

Curriculum Vitae – Michal Armoni

Education

1997 – 2003: Ph.D., School of Education, Tel-Aviv University, Tel-Aviv, Israel.

Title of thesis: *Teaching “Computational Models” in High Schools.*

Advisors: The late Prof. Gideon Zwas, Prof. Judith Gal-Ezer, and Prof. Dina Tirosh.

1989 – 1991: M.Sc. in Computer Science, Technion, Israel Institute of Technology.

Title of thesis: *Incompleteness and the Theory of Computer Science.*

Advisor: Prof. Shai Ben-David.

1986 – 1989: B.A in Computer Science, Summa cum Laude, Technion, Israel Institute of Technology.

Professional education-related experience

2017 – current: Associate Professor, Weizmann Institute of Science, Department of Science Teaching

2009 – 2017: Senior scientist, Weizmann Institute of Science, Department of Science Teaching

2006 – 2009: Post-doctoral fellow in the Department of Science Teaching, Weizmann Institute of Science. Mentor: Prof. Mordechai Ben-Ari.

2005: Post-doctoral fellow in the Department of Education in Technology and Science, Technion, Israel Institute of Technology. Mentor: Prof. Orit Hazzan.

1994 – 2006: The Open University of Israel:

1994 – 2006: Course coordinator and curricular developer, Computer Science Department

1997 – 2001: Instructor, the Unit for In-service Teachers

1995 – 1998: Chair of the *Computational Models* high school curricular development team, Computer Science Department

1994: Instructor, Computer Science Department

1994: Instructor, the Center of Computer Studies in Jerusalem

2003, 2008: Israel National Center for Computer Science Teachers, Haifa: Instructor

1997, 2000-2006: Tel-Aviv University:

2005 – 2006: Chief developer, the *Fundamentals of Computer Science* high school curricular development team, Department of Science Teaching, School of Education

2000 – 2005: Instructor, Department of Science Teaching, School of Education

1997: Teaching assistant, School of Mathematical Sciences

1994 – 1996: Hadassah College, Jerusalem:

1996: Lecturer, Computer Science Department

1994 – 1996: Lecturer, Department of Software Engineering, School of Practical Engineering

1994 – 1995: Israel Arts and Science Academy, Jerusalem:

1995: Coordinator of computer science studies

1994 – 1995: Computer science teacher (10th-12th grades)

1987 – 1991: Technion, Israel Institute of Technology:

1989 – 1991: Teaching assistant, Faculty of Computer Science

1988 – 1989: Teaching assistant, Faculty of Mathematics

1987 – 1988: Instructor, the program for promoting high school students towards enrolling in undergraduate studies in mathematics, science and technology

Industrial experience

1993 – 1994: Malam Systems, Jerusalem, Israel: Programmer in the Imaging Group

1991 – 1993: IBM Research Center, Haifa, Israel: Research fellow in the Testing and Verification Group

Academic administration

2023 – current: Chair of the Institutional Research Board (IRB) committee, Department of Science Teaching, Weizmann Institute of Science.

2022 – 2023: Member of the Institutional Research Board (IRB) committee, Department of Science Teaching, Weizmann Institute of Science.

2020 – 2023: Member of the Theses Committee of the Feinberg Graduate School, Weizmann Institute of Science.

2015 – 2020: Member of the Teaching Committee, Department of Science Teaching, Weizmann Institute of Science.

2003 – 2006: Member of the Senate subcommittee for mathematics and computer science, the Open University of Israel

Membership in editorial boards

2023 – current: Co-editor, the journal *Informatics in Education*

2013 – current: Associate Editor, member of the Editorial Board of the ACM journal *Transactions on Computing Education*

2018 – 2022: Associate Editor, member of the Editorial Board of the IEEE journal *Transactions on Education*

2015 – 2018: Associate Editor, member of the Editorial Board of the ACM *Inroads Magazine*

Curricular development

- *Computer science ideas and concepts using Scratch*, for junior high schools (Weizmann Institute)
- Visual interactive tools for the course *automata and formal languages* (the Open University of Israel)
- *Fundamentals of computer science in an object-oriented context*, for high schools (Tel-Aviv University)
- *Computational models*, for high schools (The Open University of Israel)

Committees

- **2024 – 2025**: Chair of the committee of the Israel Academy of Science and Humanities on teaching and learning computational thinking and artificial intelligence.
- Member of the Award Committee of the 2019 Best Practices in Education Award (awarded by Informatics Europe).
- Member of the Award Committee of the 2018 Best Practices in Education Award (awarded by Informatics Europe).
- **2012 – 2021**: Member of the Israeli Ministry of Education's Computer Science Committee.
- **2007 – 2008**: Member of the ACM Computer Science Teachers Association (CSTA) Committee on Computer Science Teacher Certification.
- **2006 – 2009**: Co-chair of the Annals of Research on Engineering Education (AREE) Committee of ACM SIGCSE.

Conference committees

- Senior member of the senior program committee of the 22nd International Computing Education Research conference (ICER 2026), to be held in Uppsala, Sweden.
- Member of the program committee of the 20th Workshop in Primary and Secondary Computing Education (WiPSCE 2026), Aachen, Germany.
- Senior member of the senior program committee of the 21st International Computing Education Research conference (ICER 2025), Charlottesville, Virginia, USA.
- Member of the program committee of the 19th Workshop in Primary and Secondary Computing Education (WiPSCE 2024), Munich, Germany.
- Member of the program committee of the 20th International Computing Education Research conference (ICER 2024), Melbourne, Australia.
- Member of the program committee of the 18th Workshop in Primary and Secondary Computing Education (WiPSCE 2023), Cambridge, UK.

- Senior member of the senior program committee of the 19th International Computing Education Research conference (ICER 2023), Chicago, Illinois, USA.
- Member of the program committee of the 17th Workshop in Primary and Secondary Computing Education (WiPSCE 2022), Morschach, Switzerland.
- Member of the program committee of the 18th International Computing Education Research conference (ICER 2022), Lugano, Switzerland.
- Member of the program committee of the 3rd International Conference on Computational Thinking Education (CTE2020), Hong Kong, online conference.
- Co-chair of the program committee of the 15th Workshop in Primary and Secondary Computing Education (WiPSCE 2020), Darmstadt, Germany, online conference.
- Senior member of the senior program committee of the 16th International Computing Education Research conference (ICER 2020), online conference.
- Member of the program committee of the 14th Workshop in Primary and Secondary Computing Education (WiPSCE 2019), Glasgow, Scotland, UK.
- Senior member of the senior program committee of the 15th International Computing Education Research conference (ICER 2019), Toronto, Canada.
- Associate Program Chair, 24th Annual Conference on Innovation and Technology in Computer Science Education (ITiCSE 2019), Abardeen, Scotland.
- Member of the program committee of the 2nd International Conference on Computational Thinking Education (CTE2019), Hong Kong.
- Member of the program committee of the 13th Workshop in Primary and Secondary Computing Education (WiPSCE 2018), Potsdam, Germany.
- Senior member of the senior program committee of the 14th International Computing Education Research conference (ICER 2018), Espoo, Finland.
- Co-Program Chair, 23rd Annual Conference on Innovation and Technology in Computer Science Education (ITiCSE 2018), Larnaka, Cyprus.
- Member of the program committee of the 1st International Conference on Computational Thinking Education (CTE2018), Hong Kong.
- Member of the program committee of the 12th Workshop in Primary and Secondary Computing Education (WiPSCE 2017), Nijmegen, The Netherlands.
- Member of the program committee of the 11th Workshop in Primary and Secondary Computing Education (WiPSCE 2016), Münster, Germany.
- Member of the program committee of the 12th International Computing Education Research conference (ICER 2016), Melbourne, Australia.
- Member of the program committee of the 11th International Computing Education Research conference (ICER 2015), Omaha, Nebraska, USA.

- Member of the program committee of the 9th Workshop in Primary and Secondary Computing Education (WiPSCE 2014), Berlin, Germany.
- Member of the program committee of the 10th International Computing Education Research conference (ICER 2014), Glasgow, Scotland, UK.
- Member of the program committee of the 8th Workshop in Primary and Secondary Computing Education (WiPSCE 2013), Aarhus, Denmark.
- Member of the program committee of the 9th International Computing Education Research conference (ICER 2013), San-Diego, California, USA.
- Member of the program committee of the 7th Workshop in Primary and Secondary Computing Education (WiPSCE 2012), Hamburg, Germany.
- Member of the program committee of the 17th Annual SIGCSE Conference on Innovation and Technology in Computer Science Education, (ITiCSE 2012), Haifa, Israel.
- Member of the program committee of the 15th Annual SIGCSE Conference on Innovation and Technology in Computer Science Education, (ITiCSE 2010), Ankara, Turkey.

Invited talks

- On abstraction in computer science and beyond. Informatics Education seminar, Department of Informatics and Digital Education, University of Education. November 2025, Karlsruhe, Germany.
- On the different faces of computational thinking. The Israel Academy of Science and Humanities, 1-day seminar on computational thinking and AI in teaching and learning. September 2024, Jerusalem, Israel.
- On teaching and learning non-determinism, a fundamental idea in computer science. The Open University, 1-day seminar on CS education research: content, pedagogy, inclusion. December 2022, Raanana, Israel.
- Organizing the CS curriculum around CS habits of mind: The cases of reduction, abstraction, and proofs. Faculty of Mathematics and Computer Science, Adam Mickiewicz University. November 2017, Poznan, Poland.
- On the Nature of Computer Science. Primary-School Teachers Seminar, Adam Mickiewicz University. November 2017, Poznan, Poland.
- K-12 Computer Science Education: Why, What, When, How? Guiding Principles and Open Questions. Rhode Island Department of Education, Fifth Annual Conference, September 2016, Providence, RI, USA.
- Keynote speaker at the 10th Workshop in Primary and Secondary Computing Education (WiPSCE 2015), October 2015, London, UK.

Awards

- Recipient of the 2003 New Faculty Fellowship award of FIE (Frontiers in Education) IEEE Conference

Edited journal issues

- Hubwieser, P., Armoni, M., Giannakos, M. N., & Mittermeir, R. T. Eds. (2014). Special Issue on Computing Education in (K-12) Schools. *ACM Transactions on Computing Education*. 14(2).
- Hubwieser, P., Armoni, M., & Giannakos, M. N. Eds. (2015). Second Special Issue on Computing Education in (K-12) Schools. *ACM Transactions on Computing Education*. 15(2).

Invited columnist - Journals

2009 – 2019: Columnist: Computing in schools – a featured column published every 6 months. *ACM Inroads*.

Reviews for refereed publications

- Reviewer for the following international conferences:
 - ◆ Annual Symposium on Computer Science Education (SIGCSE): 2007-2017.
 - ◆ Innovation and Technology in Computer Science Education (ITiCSE): 2006-2017.
 - ◆ ASEE/IEEE Frontiers in Education Conference (FIE): 2005-2007.
- Reviewer of numerous papers for the journals: Computer Science Education (CSE), ACM Transactions on Computing Education (TOCE), IEEE Transactions on Education, Instructional Science, Journal of Science Education and Technology (JOST), SpringerPlus, Journal of Visual Languages and Sentient Systems (VLSS), Communications of the ACM (CACM), Informatics in Education, Discover Education (from Springer), Entropy (from MDPI), and ACM Inroads.

Grants

- **2018-2021:** Teaching computer science at the elementary school level. The Israel Science Foundation (ISF- 120934), a 3-year grant, 160,000 NIS (about 44,000\$) per year.
- **2013-2016:** Teaching abstraction in computer science to young students. The Israel Science Foundation (ISF-711596), a 3-year grant, 115,000 NIS (about 31,000\$) per year.

Judge in contests

- Computer Science Project Contest, a Look into the Future: the Annual Project Exhibition, School of Computer Science, the Academic College of Tel-Aviv-Yaffo, 2014-2017

Courses taught

- Introduction to science education – for graduate students
- Teaching computer science ideas and concepts through Scratch – for in-service teachers
- Algorithms
- Selected topics in algorithms – M.Sc.-level course
- Computer science curricula
- Algorithm design and analysis considerations
- Algorithm correctness and efficiency considerations
- Computer science teaching workshop
- Teaching computational models to high school students – for leading teachers
- Didactics of computational models – for in-service teachers
- Extended introduction to computer science
- Data structures
- Algorithmics – the foundations of computer science
- Unix – for practical engineering students
- C++ – for practical engineering students
- Proving correctness of programs
- Logic for computer science 2
- Logic for computer science 1
- Linear algebra 1