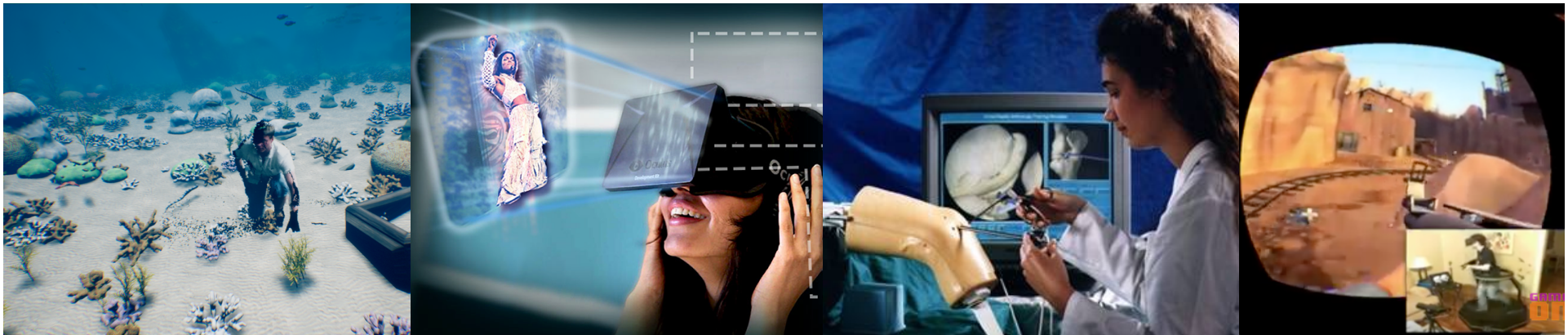


Virtual Reality & Physical Simulation (03-IMAP-VRSIM)

- How can we achieve a fully **immersive** user experience?
- How can we interact with virtual 3D environments **intuitively**?
- How can scenes be rendered in **real-time**?
- How can we **touch**, **feel**, and **hear** virtual objects?
- How can we **simulate** virtual objects such that they behave like real ones?
- How can virtual environments be **shared** by several users?



Virtual Reality & Physical Simulation: Details

- Credit Points = 6
- Format: Lecture + Assignments (approximately 3+1)
- Assignments = mostly (small) programming tasks within given frameworks in the game engine Unreal 5
- Prerequisites:
 - Moderate programming skills (first just visual programming, later C++/"C with classes")
 - Math: a tiny bit of 3D matrix calculus, towards the end simple ODE's
- Study programs: computer science, digital media, systems eng., ...
- Language: English, whenever non-German-speaking students attend
- Exam: oral exam