

School of Physical Sciences Seminar

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Thursday 24 March 2016

Physics Building, N115, 16:00

Title: Research into Teaching and Learning of Electromotive Force

Abstract

I will briefly outline the different experiments that we carry out, and will show some of the new results we have obtained from these studies. I will present research on students' difficulties with the concept of electromotive force (emf) in contexts of transient currents, direct current circuits, and electromagnetic induction environments. The study concerns first-year engineering students at the University of the Basque Country and at KU Leuven, and second-year physics and engineering students as well as fourth year pre-service science teachers at Dublin City University. We have analysed a number of open ended questions in a phenomenographical approach used to define categories and detect lines of reasoning and difficulties in conceptual understanding. Although the prevalences of the responses in the different categories are different, we identify the same kind of difficulties among students in the three universities.