Contribution ID: **3**                                                                            Type: **Keynote**

# Compute shaders in physics education

Recent development of fast graphics processing units (GPUs) used mainly for rendering high quality graphics, computing advanced machine learning models or even digging some bitcoins have opened new perspectives for education. Some of us remember computing real-time 100x100 game of life models in computer lab of modelling course. Today, full 4K resolution (by saying that we mean 3840x2160) in 60FPS is possible. We will show that today's hardware can be used as a framework for computer simulations of realistic physical processes at scale and rates that makes the educational experience satisfying for young generation.

**Author:**   MATYKA, Maciej

**Co-author:**   Mr STRZELCZYK, Dawid (Faculty of Physics and Astronomy, University of Wrocław)

**Presenter:**   MATYKA, Maciej

**Session Classification:**   Keynotes

**Track Classification:**   Modern equipment and technology to improve Physics Teaching and Learning.