

Michael Lodi (BS, MS, PhD in Informatics) is and Adjunct Professor and Postgraduate Research Fellow at the Department of Computer Science and Engineering, University of Bologna (Italy).

He carries out research in Informatics education, focusing on epistemological aspects, introductory programming, constructivist methodologies, cryptography education, and STEM integration.

He has been a visiting researcher at the University of Canterbury, Christchurch, New Zealand, in 2018-2019 (6 months) and at the University of La Laguna, Tenerife, Spain, in 2023 (1 week).

His current position is funded by a NextGenEU project for teaching, professional training, and popularization of High Performance and Quantum Computing.

He was the principal investigator of the ACM SIGCSE Special Project 2020 on Cryptography Education and researcher in two Erasmus+ projects (ISEE (2018-2019), IDENTITIES (2019-2022)) on interdisciplinarity between STEM subjects (in particular between Math and Informatics).

He is member of the Advisory Board of the Observatory on Trends and Applications of Big Data, Supercomputing, and Quantum Computing. (NextGenEU Italian HPC Centre). He is member of the ACM SIGCSE (Special interest group on CS Education), Informatics Europe WG on Education, and the CINI (Italian Informatics departments consortium) Laboratory on Informatics and School. He is also member of the STEM education research team (Dep. of Physics, University of Bologna). He has been member of the special INRIA Sophia Antipolis-Méditerranée FoCUS team unit in Bologna from 2017 to 2022.

He participated as speaker at several international conferences on CS and STEM education. He has been member of the local organizing committees of ESERA19, ITICSE17, and ITICSE24. He is the co-chair of a special session on HPC education at PDP2025.

He is the author of more than 30 publications in CS Education and STEM Education international journals and conferences. His h-index is 8 (SCOPUS), 12 (Google Scholar).

In particular, his work on “Computational Thinking, between Papert and Wing”, *Science&Education* (2021), is in the top 1% of publications in the area, according to SCOPUS.

He has been external reviewer for relevant CS/STEM education journals [e.g., *Italian Journal of Educational Technology* (IJET), *Contemporary Educational Technology* (CET), *British Journal of Educational Technology* (BJET), *Computers & Education*, *CS in Education*, *Science and Education*, *International Journal of Child-Computer Interaction*, *Cogent Education*] and conferences [e.g., ITiCSE'19, APCSE'20, UKICER'20, ISSEP'20].

He has been the external referee and the final exam commissioner for two PhD theses in CS Education (University of Udine and University of Genova).

He has an extensive experience as the main teacher or co-teacher for Introductory Programming (BS in Math, MS in AI). Moreover, he teaches Informatics Education at MS in Informatics, PhD in Informatics, and pre-service HS teachers.

He carries out an extensive outreach activity, with hundreds of seminars and courses dedicated to K-12 students and teachers. He is the scientific coordinator of “Digital girls” project in Bologna. He also volunteered for several years in CoderDojo Bologna. He is also member of the orientation/guidance commission of his department.

## Curriculum Vitae - Michael Lodi

**Education:** *Dept. of Computer Science and Engineering, University of Bologna*

- PhD in Computer Science and Engineering, 2020. *Grade: Excellent. Thesis: CS Edu*
- Teaching license master for CS in High School, 2015. *Grade: 99/100*
- Master's degree in CS, 2014. *With laude.* Bachelor's degree in CS, 2010. *With laude.*

**Academic positions:** *Dept. of Computer Science and Engineering, University of Bologna*

- Postgraduate research fellow, from February 2026
- Assistant Professor (junior), from February 2023 to February 2026
- Post-doc research fellow, from November 2019 to November 2022
- Adjunct Professor, from A.Y. 19/20 to A.Y. 21/22 and from 2026

**Visiting position:** *University of Canterbury, Christchurch, New Zealand.*

- Visiting academic. Host: Prof. Tim Bell. October 2018 – April 2019

### Research interests

CS Education: CT; CS1; block-based languages; teaching of cryptography, HPC, and Quantum computing; unplugged; epistemology of CS; STEM interdisciplinarity; growth mindset; creative computing; constructionism; transfer of learning; distance education.

**Publications** - see [https://scholar.google.it/citations?user=\\_0N6bfMAAAAJ](https://scholar.google.it/citations?user=_0N6bfMAAAAJ)

More than 30 publications in renewed CS (and STEM) Education journals and conferences.

### Titles and groups

- *Advisory Board Member:* Observatory on Trends and Applications of Big Data, Supercomputing and Quantum Computing. IFAB & ICSC (NextGenEU Italian HPC, Big Data & Quantum Computing Research Centre), since December 2023.
- *Member:* Informatics Europe Education Research Working Group, since 2024
- *Member:* STEM education research group, Dept. of Physics and Astronomy, since 2018
- *Member:* CINI National Laboratory (former W.G.) CS and School, since 2017
- *Member:* INRIA FoCUS Team Member, 2017-2022

### Research projects

- *P.I.:* Big Ideas of Cryptography. ACM SIGCSE special projects 2020. *US\$ 4800*
- *Researcher:* INFO-DIDA. 2021-2022. Italian Ministry of University
- *Researcher and steering committee member:* IDENTITIES. 2019-2022. Erasmus+
- *Researcher:* ISEE. 2018-2019. Erasmus+

**Fellowships (most relevant)** - University of Bologna

- *Assistant professor (junior):* HPC&QC Culture. Next Generation EU. *~ 152K€*
- *Post-doc:* Learning CS and transfer. Univ. of Bologna. *~ 75K€*

### Teaching

- Introduction to Python, Master's degree in AI, since A.Y. 24/25 (main instructor)
- CS education, Master's degree in CS, since A.Y. 19/20 (main instructor)
- CS1, Bachelor's degree in Mathematics, A.Y. 22/23 and 23/24 (lab main instructor)
- Programming education, PhD course in CS&Engineering, A.Y. 23/24 (main instructor)
- CS education courses, Master for a license in CS HS teacher, since A.Y 23/24

*In the past*, TA for MS in AI, BS in Math, MEdu Primary Ed, and BEdu in Social Ed courses. I have been an HS teacher (also winning a public tenured position, renounced).

As a professional, scholar, or volunteer (e.g., CoderDojo Bologna), I taught dozens of CS courses to professionals, pre-service and in-service teachers, high school students, and kids.

### **Conference organization (international)**

*Co-chair:* PIPSQUEAK special sess. on HPC&Quantum Education, at PDP2025 conf., Turin.

*Member of LOC:* ACM ITiCSE'24 Conference, Milan.

*Member of LOC:* Science Education Conference ESERA 2019, Bologna.

*Volunteer:* ACM ITiCSE'17 Conference, Bologna.

### **Reviewer (most relevant)**

*Journals:* Italian Journal of Educational Technology (IJET), Contemporary Educational Technology (CET), British Journal of Educational Technology (BJET), Computers & Education, CS in Education, Science and Education, International Journal of Child-Computer Interaction, Cogent Education. *Confs:* ITiCSE'19, APCSE'20, UKICER'20, ISSEP'20

### **Referee and commissioner for doctoral dissertations**

PhD theses in CS (education): University of Udine (2022) and University of Genoa (2024).

### **Invited seminars and lectures on Computational Thinking and CS Education**

*Invited speaker:* Workshop on CyberS education at Italian Conference on CyberSecurity 2025

*Seminars at Universities:* Bologna (2016), Milan (2017, 2022), Ferrara (2018), Canterbury (NZ) (2018), Turin (2022), La Laguna (Tenerife, Spain) (2023).

*Lectures:* Master EMBA (Bologna Business School, 2017), College of Excellence Bologna (2017), University of Ferrara (2018), Accademia dei Lincei (2024)

### **Conference talks**

*Paper presentations:* ICER17, Constructionism18, EC-TEL18, GoodIT21, ITiCSE19-22-24.

*Presentations:* Scratch conferences in 2015, 2017, and 2018.

### **Visits and schools**

*Visits:* Univ. Canterbury (NZ) (6 months). Univ of La Laguna (Tenerife, Spain) (1 week).

*Schools:* AILA Summer School of Logic (2011,2012); BISS (2017); SCHIER (2024).

### **Dissertation supervision**

*Supervisor:* 2 students in MS in CS, 1 BS in CS&Economics.

*Co-supervisor:* 6 in MEd in primary education, 1 MS in Math, 3 BS in CS, 2 MS in CS

### **University and Society / Outreach / Dissemination**

- Scientific coordinator, educational manager, and teacher for “Ragazze Digitali Bologna” (CS summer camps for girls) 2023, 2024, 2025 (funded around 25K€ each year).
- Researcher and collaborator: CS Education projects Programma il Futuro (Italian partner of Code.org) and Italian Problem-Solving Olympiads.

### **Awards**

- **Audience award** and *3rd place* at Three Minute Thesis Bologna 2018.
- 2015 “Ethics and ICT” **Award** for Master’s Theses. AICA and Rotary
- 2011 **Award** for Best Logic Bachelor Theses. AILA
- *Nominated* for Best Paper Award at ITiCSE22

**Languages** Italian (native speaker), English (advanced - CEFR B2/C1)