CA2RE
Conference for Artistic and Architectural (Doctoral) Research

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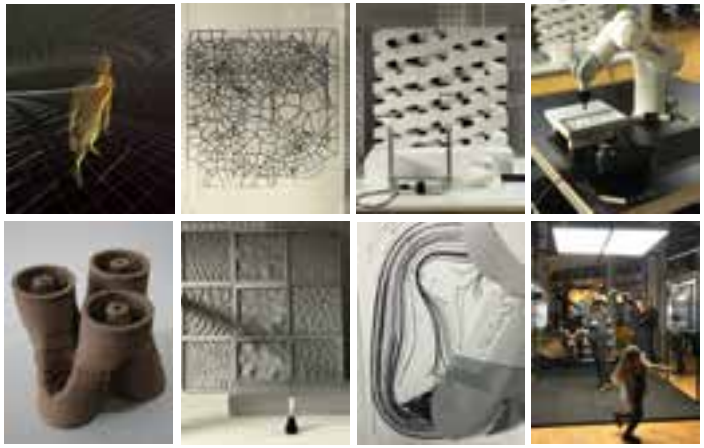
Research Title Spatial Code Lab



The **Spatial Code Lab (SCL)** is conceived as an open laboratory. It is dedicated to the fields of architecture, computer science, media arts and design. It consists in one part of a dedicated VR / AR design environment wich allows for collaborative design development in 3D VR space and secondly of a small robotic fabrication unit which allows for the materialization of the digital design approaches into a variety of materials through the use of custom made end-effectors for additive and subtractive fabrication processes. The minimized and mobile setup allows for a flexible, fast and straight forward approach to the thematics of Virtual Reality, Collaborative Design, Spatial Coding, Robotic Fabrication and Digital Materials. The laboratory can be easily experienced by the visitor in „exhibition mode" as well be used professionally by experts. The SCL opens up the disciplinary and technological boundaries of computer science, media art, design, architecture and robotic fabrication to a wider audience and instantly creates a place of production, experimentation and exchange. It therefore helps to translate the inherent questions of todays technologic design approaches into cultural terms for a broader audience. Through the simultaneous development of physical and digital design strategies with the interaction and participation of a broader public the lab allows for a more efficient feedback process. As digital technologies have already permeated almost every aspect of our daily lives and the advent of deep learning empowered artificial intelligence has added new actors to the scene, the SCL proclaims the need for a more transparent and open handling of these technologies. Often setup as proprietary new digital products, these technologies are thought from the ground up as disrupting and dominant. They are presented and introduced to humanity as being more efficient and beneficent in comparison to past concepts of industrialization. But the new agency of artificial intelligence has also come to a historic moment, where the decision-making by the deep learning models have become a black box, that is not permeable anymore by human minds. In that sense, if we don't want to prohibit these technologies, the only way of dealing with it seems to be through a creative and research intensive handling of these scenarios, with the inclusion of a broader audience.

The **Spatial Code Lab** was first presented as part of the participatory exhibition **Open Codes** at the ZKM in Karlsruhe in 2017-18. It received funding by the Ministry for Science, Research and Art Baden-Wuerttemberg and the ZKM, Center for Art and Media.

ARENA ELIA Technische Universität Berlin PEP

Kristof Gavrielides

Spatial Code Lab

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