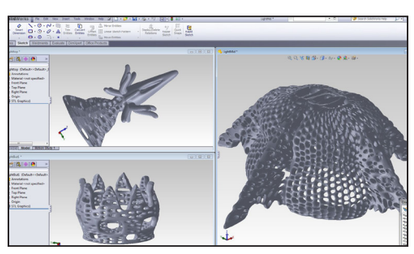
ZOOPLANKTON LAMP

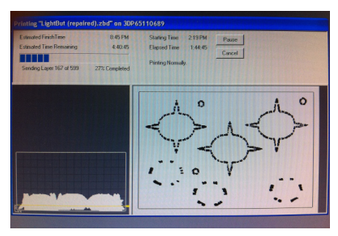






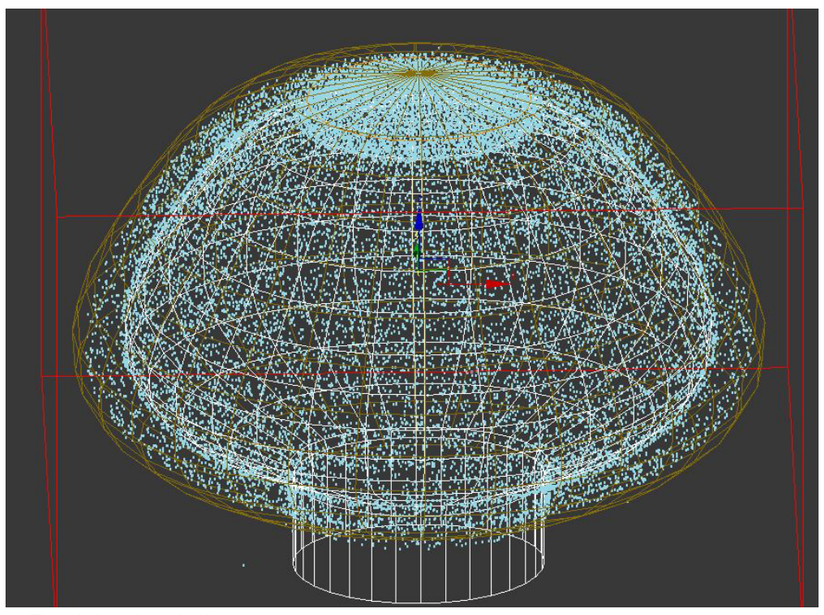




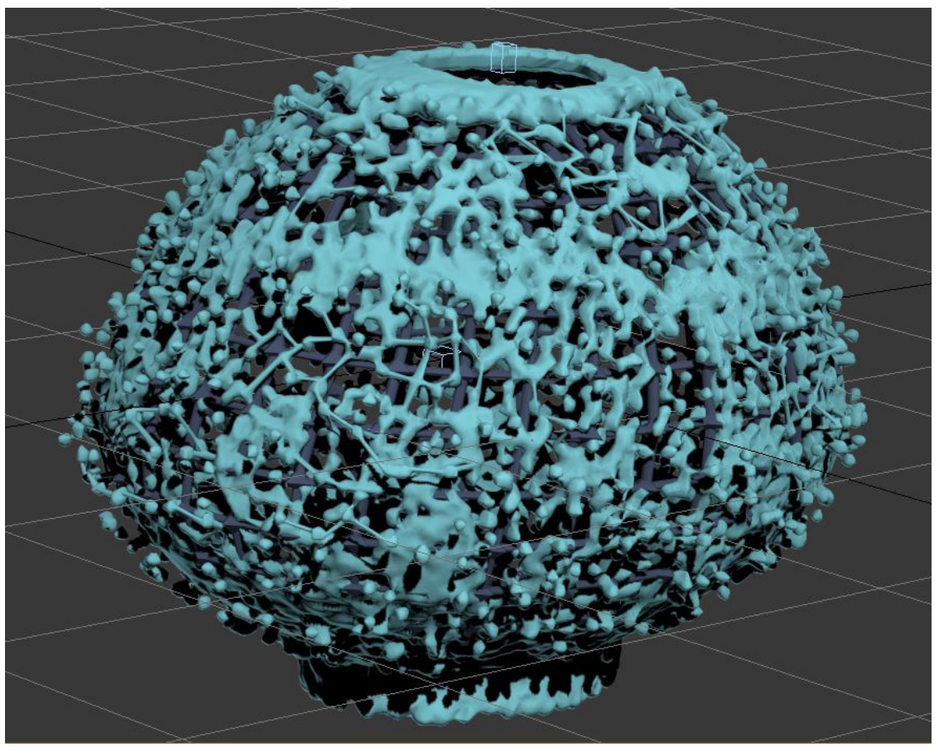


Concept: Surface Design as an emergent material practice is evolving rapidly through interdisciplinary research, and digital technologies for concept design and production. The research aims to explore this emergence by generating organic 3D morphologies and to reflectively record this making process and the experiences for future learning and teaching practice. The Zooplankton lamp is first in a series of practice based collaborations, nature design experiments, product development and exhibition installations between Surface design and 3D digital design practitioners.

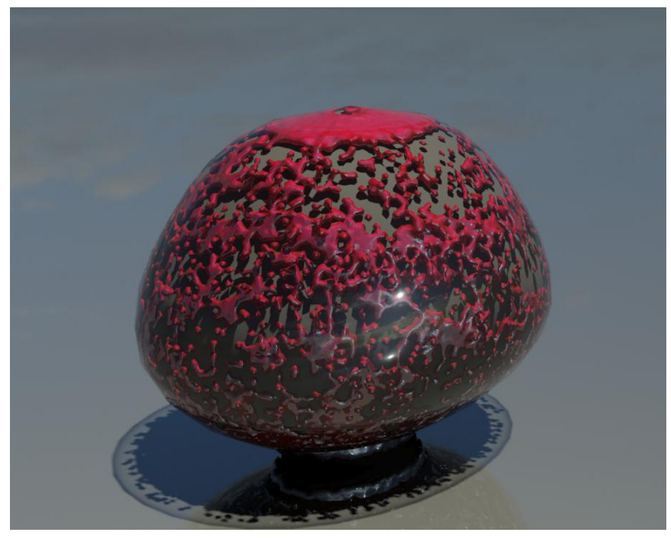
PARTICLE FLUID LAMP



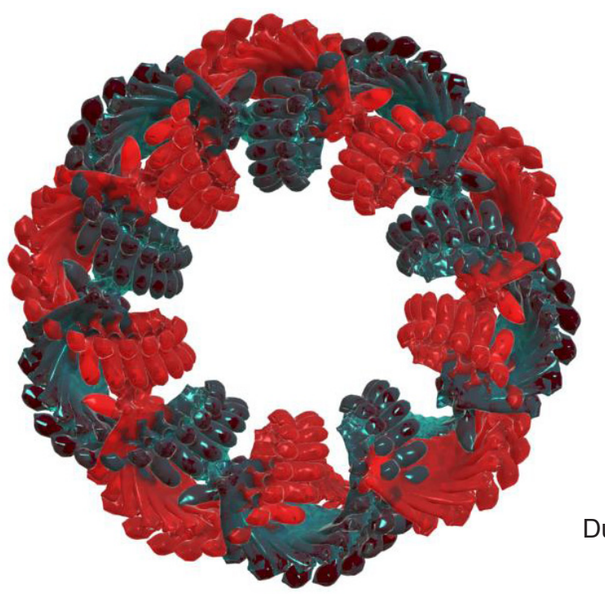
Particle simulation

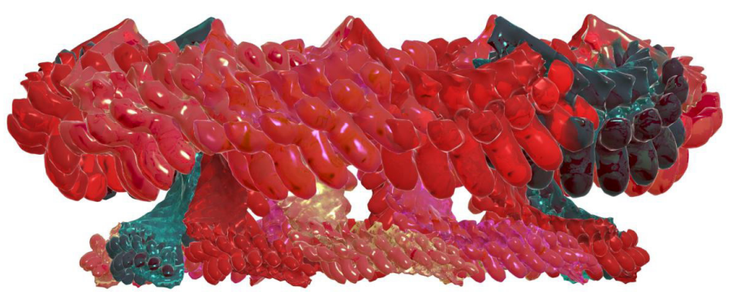


Surface generation using particle data and fluid properties

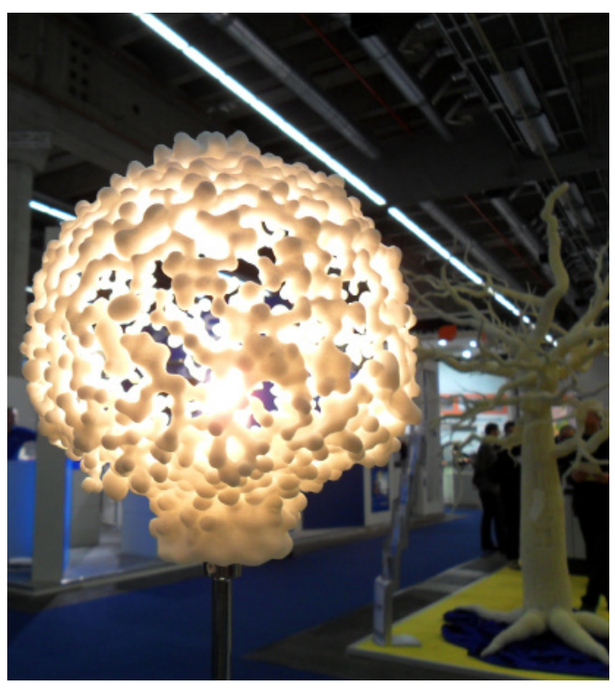


Rendering of the droplet lamp





Duplicating inidividual particles for innovative surface strucutures, products and artefacts



Concept: The research by Ertu Unver has used the particle physic tools in 3D modelling software to create water animations. At the appropriate moment a time frame is selected or frozen to create an instantaneous 3D computer model. The model can be then digitally fabricated to create a unique form or product. The droplet lamp is created using computational fluid dynamics and physic based animation techniques to generate a fluid form and design iterations. Particles are programmed to be affected by resistance, frictions, collisions, bouncing and gravity values which all creates a unique flow. The particles representing the liquid, flow through and around a defined surface form generating random surfaces which can become unique artefacts and products.