



# EXPEDITION NANO

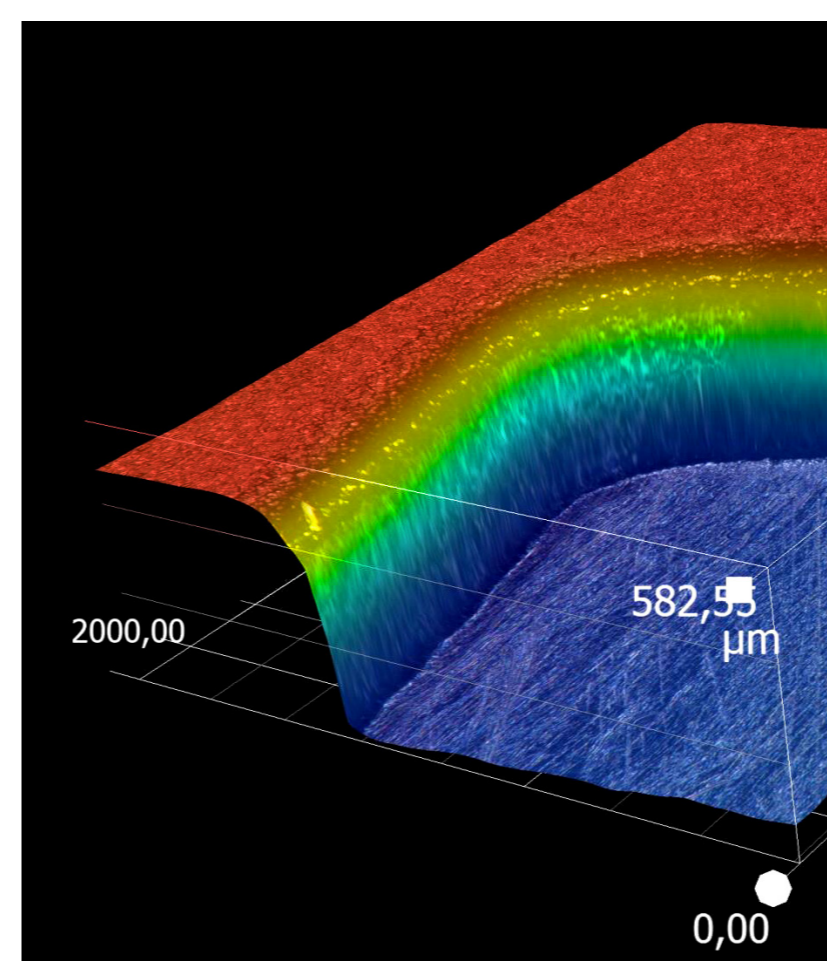
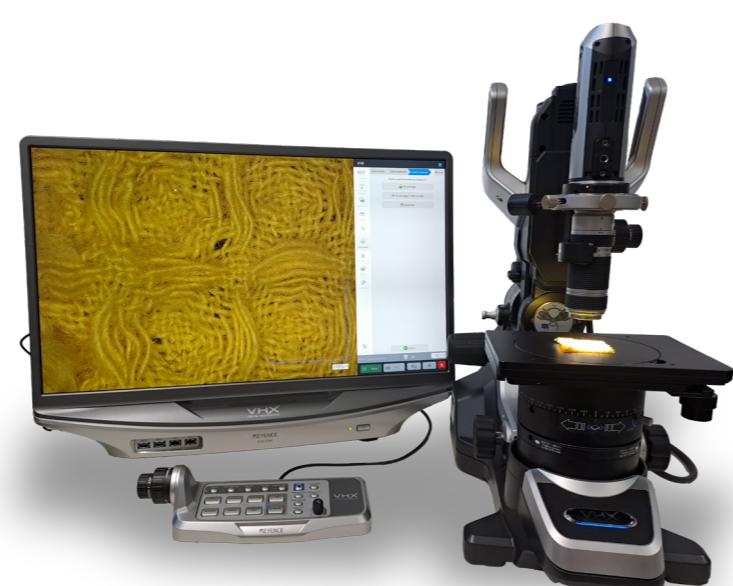
## VIRTUAL LEARNING WORLDS FROM MICROSCOPY DATA

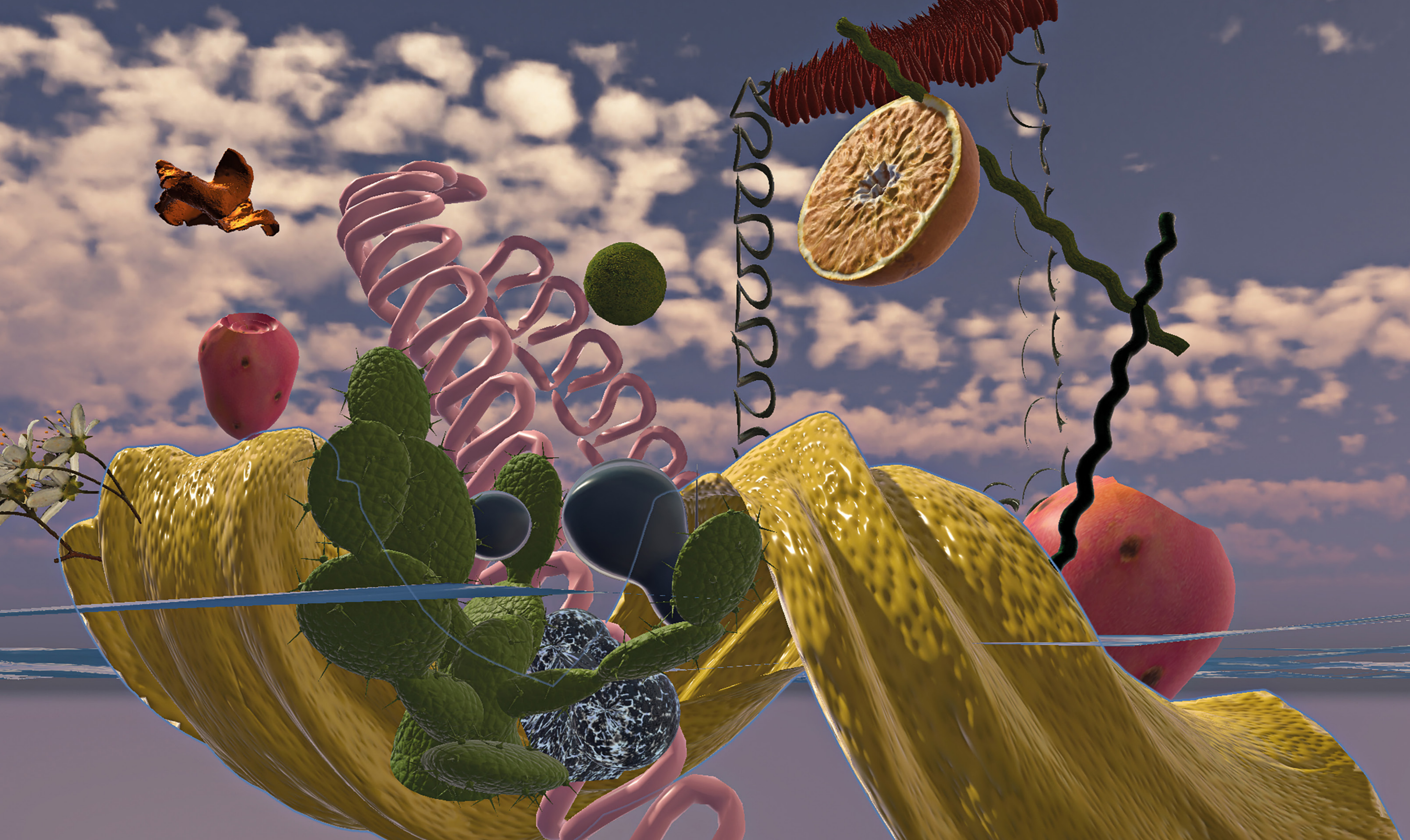
Interdisciplinary teaching innovation project by Prof. Dr. Lilia Sabantina, Prof. Dr. Lutz Strobach, Prof. Pablo Dornhege  
 Faculties: Clothing Technology/Manufacturing Engineering, Conservation and Excavation Technology, Communication Design  
 Berlin University of Applied Sciences – HTW Berlin, 12459 Berlin, Germany

### What if we could immerse ourselves in the fabric structure of a textile surface instead of just looking at it through a microscope?

Based on this question, bachelor students from the Communication Design, Clothing Technology and Conservation and Excavation Technology programs worked together on the „Expedition Nano“ project. They examined textile surfaces with the digital microscope, translated the 2D image data into 3D data and used them to develop virtual learning and experience spaces.

In this way, the project created tools that enabled students to take new positions on their objects of study and learning, to perceive them explicitly, and to explore and discuss them together. The form of these virtual knowledge spaces could move between an artistic-emotional and a scientific-didactic implementation.





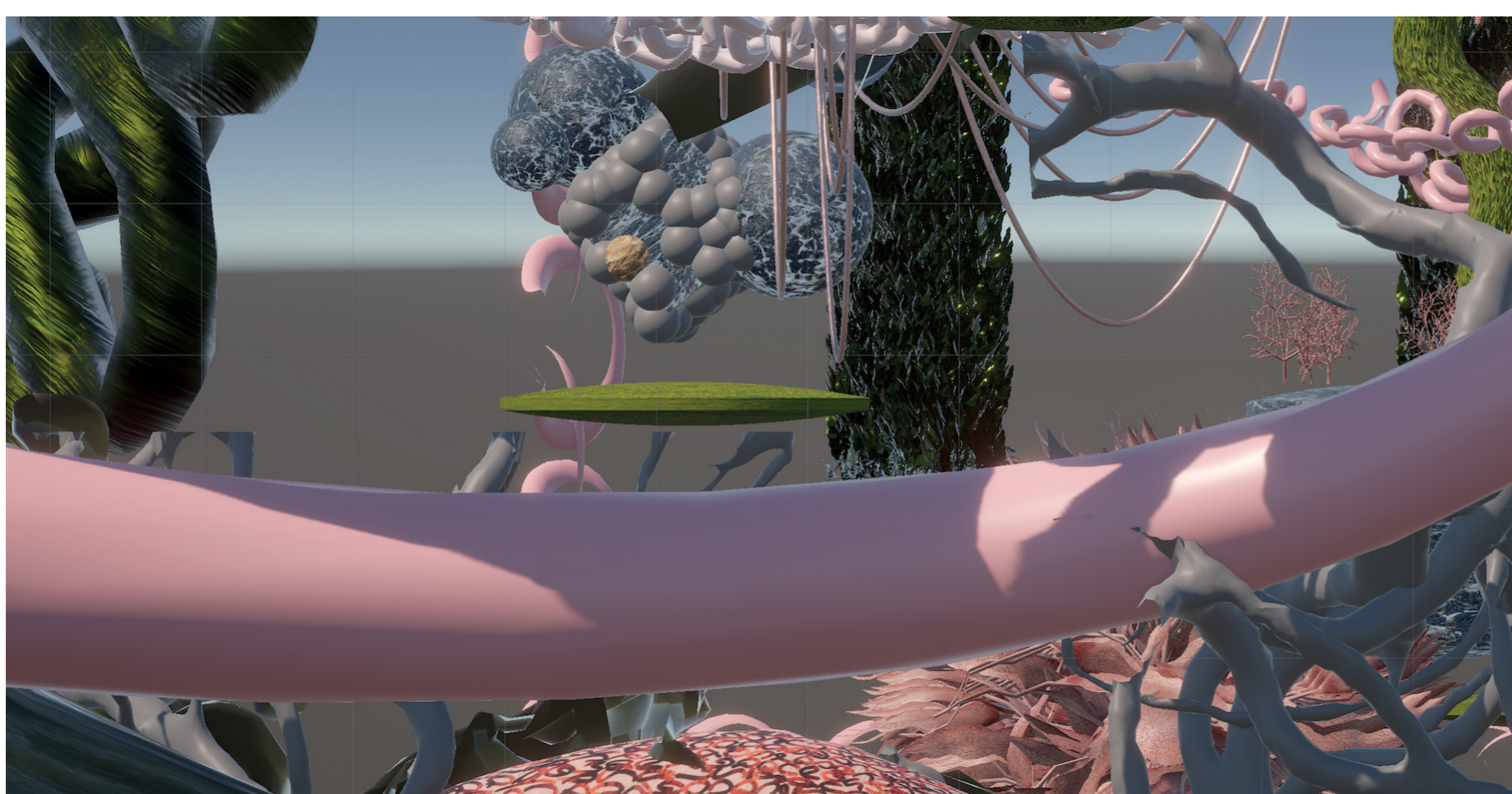
# MORPHOSCAPES

## EXPERIENCING ALTERNATIVE TEXTILES DIFFERENTLY

Jule Degenhardt, Mabinty Suma, Laura Jaenisch

### An Alternative VR Experience

Morphoscapes is a VR experience that takes you into different surreal worlds made of mostly alternative and natural raw materials and their end products. Travel through our landscapes and be inspired, informed and surprised. Get to know dedicated start-ups with their latest research results and learn which textiles can also be made from bio-based raw materials. It's time to make our textile industry more sustainable and open to alternatives. Otherwise, just have fun and take a break from reality!



### Can curiosity about the material be aroused through artistic staging?

This was the question we asked ourselves in our VR project, as we considered how to create an unusual virtual learning world on an artistic-emotional level. In the process, we searched for new perspectives and let ourselves be carried away into new worlds by our own microscopic data of the raw materials and textiles.



# VRtex Lab

## LEARNING EXPERIENCE FOR TEXTILE TESTING

Johannes Dietze, Vivian Geisthardt, Raja Mussenbrock

The „Textile Workshop“ aims to familiarize new or prospective students of apparel technology and ready-to-wear clothing with familiar textile testing procedures and to ensure an easy and fun introduction.

In the VR experience, an old, somewhat surreal factory floor is explored together and work is done at stations. Textile samples taken from a Porsche in the basement are tested for their properties and behavior. As the experience progresses, additional knowledge is gained about these textile samples.

In addition, the (prospective) students will become better acquainted with the basic function and execution of the experiments.



They learn to interpret results and to distinguish between different types of textiles. In addition to observing and evaluating test procedures, there is an opportunity to obtain additional information about the procedures.

The experience has the characteristics of a level progression, as evidenced by the fact that new stations can only be used after the previous ones have been successfully completed. This and other integrated gamification elements should additionally motivate and initiate cooperation between the players.



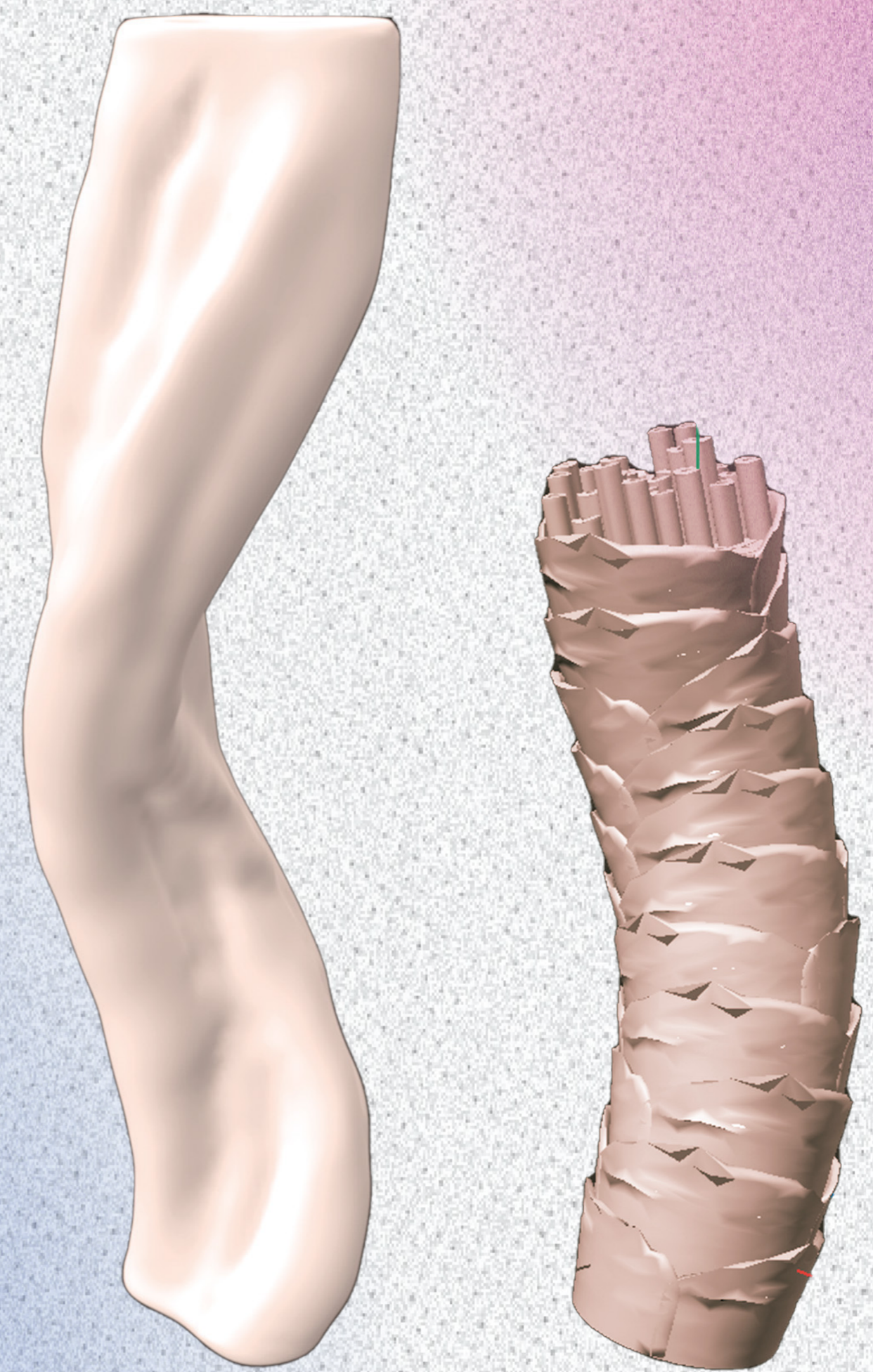
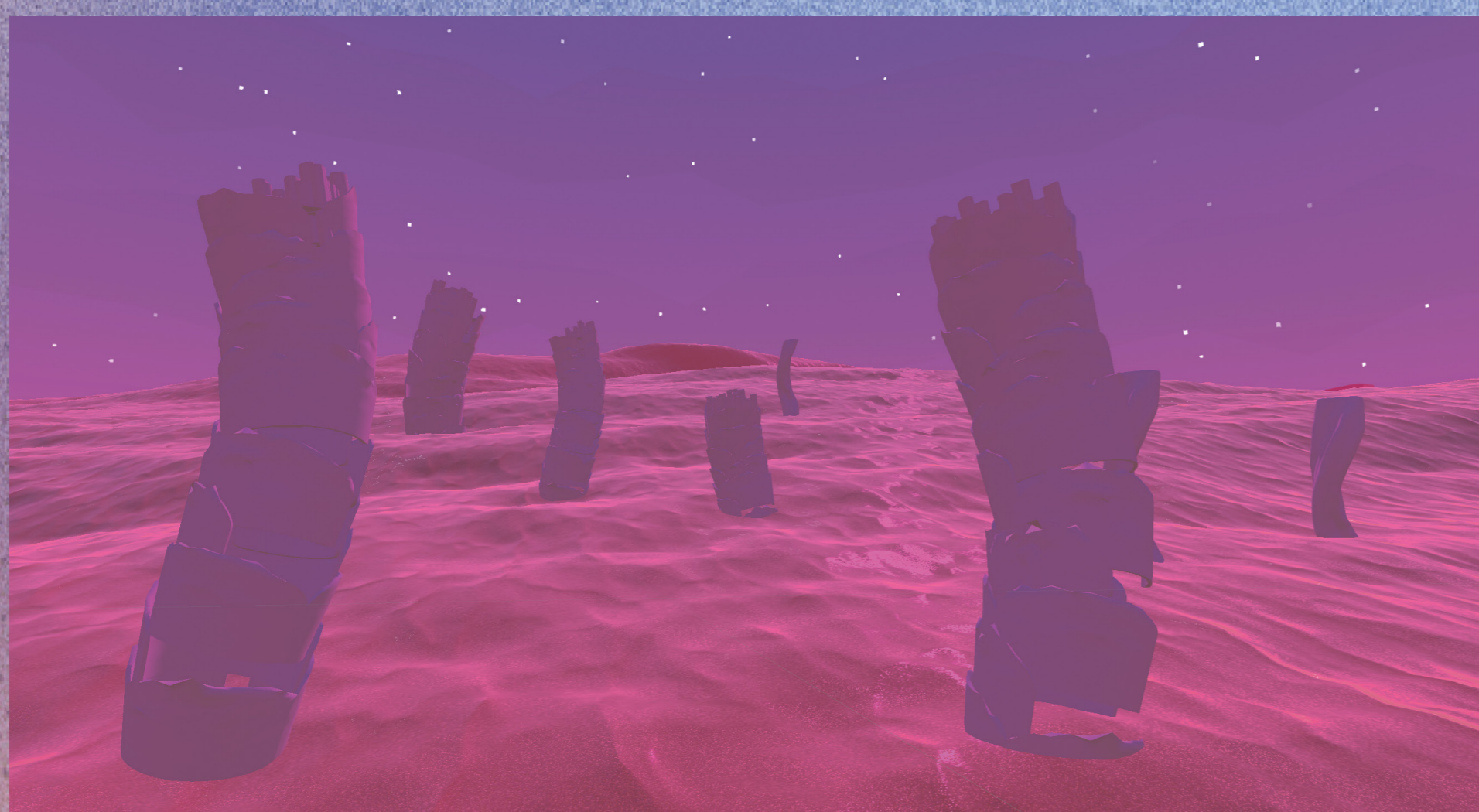
# TEXTILE OASIS

Oussama El Hamli | Anna Patzak | Johannes Wockenfuß

## Welcome to the Textile Oasis!

A unique learning world awaits you, where you can experience the fascinating world of clothing up close. Immerse yourself in a virtual reality that simultaneously introduces you to the real properties of textiles.

In the Textile Oasis, you can learn through play and explore the basic properties of our everyday companions. Touch, feel, and understand the diverse materials that make up our clothes. Learn how they protect our bodies, keep us warm or cold, and make us feel comfortable.



## Experience Virtual Real

Discover the secrets of textile manufacturing and learn how fibers and yarns are transformed into stunning fabrics. In Textile Oasis, you can not only see and hear, but also feel and interact. So grab your VR goggles and take an exciting journey to the Textile Oasis. Be inspired by the fascinating properties of clothing and become a master of textile knowledge. Are you ready to experience the world of fashion in a whole new dimension?

Welcome to the Textile Oasis - where learning and virtual reality come together in a captivating way!

# TRANSCENDENCE

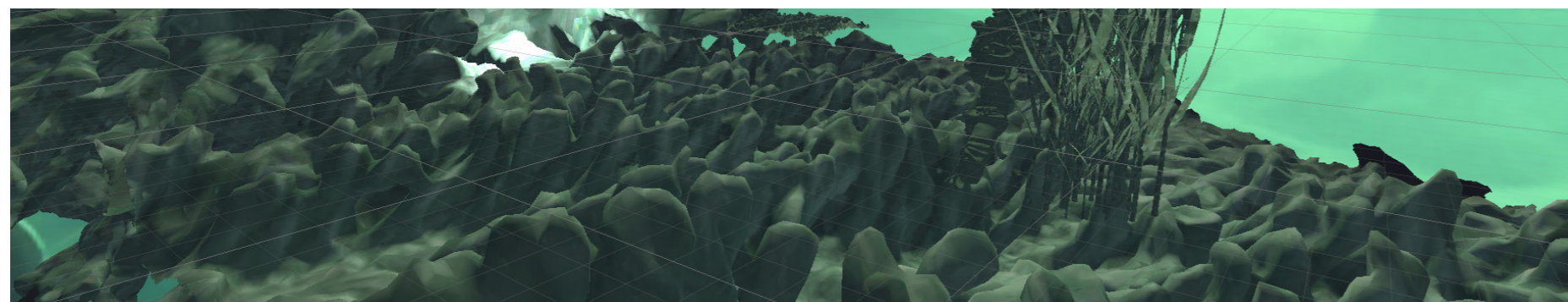
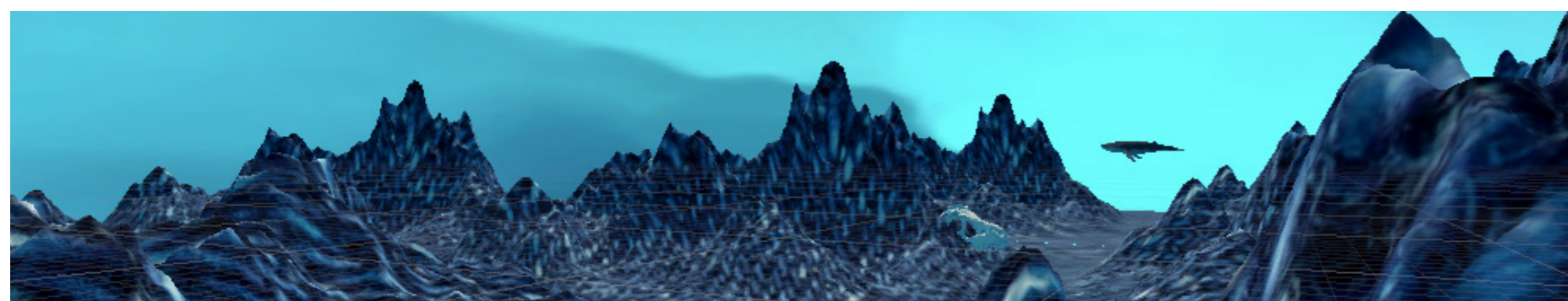
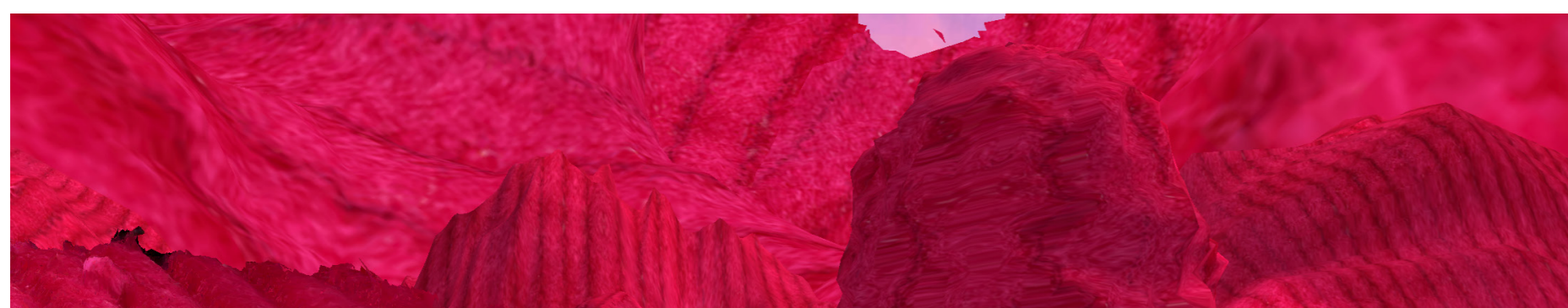
Mara Vorberg, Samuel Freimoser, Vincent Schneider



## CONCEPT

If we were actually inside our clothes, instead of just wearing them on our bodies, this would undoubtedly have remarkable effects on our perception and interaction with the environment.

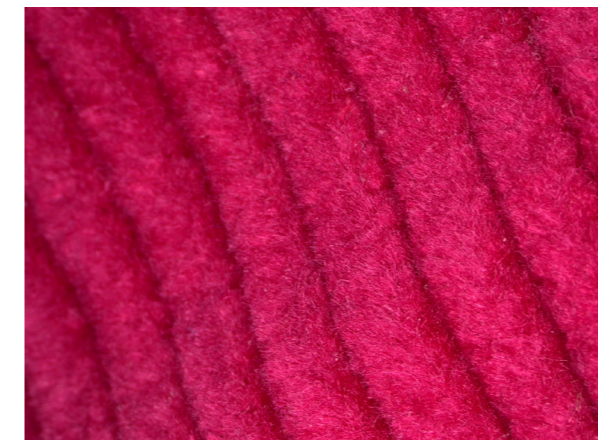
The visual and auditory experiences that are scenically presented are reminiscent of surreal dream worlds. The result is undoubtedly a unique and abstract experience that challenges our conventional notions of clothing and its relationship to our bodies.



## INTERACTION

The worlds are explored through physical movement, and visitors can press buttons in the center of the movement area to travel through the different fabrics. In addition, there are information points in the corners of the movement area that provide further opportunities for interaction, such as text, audio and objects.

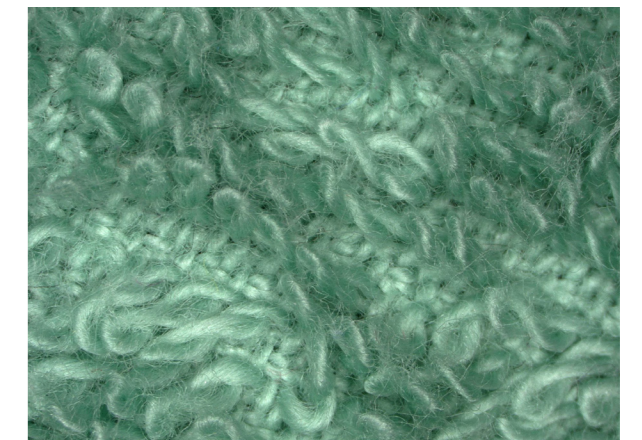
### Microscope images



Cord



Denim



Frottier

## CORD

The world of corduroy is characterized by an abundance of fluffy material that envelops the environment. Large, curving shapes fill the landscape, giving it an organic aesthetic.

## DENIM

The world of denim is a crystalline mountainous landscape with hard, angular formations. The cool feel and rough texture of the denim material gives the environment a striking atmosphere.

## FROTTIER

The frottier world is characterized by an unpleasant and slimy character. However, it offers a spacious, open landscape with an impressive panoramic view.



Special Thanks to  
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Soundcloud: Raban