

Alessandro Narduzzo

University of Bath

Fine-tuning the interplay between traditional and innovative teaching to enhance learning

Day 1 – Parallel I (12.00-12.30)

A second year undergraduate “Mathematics for Scientists” unit has been taught using a variety of techniques, including hand-outs with gaps to be filled in (“enhanced chalk-and-talk”), classroom inversion, traditional problem classes and interactive, technology-enabled peer-learning sessions. The effectiveness of the different approaches is analysed by considering student feedback and exam performance across differently taught topics. Quantitative and qualitative results are further compared with those of a similar investigation carried out in the first year unit “Introduction to Quantum Physics”, with the aim of establishing the key factors in optimising the learning experience. The limitations of this investigation are also discussed.