Fostering Science Identity and Learning at Lower Secondary Level in Ireland

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Wednesday, December 19, 2018
12:00 – 1:00 PM
ISC 3300

The numbers of students studying physics and the low numbers of teachers completing a qualification to teach physics at second level is a matter of international concern. Over the past decade, the EU has provided significant funding for projects that adopt inquiry approaches to curriculum design, instruction and assessment and promote STEM education in formal, non-formal and informal learning contexts. This talk will discuss an approach taken in a 3-year pilot programme being carried out in partnership with seven Irish second level schools, that adopts a whole school approach to fostering science identity and learning at lower secondary level in Ireland. Through the formation of research-practice partnerships with the 52 science teachers from these schools, a programme of teacher professional development has been developed that aims to (a) increase content knowledge for teaching science, (b) provide STEM role models and (c) foster a STEM culture in the school. Findings from year one of this study will report on the implementation of a programme of workshops with science teachers and unconscious bias workshops with all teachers in each school. The methodology adopted to measure the impact to measure the impact on students’ identity and sense of belonging in STEM, teachers’ content knowledge for teaching STEM and the whole school STEM culture will be presented. The focus of this talk is to raise questions on how we can transform curriculum design, instruction and assessment at lower second level and impact on STEM with and for Society.

Chemistry Department Sponsor: Prof. Hannah Sevian