



Learning spatial orientation with use of a virtual city

24 March 2026 (Tuesday) - 10:30 a.m. - 12:00 n.n.
Room G2, Ho Tim Building, CUHK

Abstract

Spatial orientation is a key element of the geometry curriculum in primary school education. The generalised use of mapping services and, for younger generations, of sophisticated video games has changed our relation to space. On the other hand, it is impossible to take young students in a foreign city in order to experiment spatial activities. The use of a virtual environment in school is therefore a good opportunity to address positively these two issues. This is what we developed in our project SPAGEO briefly presented in this paper together with some general issues on the matter. We built a virtual city for a computer environment to be used in class. Then we developed and experimented didactic sequences for a group of roughly a 100 students over three academic years (grades 2 to 4). As an example, we give in this paper some results of our analyses of an activity consisting in an oral communication from one student to another to describe a route he or she follows in the virtual city.

Keywords: Spatial Orientation, Virtual Environment, Landmark, Route Description, Oral Communication.

Prof. Jean-Luc Dorier (University of Geneva)

About the speaker

Prof. Jean-Luc Thierry Dorier is a Full Professor of Mathematics Education at the University of Geneva. Prof. Dorier's research spans more than three decades and addresses key issues in mathematics education, including inquiry-based learning, mathematical problem solving, formative assessment, and the development of number and algebraic thinking. He is especially well known for his influential work on the teaching and learning of linear algebra, which integrates historical, epistemological, and didactical perspectives to illuminate students' conceptual difficulties and the evolution of algebraic ideas.

He has played major leadership roles in the international community, serving on the Executive Committee of the International Commission on Mathematical Instruction (ICMI) and participating in scientific committees for EMF, CERME, and ICMI Studies. He also led the Swiss contribution to the EU-funded PRIMAS project, which promoted inquiry-based learning across Europe. An experienced and dedicated teacher educator, Prof. Dorier has trained generations of primary and secondary teachers, bridging theoretical insights with classroom practice.



Online registration: <https://cloud.itsc.cuhk.edu.hk/webform/view.php?id=13724528>

Registration deadline: 23 March 2026 (Monday)

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