AKjDPG 4: Hacky Hour II (joint session AGI/AKjDPG)

Time: Wednesday 16:00–17:15   Location: AGI-H20

Invited Talk   AKjDPG 4.1   Wed 16:00   AGI-H20
Physicist in IT: Physics in Advent — ●André Wobst — wobsta GmbH, Augsburg

For more than 17 years I am working as a service provider in planning, realization and administration of physics-related IT projects. Here I present one of the projects, namely a physics Advent calendar. The technology stack is rather common and efficient: Python, Flask, PostgreSQL to name just the most important building blocks. The load of such a project (more than 66,000 users in 2021, all within a few weeks and with high daily return rate) is operated on moderate infrastructure by taking into account efficiency right from the start. I overview challenges that arise during implementation and operation and show some web analytics, monitoring data and report on attacks. I will also discuss a few pitfalls like avoiding backpressure (a term adopted from fluid dynamics to IT).

AKjDPG 4.2   Wed 16:45   AGI-H20
Scientific 3D-renderings with blender — ●Dominik Rattenbacher — Max Planck Institute for the Science of Light, 91058 Erlangen, Germany

Surely, you have all seen fancy 3D-renderings in one or the other talk or some journal publications. These are not only an eye catcher, but can play a key role in visualizing a model or experiment for the audience.

In this talk, I will give an introduction to the open-source 3D-rendering software blender (blender.org), which is a powerful tool to create such images or even animations. I will start by giving an overview of its history and then dive into ray-tracing, which is the general process behind it. In the second half we will go step-by-step through a little example that shows you how to create an animation of a tunable laser beam being reflected by a mirror.