PUBLICATIONS December 2024

Thesis and Dissertation

M.Sc. *Asymptotic Solution of Wave Propagation Problems in Slender Bodies of Revolution,* Supervisor: B. Rulf

Ph.D. *The Displacement due to Wave Propagation from a Finite Source in a Layered Elastic Solid,* Supervisor: F. Abramovitz

Open University Books (Hebrew)

Mathematics

1981	Introduction to differential equations – with Prof. Eli Levin.
1981	Numerical computation (adapted form OU English version) – development coord
1983 -1986	Calculus III – writing 6 units, and development coordinator.

Computer Science

academic responsibility and development coordinator.

1986	Introduction to Computer Science using Pascal
1988	Numerical Computation
1988	Computer Organization and Programming
1988	Digital Design (translation and study guide)
1989	Numerical Methods for Ordinary Differential Equations
1990	Prolog and Artificial Intelligence (study guide)
1990	Introduction to System Programming with C (study guide)
1991	Automata Theory and Formal Languages – rewriting
1991	Algorithmics: The foundations of Computer Science
1998	Data Structures and Introduction to Algorithms
1998	Topics in Computer Science Education – reader editing, study guide, teaching.
1998	Computational Models for High-Schools
1999	Computer Organization for High-Schools
1999	Computer Organization and Programming
2000	Introduction to Computer Science
2002	Topics in Computer Science Education (revised)
2008	Algorithmics: The Foundations of Computer Science
2008	Data Structures and Introduction to Algorithms - a different new version based on text book,
2008	Digital Design
2014	Algorithmics: The Foundations of Computer Science – development coordinator.
2014	Topics in Computer Science Education (updated)
2014	Workshop – Pedagogical Aspects of CS Education

Selected Articles in Refereed Journals

1. Rulf & J. Gal**-**Ezer, “High Frequency Waves in Thin Bodies of Revolution”, *Journal of Sound and Vibration*, 1972, **21**, pp. 1-10.
2. F. Abramovici & J. Gal-Ezer**,** “Numerical Seismograms for a Vertical Point-Force in a Layered Solid”, *Bull. Seism. Soc. Am.*, 1978, **68**, pp. 81-101.
3. F. Abramovici & J. Gal-Ezer, “Seismic Waves from Finite Faults in Layered Media”, *Bull. Seism. Soc. Am.*, 1979, **69**, pp. 1693-1714.
4. F. Abramovici**,** J. Gal-Ezer & J. Baumgarten, “A Method for Extracting Phase Velocity Curves from Seismograms”, *Geophys. J. R. Astr. Soc.*, 1981, **65**, pp. 727-739.
5. J. Gal-Ezer & G. Zwas, “An Algorithmic Approach to Linear Systems”, *Int. J. Math. Educ. Sci. Technol.*, 1984, **15**, 4, pp. 501-519.
6. J. Gal-Ezer & G. Zwas, “Convergence Acceleration as a Computational Assignment”, *Int. J. Math. Educ. Sci. Technol.*, 1987, **18**, 1, pp. 15-28.
7. J. Gal-Ezer & G. Zwas, “The Computational Potential of Rational Approximations”, *Computers and Education*, 1987, **11**, pp. 33-46.
8. J. Gal-Ezer & G. Zwas, “Computational Aspects of Rational vs. Polynomial Interpolation”, *Int. J. Math. Educ. Sci. Technol.*, 1988, **19**, 4, pp. 567-579.
9. S. Breuer, J. Gal-Ezer & G. Zwas, “Microcomputer Laboratories in Mathematics Education”, *Computers and Mathematics*, 1990, **19**, 3, pp. 13-34.
10. J. Gal-Ezer & G. Zwas, “Error Bounds for Interpolative Approximations”, *Mathematics and Computer Education*, 1990, **24**, 3, pp. 198-212.
11. J. Gal-Ezer & G. Zwas, “Real World Models in the Teaching of Calculus”, UMAP: *J. Undergraduate Mathematics and its Application*, 1992, **13**, 2, pp. 93-100.
12. J. Gal-Ezer & G. Zwas, “Corrected Summation of Alternating Series”, *Int. J. Math. Educ. Sci. Technol.,* 1993, **24**, pp. 171-176.
13. J. Gal-Ezer & G. Zwas, “A Teachable Derivation of Asymptotic Error Expansions for Numerical Integration”, *Mathematics and Computer Education*, 1994, **28**, 3, pp. 303-313.
14. J. Gal-Ezer, “Computer Science Teachers' Certification Program”, *Computers and Education*, 1995, **25**, 3, pp. 163-168.

15. J. Gal-Ezer, C. Beeri, Harel & A.Yehudai, “A High-School Program in Computer Science”, *Computer*, 1995, **28**, 10, pp. 73-80, cit.142.
16. T. Rosenthal, J. Gal-Ezer & N. Ben-Zvi**,** “Professional Updating and Computer Training for Immigrants: A Case Study”, *GATES*, 1995, **2**, 1, pp. 26-32.
17. J. Gal-Ezer**,** “A Pre-Programming Introduction to Algorithmics”, *Mathematics and Computer Education*, 1996, **30**, 1, pp. 61-69.
18. J. Gal-Ezer & O. Lichtenstein, “A Mathematical-Algorithmic Approach to Sets: A Case Study”, *Mathematics and Computer Education*, 1997, **31**, 1, pp. 33-42.
19. J. Gal-Ezer & D. Harel, “What (else) should CS educators know?”, *Communications of the ACM,* 1998*,* **41***,* 9, pp. 77-84, cit. 130
20. C. Stephenson**,** J. Gal-Ezer, C. Rice & C. Wolf, “Revitalizing High School Computer Science: Finding Common Ground”, *Journal of Computer Science Education,* 1998*,* **12,** 1&2, pp. 8-17.
21. J. Gal-Ezer & D. Harel, “Curriculum and Course Syllabi for High-School Computer Science Program”, *Computer Science Education*, 1999, **9**, 2, pp. 114-147, cit. 81.
22. J. Gal-Ezer & A. Zeldes, “Teaching Software Designing Skills”, *Computer Science Education*, 2000, **10**, 1, pp. 25-38, cit:33.
23. J. Gal-Ezer & D. Lupo, "Integrating Internet tools into traditional CS distance education: Students' attitudes", *Computers and Education*, 2002, **38**, 4, pp. 319-329, cit: 71
24. J. Gal-Ezer & E. Zur, “The Efficiency of Algorithms – Misconceptions", *Computers and Education*, 2004, **42**, 3, pp. 215-226, cit: 60
25. J. Gal-Ezer, T. Vilner & Zur, "Teaching Efficiency at CS1 Level: A different approach", *Computer Science Education,* 2004, 14, 3, pp. 235-248.
26. Z. Erlich, J. Gal-Ezer & I. Erlich, "Skills required for participating in CMC courses: An empirical study", *Computers and Education*, 2005, 44, 4, pp. 477-487.
27. M. Armoni & J. Gal-Ezer, "Teaching Reductive Thinking", *Mathematics and Computer Education,* 2005, **39**, 2, pp. 131-142.
28. M. Armoni, J. Gal-Ezer & Tirosh, "Solving Problems Reductively", *Journal of Educational Computing Research,* 2005, 32, 2, pp. 113-129.

29. M. Armoni & J. Gal-Ezer, "Introducing Non-Determinism", *Journal of Computers in Mathematics and Science Teaching*, 2006, **25**, 4, pp. 325-359.
30. J. Gal-Ezer & H. Habiballa, "A Unique high-school curricula for informatics for grammar schools in Israel", Czech journal, *MFI Matematika-Fyzika-Informatika*, 2006**, 16**, 2, pp. 104-113.
31. M. Armoni, J. Gal-Ezer & O. Hazzan, "Reductive Thinking in Computer Science", *Computer Science Education,* 2006, **16,** 4, pp. 281-301.
32. M. Armoni & J. Gal-Ezer, "Non-determinism: An Abstract Concept in CS Studies", *Computer Science Education*, 2007, **17**, 4, pp. 243-262.
33. J. Gal-Ezer & E. Zur, "Reaching Out to CS Teachers: Certification via Distance Learning", *Mathematics and Computer Education*, 2007, **41**, 3, pp. 250-265.
34. J Gal-Ezer, T Vilner, E Zur, "Once she makes it, she's there!: a case study", Computer Science Education 18 (1), 17-29.
35. J. Gal-Ezer & C. Stephenson, "The Current State of Computer Science in U.S. High Schools: A Report from Two National Surveys", *Journal for Computing Teachers*, 2009, http://www.iste.org/Content/NavigationMenu/Membership/SIGs/SIGCS_Computer_Science_/JCTJournalforComputingTeachers/PastIssues/2009/Spring/JCT_Spring_2009.htm
36. J. Gal-Ezer**,** T. Vilner & E. Zur, The Professor on Your PC: A Virtual CS1 Course, *Inroads SIGCSE Bulletin*, 2009, **41,** 3, pp.191-195.
37. J. Gal-Ezer, D. Shahak & E. Zur, Computer Science Issues in High school: Gender and more…, *Inroads SIGCSE Bulletin*, 2009, **41**, 3, pp. 278-282.
38. O. Hazzan, J. Gal-Ezer, & N. Ragonis, How to establish a Computer Science Teacher Preparation Program at your University, The ECSTPP Workshop, *ACM Inroads Magazine,* 2010, **1**, 1, pp. 35-39.
39. J. Gal-Ezer, & C. Stephenson, Computer Science Teacher Preparation is Critical, *ACM Inroads Magazine*, 2010, **1**, 1, pp. 61-66.
40. Z Fraiman**, J. Gal-Ezer,** E. Kanel, & T. Lapidot, An Israeli-Russian Collaboration of Ideas, *ACM Inroads Magazin,* 2013, **4**, 3, pp. 76-81.
41. J. Gal-Ezer, & C. Stephenson, A Tale of Two Countries: Successes and Challenges in K-12- Computer Science Education in Israel and the United States, *ACM Transactions on Computing Education*, 2014**, 14**, 2.

42. M. Armoni & J. Gal-Ezer, High School Computing Education Paves the Way for Higher Education and Assists in Closing the Equity Gap – the Israeli Case, *Computer Science Education*, 2014**, 24**, 3.

43. M. Armoni & J. Gal-Ezer, Early Computing Education – Why? What? When? Who?, *ACM Inroads Magazine*, 2014, **5**,4, pp. 54-59

44. J. Gal-Ezer & M. Trakhtenbrot, Identification and addressing reduction-related misconceptions, *Computer Science Education*, 2016. DOI:10.1080/08993408.2016.1171470 http://dx.doi.org/10.1080/08993408.2016.1171470

45. J. Gal-Ezer *&* M. Trakhtenbrot, Reduction Patterns – A Practical Tool for Proving Undecidability, *Proceedings of ITiCSE'16*, 2016, Arequipa, Peru, ACM 978-1-4503-4231-5/16/07. http://dx.doi.org/10.1145/2899415.2925478

46. M.E. Caspersen, J. Gal-Ezer, A. McGettrick & E. Nardelli. Informatics as a Fundamental Discipline for the 21st Century, *Communications of the ACM,* 2019, **62**, 4. DOI: 10.1145/3310330

47. A. Cohen, S. Dolev & J. Gal-Ezer. The journey of computer science and software engineering in Israeli schools *ACM Inroads*, 2022, **13**, 3, pp 29–37. DOI: 10.1145/3556879

48. M. Armoni & J. Gal-Ezer. High-School Computer Science – Its Effect on the Choice of Higher Education, *Informatics in Education*, 2023. DOI: 10.15388/infedu.2023.14.

49. M. Caspersen, J. Gal-Ezer, A. McGettrick & E. Nardelli. Informatics Education for School – A European Initiative, *ACM Inroads*, 2023, **14**,1, pp.49-53. DOI: 10.1145/3583088

50. D. Zohar and J. Gal-Ezer, Navigating to Tomorrow's HighTech Landscape: a Path based on the Israeli Case, *ACM Inroads, 2023*, **14**, 4, pp. 51–56, DOI: 10.1145/3630606.

51. J. Gal-Ezer & S. Szekely. Spark: The First Choice for Novices. *Informatics in Education*, 2024, **23**, 4, pp. 719-721. https://doi.org/10.15388/infedu.2024.26

52. McGettrick, A., Caspersen, M. E., Gal-Ezer, J., & Nardelli, E. (2024). European Digital Transformation Needs Indicators of Informatics Competence, ACM Inroads, **15**, (4), pp. 74-81. https://doi.org/10.1145/3696791

53. J. Gal-Ezer, D. Zohar and A. Rolnik. International Science Olympiads: The Israeli *Teams, Olympiads in Informatics,* 2025*,* **19,** pp. 45-60. DOI: 10.15388/ioi.2025.

Under Review

1. Ofer Wald, Judith Gal-Ezer, Oren Barkan. 2026.
2. Zohar , Judith Gal-Ezer. 2026.
3. Enrico et al. 2026.

Selected Articles in Conference Proceedings

1. J. Gal-Ezer & G. Zwas, "The Construction of Library Functions in High School Mathematics", *Abstracts of the Second International Jerusalem Convention on Education*, 1989.
2. T. Rosenthal, J. Gal-Ezer &N. Ben-Zvi, "Professional Updating and Computer Training for Immigrants: A Case Study", WCCE (*Sixth IFIP World Conference Computers in Education*), Birmingham, 1995.
3. M. Daniels, J. Gal-Ezer, I. Sanders & J. Teague, “Teaching Computer Science: Experience from Four Continents”, *The Proceedings of the Twenty-Seven SIGCSE Technical Symposium on Computer Science Education*, 1996*,* pp. 102-106.
4. J. Gal-Ezer & E. Zur, “Teaching Efficiency in High School”, *FIE (Frontiers in Education) 2002, Proceedings:* http://fie.engrng.pitt.edu/fie2002/
5. J. Gal-Ezer, T. Vilner & E. Zur, "Characteristics of Students who Failed (or succeeded) in the Introductory CS Course", *FIE* 2003*, Proceedings:* http://fie.engrng.pitt.edu/fie2003/
6. M. Armoni & J. Gal-Ezer, Non-Determinism in CS High-School Curricula", *FIE* 2003, *Proceedings:* http://fie.engrng.pitt.edu/fie2003/
7. J. Gal-Ezer & D. Lanzberg, Using Synchronous and Asynchronous Online Learning in Computer Science Courses", work in progress*, FIE* 2003, *Proceedings*: http://fie.engrng.pitt.edu/fie2003/
8. J. Gal-Ezer & M. Trakhtenbrot**, "**Use of Visual tools in Distance Teaching of Computational Models", *FIE* 2003*, Proceedings:* http://fie.engrng.pitt.edu/fie2003
9. M. Armoni & J. Gal-Ezer, "On the Achievements of High School Students Studying Computational Models", *Proceedings of the 9th*

Annual SIGCSE Conference on Innovation and Technology in Computer Science Education, 2004, **36**, 3, pp. 17-21.

10. J. Gal-Ezer, D. Lanzberg & D. Shahak, "Introducing Undecidability", Tips and Techniques, *Proceedings of the 9th Annual SIGCSE Conference on Innovation and Technology in Computer Science Education*, 2004, **36**, 3, p. 276.
11. J. Gal-Ezer, D. Lanzberg & D. Shahak, "Interesting Basic Problems for CS1", Tips and Techniques, Proceedings *of the 9th Annual SIGCSE Conference on Innovation and Technology in Computer Science Education*, 2004, **36**, 3, p. 275.
12. M. Armoni, J. Gal-Ezer & O. Hazzan, "Reductive Thinking in Undergraduate CS Courses", *Proceedings of the 11th annual ITiCSE Conference on Innovation and Technology in Computer Science Education*, 2006, **38**, 3, pp.133-137.
13. J . Gal-Ezer & M. Trakhtenbrot, "Technology in Distance Teaching of Computational Models", *Proceedings* of *the 5th International Conference on Education and Information Systems, Technologies and Applications: EISTA2007,* **2**, pp. 54-59.
14. J. Gal-Ezer, "Computer Science in High-Schools: Curricula and Research", A. Jimoyiannis (ed.), *Proceedings of the 3rd Panhellenic Conference on Computer Science Education,* 2006, pp. 3-12, Korinthos, Greece.
15. T. Vilner, E. Zur, & J. Gal-Ezer, "Fundamental Concepts of CS1: Procedural vs. Object Oriented Paradigm: A Case Study", *Proceedings of the 12th Annual ITiCSE Conference on Innovation and Technology in Computer Science Education,* 2007, **39**, 3, pp. 171-175.
16. Zur, T. Vilner & J. Gal-Ezer, "Space Complexity in CS1", *Proceedings of IEEII Informatics Education Europe II, Greece,* November 2007, 126-135.
17. O. Hazzan, J. Gal-Ezer & L. Blum, "A Model for High School Computer Science Education: The Four Key Elements that Make It!" *Proceedings* of *The 39th Technical Symposium on Computer Science Education*, SIGCSE, 2008, pp. 281-285. (Appears as *Inroads, SIGCSE Bulletin*, 2008, **40**, 1, pp. 281-285.
18. J. Gal-Ezer, T. Vilner, & E. Zur, "The Professor on Your PC: a Virtual CS1 Course", *Proceedings of FIE http://fie-conference.org/fie2008/* 2008.

19. J. Gal-Ezer, T. Vilner, & E. Zur, Is the Paradigm Shift in CS1 Harmful: A Case Study, *The 40th Technical Symposium on Computer Science Education*, *SIGCSE,* Chattanooga, TN. 2009.
20. N. Ragonis, O. Hazzan & J. Gal-Ezer, A survey of Computer Science Teacher Preparation Programs in Israel tells us: Computer Science deserves s designated high school teacher preparation! *Proceedings of SIGCSE 2010 -- The 41st ACM Technical Symposium on Computer Science Education*, Milwaukee, pp. 401-405.
21. S. Cooper, B. Owens, C. Stephenson, & J. Gal-Ezer, The New CSTA K-12 Standards, *ITiCSE2012*, Haifa, 2012.
22. J Gal-Ezer, Challenges in Computer Science Education, *Proceedings WiPSCE2012,* Keynote paper, 2012.
23. J. Gal-Ezer, T. Vilner, & E. Zur, Examining at a Distance - how does it work?, *The Joy of Learning – EDEN Annual Conference Proceedings,* 2013, pp. 615-623.
24. J. Gal-Ezer & E. Zur, "What (else) should CS educators know? – revisited", *WiPSCE'13 Proceedings of the 8th Workshop in Primary and Secondary computing Education,* ACM 2013, pp. 83-86,
25. J. Gal-Ezer, R. Marelly & S. Szekely, "Plethora of Skills - Play-Learn-Practice-Invent-Share", *Proceedings ITiCSE '20, June 15–19,* 2020. https://doi.org/10.1145/3341525.3393984
26. M. Armoni, J. Gal-Ezer, M. Haskel-Ittah, R. Marelly, & S. Szekely. Computational Problem solving with Plethora, *Proceeding ISSEP*, 2021. https://issep2021.science.ru.nl/wp-content/uploads/2021/11/Computational-Problem-Solving-with-Plethora.pdf
27. Ofer Wald, Judith Gal-Ezer, Competitive Programming as a Source for and Tools for CS1, Chais conference , 2026.
28. Kumar et al., 2026. under review.

Chapters in Books (Invited Articles in Refereed Books)

1. J. Gal-Ezer**,** "Will ODL undergo major changes in the next millennium?", *Towards Virtualization: Open and Distance Learning*, V. Venugopal Reddy and Manjulika, S. (eds.), Kogan Page India Pvt. Ltd., New Delhi, India, 2002.
2. Z. Erlich, J. Gal-Ezer & D. Lupo, "Traditional Distance Education vs. Technology-Integrated Distance Education", *Intelligent Internet Based Teaching and Learning*, Ch. 2, L.C. Jain & R.J. Howlett (eds.), World-Scientific, 2002, **2**, pp. 41-74.
3. Z. Erlich, & J. Gal-Ezer, "The Open University of Israel – A Distance Education Institution", In C. Howard, J. Boettcher, L. Justice, P. L. Rogers and G. A. Berg (eds.), *Encyclopedia of Distance Learning*, US: Idea Group Reference, 2005, pp. 1421-1429.
4. A. Armoni & J. Gal-Ezer. Computer Science Education in Israel. in: *Past, Present and Future of Computing Education Research: A Global Perspective. CERBOOK*. https://link.springer.com/book/10.1007/978-3-031-25336-2, 2023.
5. Informatics for All Reference Framework for School. https://www.informaticsforall.org/the-informatics-reference-framework-for-school-release-february-2022/
6. M. Armoni, J. Gal-Ezer, D. Harel, R. Marelly & S. Szekely. Plethora of Skills: A Game-Based Platform for Introducing and Practicing Computational Problem Solving. In: *Computational Thinking Curricula in K-12: International Implementations.* H. Abelson & K. Siu-Cheung (Eds.), 2024.

Research Reports

1. C. Stephenson, J. Gal-Ezer, B. Haberman & A. Verno. "The New Educational Imperative: Improving High School Computer Science Education", Final Report of the CSTA, Curriculum Improvement Task Force, http://csta.acm.org/Publications/CSTAWhitePaperNC.pdf, 2005.
2. Ericson, M. Armoni, J. Gal-Ezer, D. Seehorn, C. Stephenson & F. Tree "Ensuring Exemplary Teaching in an Essential Discipline: Addressing the Crisis in Computer Science Teacher Certification", Final Report of the CSTA Teacher Certification Task Force, http://www.csta.acm.org/Communications/sub/Documents.html 2008.
3. F. Gagliardi, C. Hankin, J. Gal-Ezer, A. McGettrick & M. Meitern. "Advancing Cybersecurity Research and Education in Europe: *Major Drivers of Growth in the Digital Landscape"*. https://www.acm.org/binaries/content/assets/public-policy/2016_euacm_cybersecurity_white_paper.pdf 2016
4. J. Vahrenhold, E. Nardelli, C. Pereira, G. Berry, M. E. Caspersen, J. Gal-Ezer, M. Kölling, A. McGettrick, & M. Westermeier. *Informatics Education in Europe: Are We All In The Same Boat?* Association for Computing Machinery / Informatics Europe, New York, NY. https://doi.org/10.1145/3106077 2017.
5. J. Gal-Ezer, Member of Steering committee Computing Curricula 2020: Paradigms for Global Computing Education, ACM and IEEE /task Force, Co-chairs: A. Clear & A. Parrish, December 2020. https://www.acm.org/binaries/content/assets/education/curricula-recommendations/cc2020.pdf
6. M. Caspersen, I. Diethelm, J. Gal-Ezer, A. McGettrick, E. Nardelli, D. Passey, B. Rovan and M. Webb., "Informatics References Framework for School", 2022. https://www.informaticsforall.org/wp-content/uploads/2022/03/Informatics-Reference-Framework-for-School-release-February-2022.pdf
7. M. Caspersen, I. Diethelm, J. Gal-Ezer, A. McGettrick, E. Nardelli, D. Passey, B. Rovan and M. Webb., "Designing and Implementing a Concrete Informatics Curriculum for School", 2022. https://www.informaticsforall.org/designing-and-implementing-a-concrete-informatics-curriculum-for-school/

8. M. Caspersen, I. Diethelm, J. Gal-Ezer, A. McGettrick, E. Nardelli, D. Passey, B. Rovan and M. Webb., "Building on the Informatics Reference Framework for School" 2023.

   https://www.informaticsforall.org/wp-content/uploads/2023/08/Building-on-the-Informatics-Reference-Framework-for-School-release-January-2023.pdf

9. Dagstuhl Report https://doi.org/10.4230/DagRep.14.6.108
10. E. Nardelli, G. Futschek, J. Gal-Ezer and M. Webb., European survey on requirements for the informatics school curriculum and informatics school teachers' education. https://www.informaticsforall.org/a-european-survey-on-requirements-for-the-informatics-school-curriculum-and-informatics-school-teachers-education/, 2025.

Special Sessions, Posters, Bof's, Panels mainly at:

11. The SIGCSE Technical Symposium on Computer Science Education The Annual ITiCSE Conference on Innovation and Technology in Computer Science Education, ISSEP 2021.