Workshop

PERSONALISED LEARNING ENVIRONMENT AND THE HISTORY OF MATHEMATICS IN THE LEARNING OF MATHEMATICS

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The proposed talk will describe the project, which aims to design and implement a personalized learning environment built around contextual historical material for the learning of mathematics. On the one hand, the project seeks to understand the principles that connect the personalized learning and digital technology, both as ways of providing individual input and collaborative learning at a distance; on the other hand it seeks to examine the role that history of mathematics may have in such a learning environment.

The talk will therefore concentrate on three aspects:

1. It will survey the existing and historical examples of personalized learning environments which use the history of mathematics as a contextual tool for the learning of mathematics
2. It will question the hows and whys on using the history of mathematics to underpin the epistemological aspect of mathematics education in digital environments
3. It will question whether the original sources, widely available on the Internet, can contribute to creating an authentic personalized learning environment, which rests on original research in mathematics.

The talk will be illustrated by the examples of personalized learning environments in mathematics that use some aspects of the history of mathematics already existing in the digital world. It will attempt to propose a brief explanations for creating a personalized learning environment, which has at its core the historical context of the development of mathematical sciences. Whilst the project is a recent collaboration between two authors, and empirical studies of the students' preferences in the learning of mathematics in digital environments is not abundant, we will aim to produce results of our initial data.