



14th April 2021 - 2:00 p.m.

[Virtual meeting room in ZOOM](#) (ID: 992 7237 2470 / PW: 755622)

Robin Santra

Center for Free-Electron Laser Science, DESY, and
Department of Physics, Universität Hamburg, Germany

A new concept for teaching theoretical physics to first-semester students

In the German academic system, first-year physics students traditionally had to take abstract math courses offered by math departments, which were complemented by math methods courses offered by physicists. The abstract math courses are still there. However, at Universität Hamburg, the math methods courses became courses that focus on a tighter connection between mathematics and physics, thus making it much easier to motivate the need for new mathematical techniques. Nevertheless, even these courses are sometimes still seen as being too challenging for first-year students. In this presentation, I will describe measures I have implemented in an attempt to make the first-semester version of this course more accessible to incoming students. This includes the creation of a number of Python scripts that help visualize some of the theoretical concepts.

