

**Professor Mathias Ropohl, University of Duisberg-Essen:**

**Competences in science education from a German (Bildung) and US (curriculum) perspective**

Over the last decades, reforms and debates in science education focused on learning goals not least in connection with large scale assessment like TIMSS or PISA. What should students learn in science? What should students be able to do? It is not surprising that students should be literate and competent when dealing with scientific phenomena. But, what does this really mean? Since then different developments and interpretations can be observed when looking at curricula and standards.

In my talk I will present you mainly the German perspective on learning goals in science and will introduce the concept of competence. It was widely introduced nearly 20 years ago by defining national educational standards for science. The introduction of standards was meant as a shift from an input- to an output-oriented school system. The new learning goals – now defining what students should be able to do instead of what they should know – not only meant a new way of teaching but also entailed a complex system of monitoring the success of the German school system.