Contribution ID: **234**   Type: **Invited Speaker / Conférencier(ère) invité(e)**

(I) Teaching quantum computing for second year students in science and engineering

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I will describe my experience and the students' feedback in the course "Introduction to Quantum Computing" for second year students at University of Victoria. The class was composed by physics, astronomy, mathematics, computer science, electrical, mechanical, and software engineering majors. The course's only pre-requisite was first-year linear algebra, and most of the students had never had previous exposure to quantum theory. Quantum computing provided an accessible setting for motivating the essential concepts of quantum theory, without the need for advanced mathematical skills such as differential equations. It also opened up many opportunities for experiential learning: The students learned quantum algorithms by writing code and submiting jobs to cloud-based quantum computers offered by IBM Quantum Experience and D-Wave Leap. My conclusion was that the course provided an effective alternative to the usual "historic approach" to teaching quantum theory for second year students, with the added benefit of experiential learning with cutting-edge technology.

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