Tarik Barri & Robert Henke
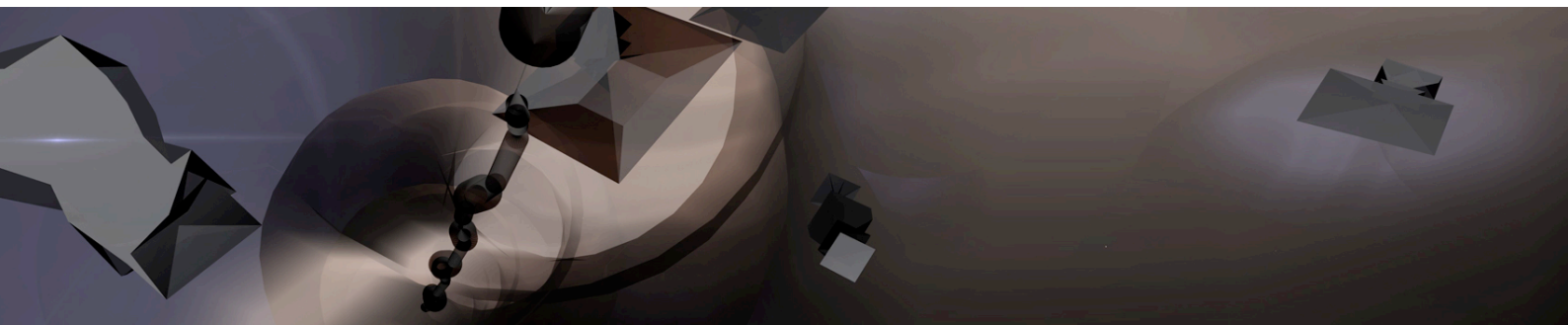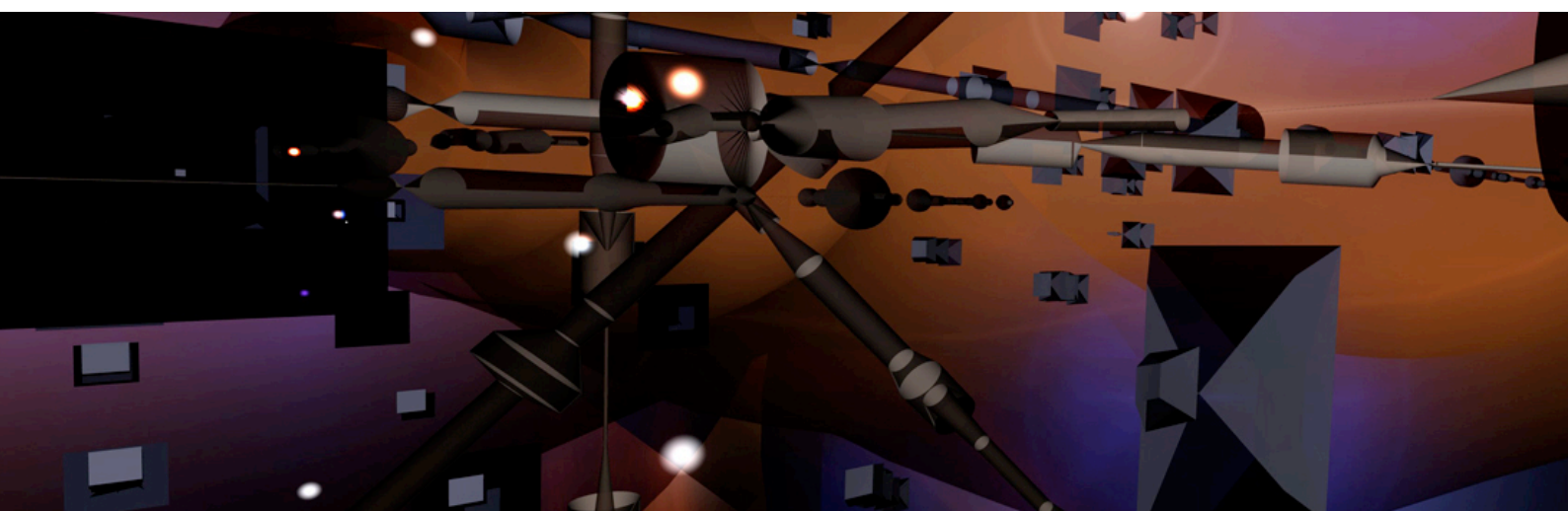# Fundamental Forces

Audiovisual Installation [2011]

Fundamental Forces is a collaborative audiovisual research project and installation work by Robert Henke (D) and Tarik Barri (NL). The title reflects the focus on movement, acceleration and the interconnections and attractions between visual structures and sonic events, as well as the underlying mechanics in each of the domains. Visual shapes emerge as the result of complex mathematical operations, are transformed and thrown around by the power of the underlying codes but they seem to be alive, there is a sense of plausibility and realism even in the most abstract moments, a sense that is created by the careful adjustments and tunings of all details, resulting in a overwhelming and highly immersive 360 degree projection combined with a deeply spatial auditive component that seems to span a space of nearly infinite size.

Fundamental Forces has no narrative, it simply is. The title references concepts of physics that aim to describe the basic foundations about how our universe is constructed. It aims to find a concept of eternal validity, a concept that helps to describe not only what happens now and here but also helps us to understand the world outside our experience.

Fundamental Forces reflects this search for knowledge in many ways. By using self written and constantly improved and extended software, we not only create what people hear and see but also build the foundations of what they could experience in the future. We do not build an installation, we build a machine that constitutes a class of potential installations. Each screening of Fundamental Forces is a snapshot of the current development.

Realization

Fundamental Forces in its current state is a pre-rendered high definition multiple screen projection with surround sound. The visual component is based on Tarik Barri's 'Versum' computer animation engine, and the auditive component comes from Robert Henke, using MaxMSP, Max4Live and Live, the sequencer software he's co-developing. The need to render Fundamental Forces is mainly the result of the desired ultra high resolution, faster computers or distribution of the rendering process to multiple machines would allow the process to be real time. The same goes for the auditive side.
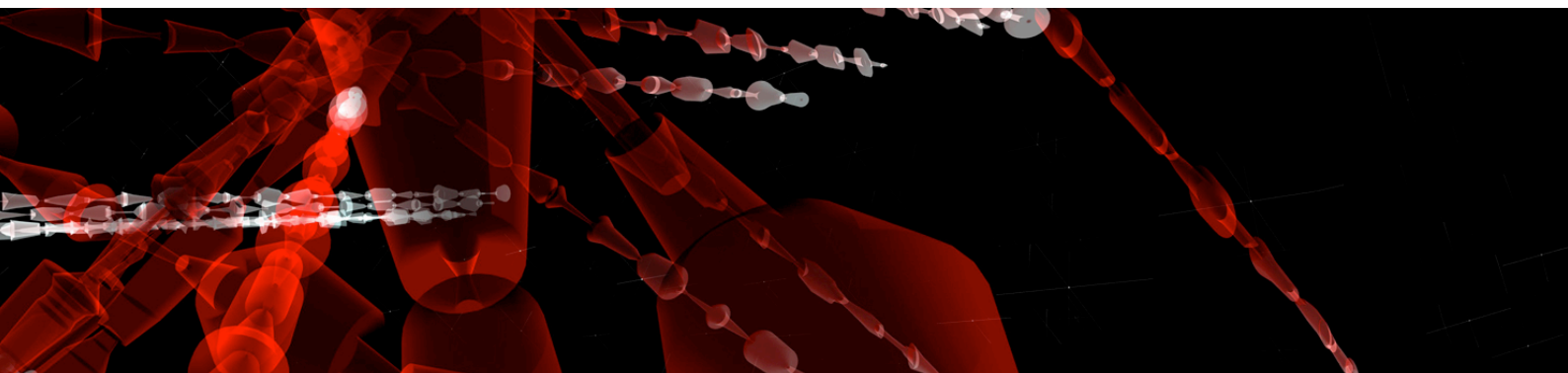

Fundamental Forces
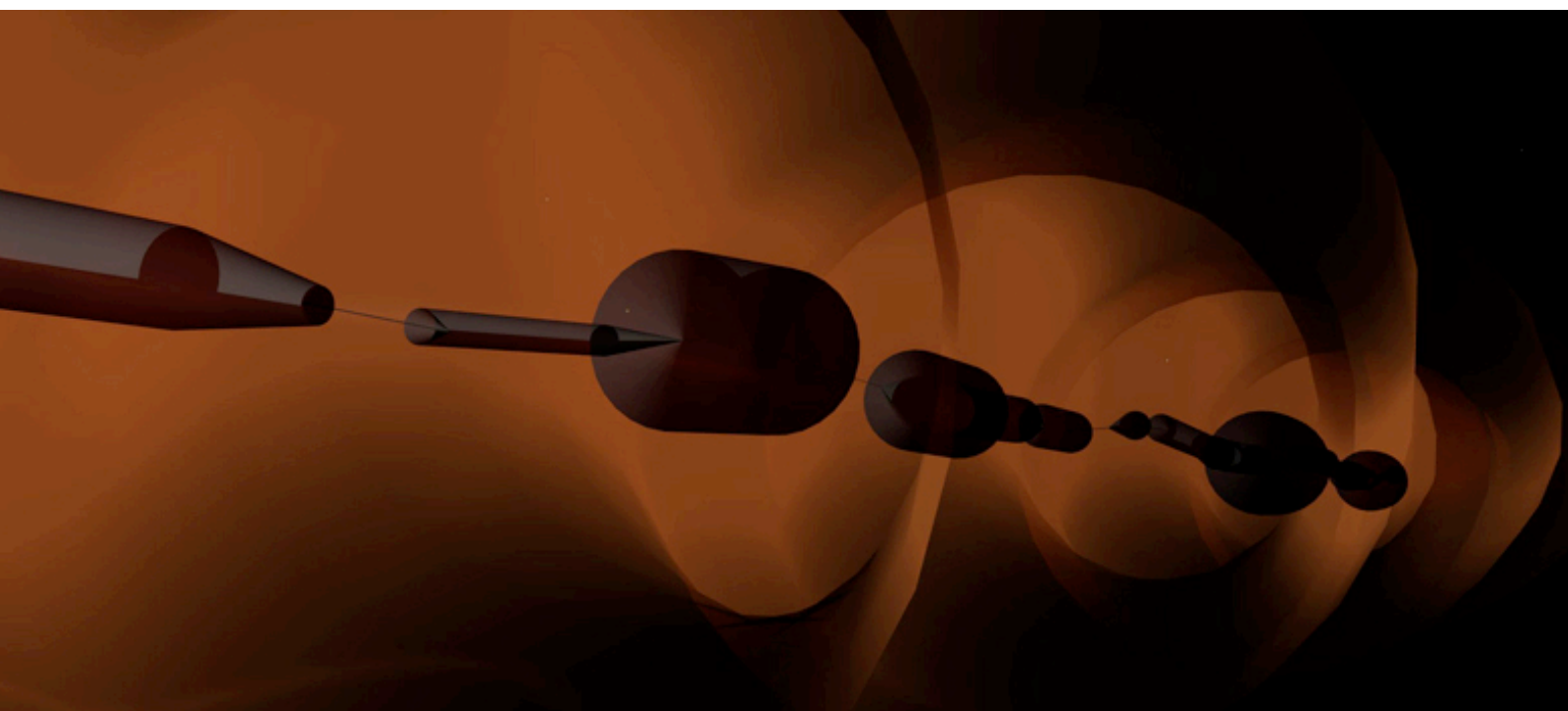
Format

Fundamental Forces is scaleable. It has been initially composed for the RML Cinechamber system which consists of ten 1080p projections and eight channels of sound, but can be adapted to fit numerous configurations. The RML Cinechamber version was a commissioned work for RML and Club Transmediale, and came in two versions, a 20 minute version and a 45 minute version. Both versions had a clear structure with a defined start and end. However, we aim for future versions that are either repeating as loops or as a constantly changing generative algorithm.

Research
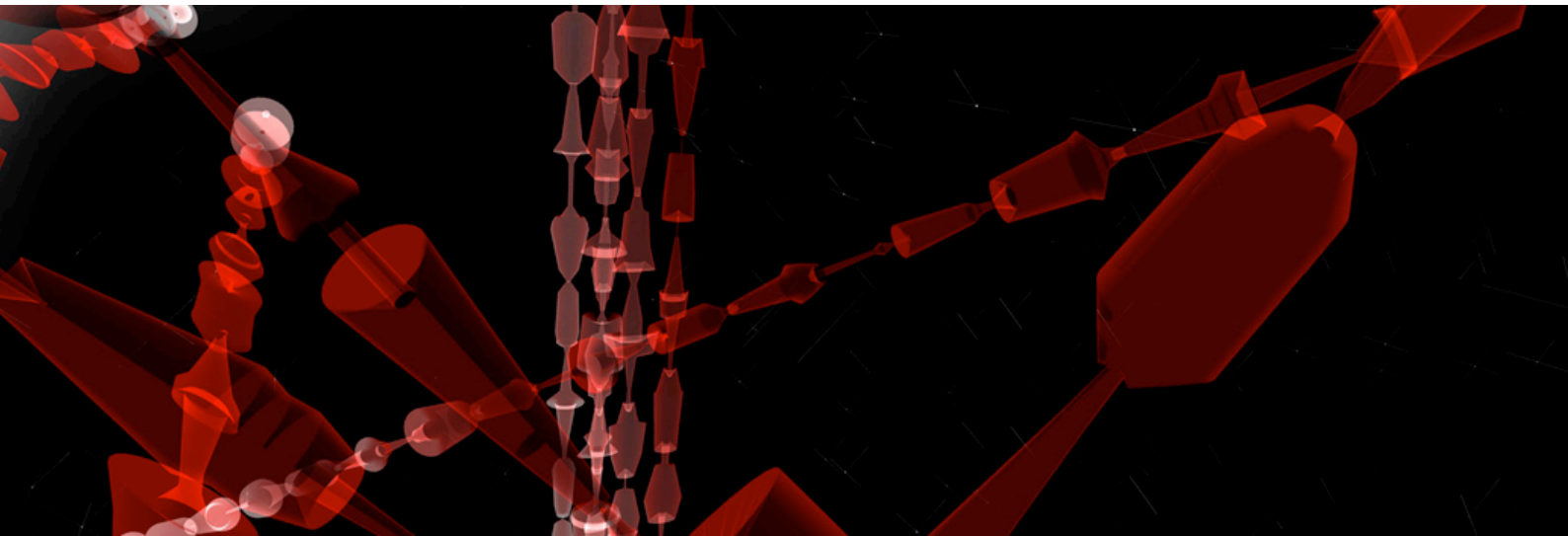
Fundamental Forces at present is a highly advanced software package under development for the visual side, an impressive first version of a potential result, and a auditive component that has been created in a very traditional sense of post-production. However, there is room for several exciting enhancements. We plan to make the musical side much more an integral part of the generative process. We aim to explore full dome projections, and to combine the stunning visual side with an equally impressive state of the art auditive component. Wave field synthesis would be a rewarding research project, since Robert Henke already is experienced in this particular field.


**F u n d a m e n t a l   F o r c e s**

The Creators

Robert Henke (1969) is a German computer music composer, installation artist and professor of sound design at the Berlin University of the Arts. He is a co-developer of the Ableton Live music software and founding member of the electronic music project Monolake. He lives in Berlin.

His works and concerts have been shown at the Centre Pompidou, Paris, the Turbine Hall of Tate Modern in London, MUDAM in Luxembourg, the Art Gallery of New South Wales in Sydney, at PS-1 in New York... In 2010 he had a solo exhibition at the Färgfabriken gallery in Stockholm with his multiple screen video installation 'Transition Machine'. In 1997 he won a honorary mention at the Prix Ars Electronica for his CD release 'Layering Buddha'. His music has been licensed for numerous films, dance performances and TV series, including most recently CSI-Miami. Robert Henke also writes about sound art and performance of computer generated music and gives lectures and talks..
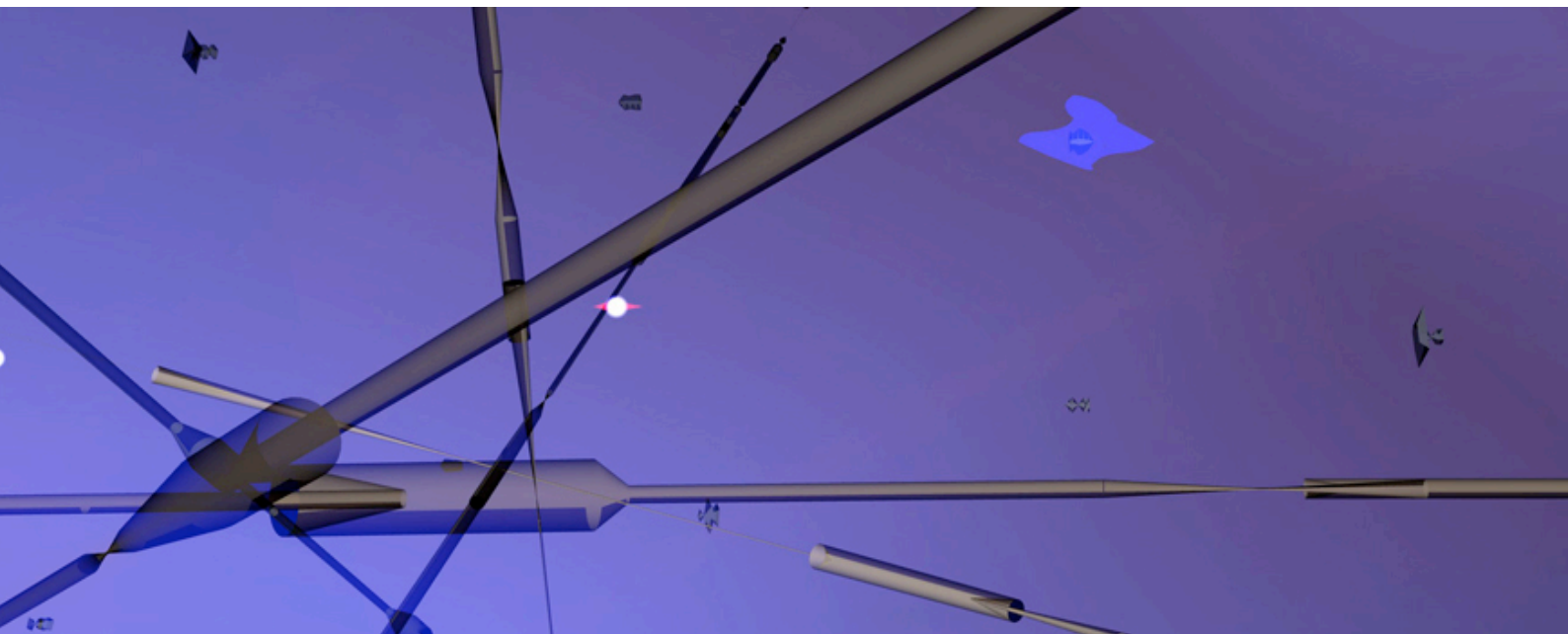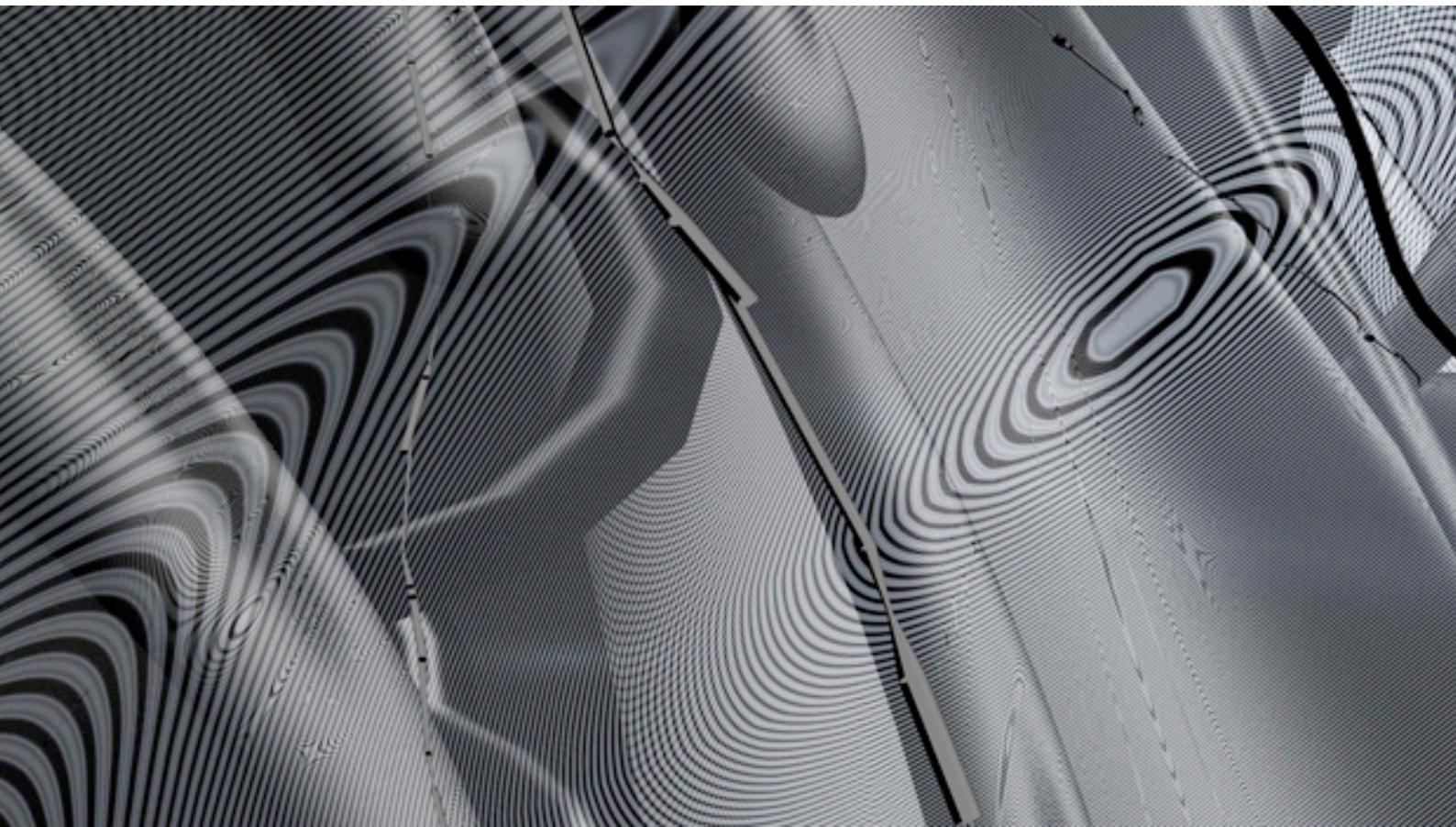
Tarik Barri (1979) is a Dutch audiovisual composer and software developer. He started programming at the age of seven and has been making electronic music since the age of fourteen. After his first official musical release at the age of twenty one, he quit his studies in biological psychology to pursue the study of music and technology.

During this study he saw how the methods he used to create music could be adapted for the moving image. He programmed his own software to develop new tools for audiovisual performance, composition and data representation. Using these tools, Tarik Barri aims to discover new synergies and aesthetics in the combination of image and sound. His works take on various forms like audiovisual performances, installations and videos. He also creates live visuals for Robert Henke's Monolake shows. The fundamental concept, reflected in all his works, is that image and sound are connected in an inextricable way: the viewer hears images and sees sounds.
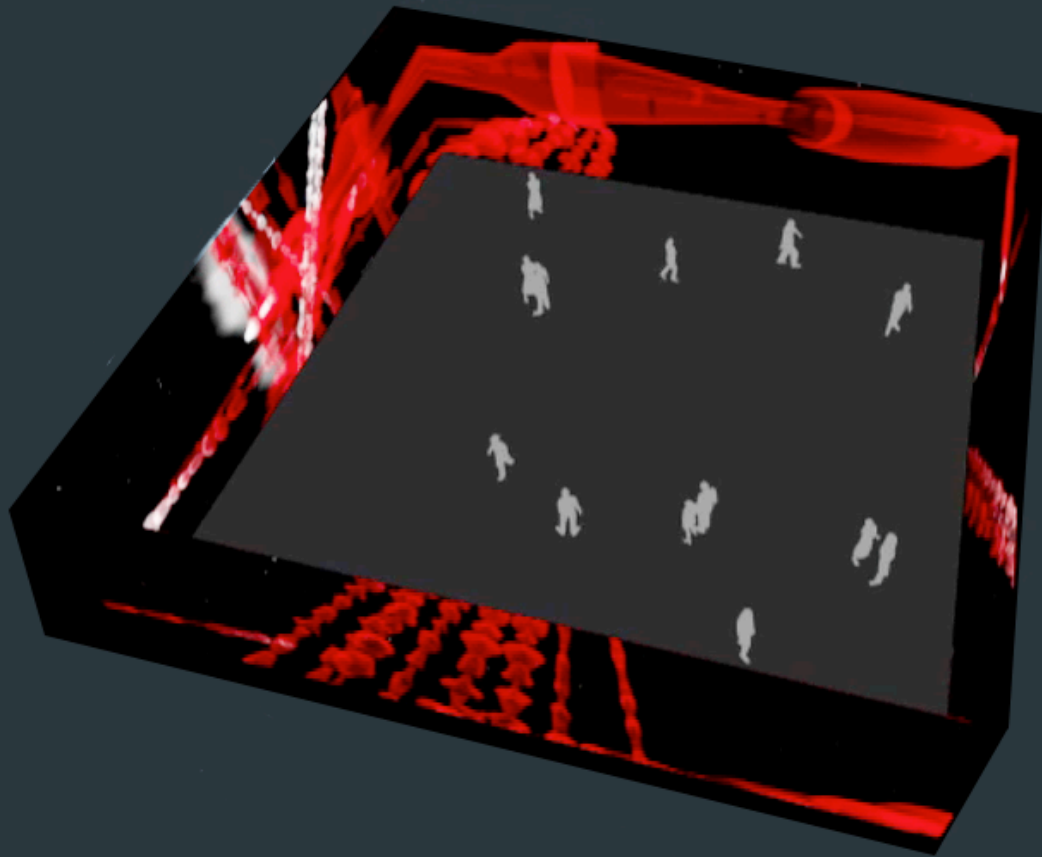
Technical Requirements

Each Fundamental Forces screening or exhibition is unique and the work is highly scalable. One potential setup is eight screens in a square, two per side, and a eight channel full range surround sound system. Hardware requirements (beamers, computers, network components, audio system) depend on the location.

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