Biotechnology meets Virtual Reality

HOCHSCHULE ANHALT University of Applied Sciences

FORSCHUNG FÜR DIE ZUKUNFT

Discover Biotechnology with VR - the BioTech-House® Experience

The BioTech-House® is an interdisciplinary teaching project of Anhalt University of Applied Sciences, demonstrating the ubiquity of biotechnology in our daily lives by allowing users to interact with biotechnological products and encouraging them to produce these products themselves. This innovative and didactically well-founded project promotes not only access to biotechnology but also to applied computer science and VR technology.

The immersive learning environment represents a virtual residential building where each room is equipped with interactive objects. Objects of biotechnological origin prompt users to produce them. In this process, users can choose between different scales. For example, learners can produce yogurt in the kitchen and then test their knowledge with a quiz and earn a virtual reward. Wine production, for instance, can also be learned on a small industrial scale in the virtual wine cellar, where learners go through all important steps from grape processing to bottling. Additionally, users can teleport to a laboratory to produce inoculum, where, for example, starter material for Saccharomyces cerevisiae is manufactured, which is then used for wine or beer production. In this way, inexperienced learners can gain their first realistic experiences in the production processes of biotechnological products in the BioTech-House®, while advanced biotechnologists can consolidate their knowledge and, for example, be optimally prepared for internships and practical courses.

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BioTech House