Device-free interactive teaching for international STEM master degree students

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Trieste, June 25 2026

Overview of the talk contents

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- Some ideas and topics for discussion

Acknowledgements

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- Some similar activities will also be carried out in the near future with funding from the ENHANCE consortium

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- ...but even before experimenting with more active teaching, I have always used hands-on laboratory as preferred teaching method
- I have international experience both as scientist (USA, Germany, Japan) and as teacher (PhD courses in Italy, Spain and for Palestinian students, ERCOFTAC Lecturer in Switzerland, ERASMUS MUNDUS professor in Japan)

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- One of the largest applied Math groups in Italy, with strong emphasis on scientific computing and more recently scientific machine learning

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- Games are a hard sell: some students make a major investment in a degree that sometimes literally saves their lives. They react suspiciously to any activities not strongly perceived as serious steps towards the degree achievement

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- ...but LLMs have dramatically changed the picture!
- Hard theoretical content presented in a simple and complete way, but course structured as computer lab

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- It works to create a shared classroom experience: after FC course, 80% thinks it is important or very important to build new connections with classmates

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- After one month, digital material and all devices were excluded from the interactive discussion section (printouts, typed multiple choice questions): inter-personal communication restored at previous levels

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- Evaluation problem is still essentially unsolved

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- How can the value of human interaction in the classroom be maintained in a context where using digital tools is mandatory?
- How can informal activities and games be given value in a (costly) higher education framework?
- Can we do game-based evaluation?