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Physics education for 21 st century graduates

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The century in which today's students are growing up is different in a number of important ways from last century. This includes ubiquitous and increasingly sophisticated technology, climate change, globalisation, and the concentration of the bulk of the world's wealth in the hands of an ever-decreasing percentage of its population. And then there was the great recession of 2008. Taken together, these things impact on students' thinking patterns, behaviours, expectations, constraints and opportunities. Broad global developments, such as the fourth industrial revolution, the United Nations Sustainable Development Goals, as well as the recent rise of so-called fake news and popular rejection of evidence-based thinking, frame the context for what we can and must do in educating our students.

So what are the implications for Physics and Physics teaching? Physicists have always taken pride in the fact that we acquire ways of thinking and solving problems that have broad applicability. While that may be true, no human endeavour can ever be divorced from context. How is the teaching of Physics being affected by the global context, and how can Physics teaching contribute to addressing global challenges? In this presentation, I will make some suggestions, in broad terms, of what we ought to be teaching, what the key characteristics are of who we are teaching, and how we should teach
in order to equip our students to be successful 21 st graduates. That means being able to navigate the complexities and uncertainties of a turbulent world, today and tomorrow, and, we hope, contribute to making it a better place for all of its inhabitants.

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No

Level for award
 (Hons, MSc,
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N/A

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