

Yehudit Judy Dori

Technion, Israel Institute of Technology



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[Google Scholar Profile](#) H index 49, Citations 10221.

Married to [Dov Dori](#) with four daughters and eight grandchildren.

ACADEMIC DEGREES

- Ph.D. Science Education, Weizmann Institute of Science, Rehovot, Israel, 1988.
 M.Sc. Life Sciences, Weizmann Institute of Science, Rehovot, Israel, 1981.
 Teaching
 Diploma Tel Aviv University, Tel Aviv, Israel, 1978.
 B.Sc. Chemistry and Biochemistry, Hebrew University, Jerusalem, Israel, 1975.

ACADEMIC APPOINTMENTS

- 2022 - date** Professor Emerita. Faculty of Education in Science and Technology, Technion, Israel Institute of Technology, Haifa, Israel.
- 2014 - date** Senior Research Fellow. The Samuel Neaman Institute for National Policy Research, An Independent Public-Policy Research Institute, Haifa, Israel.
- 2008 - 2022** Professor. Faculty of Education in Science and Technology, Technion, Israel Institute of Technology, Haifa, Israel.
- 2020 Visiting Professor. School of Engineering, Massachusetts Institute of Technology, Cambridge, MA, USA.
- Jan. 2016 – Dean of Faculty of Education in Science and Technology. Technion, Israel
 Feb. 2020 Institute of Technology, Haifa, Israel.
- 2014 - 2015 Visiting Scientist. Computer Science and Artificial Intelligence Laboratory, Massachusetts Institute of Technology, Cambridge, MA, USA.
- 2013 - 2014 Visiting Professor. Electrical Engineering & Computer Science, Massachusetts Institute of Technology, Cambridge, MA, USA.
 Visiting Professor. Education Program, Brandeis University, Waltham, MA, USA.
- 2009 - 2013 Dean of Continuing Education and External Studies. Technion, Israel Institute of Technology, Haifa, Israel.
- 2010 - 2011 Visiting Scholar. Engineering System Divisions, Massachusetts Institute of Technology, Cambridge, MA, USA.

- 2008 - 2009 Visiting Professor. Engineering Systems Division, Massachusetts Institute of Technology, Cambridge, MA, USA.
- 2003 - 2007 Research Scholar. Center for Educational Computing Initiatives, Massachusetts Institute of Technology, Cambridge, MA, USA.
- 2002 - 2007 Associate Professor. Department of Education in Technology and Science, Technion, Israel Institute of Technology, Haifa, Israel.
- 1999 - 2002 Visiting Scholar. Center for Educational Computing Initiatives, Massachusetts Institute of Technology, Cambridge, MA, USA.
- 1995 - 2001 Senior Lecturer (Tenured, 1998). Department of Education in Technology and Science, Technion, Israel Institute of Technology, Haifa, Israel.
- 1991 - 1995 Lecturer. Department of Education in Technology and Science, Technion, Israel Institute of Technology, Haifa, Israel.
- 1988 - 1990 Research Associate. Biological Sciences, University of Kansas, Kansas, USA.
- 1981 - 1987 Lecturer. School of Nursing, Assaf Harofeh Hospital, Zerifin, Israel.

RESEARCH INTERESTS

My research in science and engineering education has focused on educational technologies, scientific visualizations, higher order thinking skills, metacognition, and assessment at both high school and university levels. The studies include development and implementation of teaching approaches and curricula, as well as assessment of their educational value. During the last decade, I have been investigating STEM career choice, 21st century skills, self-regulated learners, and underrepresented populations.

TEACHING EXPERIENCE

University Level – Undergraduate courses

- 1994 - 2022 *Faculty of Education in Technology and Science, Technion, IIT:*
- Individual Projects in STEM Education - 218131
- 1991 - 1999 *Department of Education in Technology and Science, Technion, IIT:*
- Methods of Teaching Chemistry 1 and 2 - 214401/214402
 - Methods of Teaching Chemistry - Science - 214802
- 1981 - 1987 *School of Nursing, Assaf Harofeh Hospital, Hebrew University, Israel:*
- Chemistry and Biochemistry

University Level – Graduate courses

- 2021 - date *Faculty of Education in Science and Technology, Technion, IIT:*
- Development and Assessment of Interpersonal Skills - 218329
- 2009 - date *Faculty of Education in Science and Technology, Technion, IIT:*
- Educational Project Assessment: Theory and Practice - 218113/218317

- 2009 - 2023 *Faculty of Education in Science and Technology, Technion, IIT:*
- Educational Research Seminar 1 and 2 - 218122/218123
- 2009 - 2017 *Faculty of Education in Science and Technology, Technion, IIT*
- Developments in Teaching Chemistry - 218320
- 1995 - 2008 *Department of Education in Science and Technology, Technion, IIT:*
- Project Assessment: Theory and Practice - 218113/218317
 - Models in Science Education - 216319
 - Educational Research Seminar 1 and 2 - 218122/218123
 - Science Teacher Professional Development - 218313
 - Research Seminar in Science Education 1 and 2 – 218101/218102
 - Technological Developments in Teaching Chemistry - 218320
 - Project in Curriculum Development in Chemistry - 218134
- 2001 *Massachusetts Institute of Technology:*
- Teaching College Level Science - MIT 5.95, with Dr. Lori Breslow
- 1991 - 1999 *Department of Education in Technology and Science, Technion, IIT:*
- Systems Approach in Science Education - 216124
 - Project in Curriculum Development - 218134
 - Innovations in Environmental Education - 216140
 - Analysis of Curricula in Chemistry - 218321

High School Level

- 1991 - 1993 Lecturer in the Chemistry Demonstration Program for high school students in the Faculty of Chemistry, Technion IIT.
- 1983, 1989, 1992 Chemistry and Computers - International Youth Science Summer Camps, Weizmann Institute of Science, University of Kansas, USA, Technion.
- 1983 - 1985 Chemistry - Rehovot High School, Israel.
- 1975 - 1976 Chemistry, Mathematics - IDF Military Boarding School.

AWARDS

- 2003 Salomon Simon Mani Award for Excellence in Teaching, Technion.
- 2003 Outstanding Guest Speaker Award, Learning International Networks Consortium (LINC), The First LINC Conference, Cambridge, MA, Feb. 6-7.
- 2020 **The 2020 Distinguished Contributions to Research Award (DCRA)** awarded by NARST, A Worldwide Organization for Improving Science Education through Research.

EDITORIAL RESPONSIBILITIES

- 2022 - 2023 Journal of Science Education and Technology (JOST), Special Issue Co-Editor on Teaching and assessment in STEM higher education: Thinking skills and online learning

- 2018 International Journal of Science Education (IJSE), Special Issue Co-Editor on Context-based Learning and Teaching in STEM
- 2008 Journal of Science Education and Technology (JOST), Special Issue Editor on Educational Reform at MIT – off Campus Projects
- 2007 Journal of Science Education and Technology (JOST), Special Issue Editor on Educational Reform at MIT – on Campus Projects

Member of the Editorial Board

- 2011 - 2014 Journal of Research in Science Teaching (JRST)
- 2004 - date Journal of Science Education and Technology (JOST)
<http://www.springerlink.com/content/1059-0145>
- 2001 - 2015 Chemistry Education: Research and Practice in Europe
http://www.uoi.gr/conf_sem/ceapie
- 2003 - 2006 International Journal of Learning Technology (IJLT)
- 2001 - 2006 Journal of Science Teacher Education (JSTE)
- 1999 - 2004 Journal of Research in Science Teaching (JRST)
- 1996 - 2000 The Chemical Educator <http://chemeducator.org/edboard.htm>

PROFESSIONAL ACTIVITIES

Organizing Conferences and Workshops

- 2019 Co-chair of the Organizing Committee, ***The 5th Conference of the Learning Sciences in Israel***. Technion – Israel Institute of Technology, Haifa, Israel
- 2016 Co-chair of the Organizing Committee, ***The 1st Israeli Conference on Research Practice Partnerships in STEM Education***, Technion – Israel Institute of Technology, Haifa, IIT, Israel.
- 2004 Co-chair of the Organizing Committee, ***International Workshop on Learning and Assessment in Science, Engineering & Management in Higher Education***, The Samuel Neaman Institute, Technion, Haifa, IIT, Israel.
- 2003 Member of the Organizing Committee, ***68th Conference of the Israel Chemistry Society (ICS)***, Tel Aviv, Israel.
- 2000 Member of the Organizing Committee, ***1st Biannual Conference of the EARLI Assessment SIG - “Assessment 2000”***, University of Maastricht, Maastricht, The Netherlands.
- 2000 Member of the Organizing Committee, ***AYALA 2000***, Tel-Aviv University, Tel-Aviv, Israel.

- 1999 Chair of the Organizing Committee, ***International Workshop on Science Teachers Education toward the New Millennium***, Technion, Haifa, IIT, Israel.
- 1997 Member of the Organizing Committee, ***62nd Conference of the Israel Chemistry Society (ICS)***, Technion, IIT, Haifa, Israel.
- 1992 Member of the Organizing Committee, ***57th Conference of the Israel Chemistry Society (ICS)***, Technion, IIT, Haifa, Israel.

International Committees

- 2021 - 2023 ***Co-Chair, International Quality Assessment Committee for the Field of Science Teaching in Teaching Colleges – Study Programs in Israel***, The Council for Higher Education, Israel.
- 2019 - 2022 Early Career Research Award Committee, ***NARST: A Worldwide Organization for Improving Science Teaching and Learning through Research*** – Committee Member.
- 2013 – 2015 ***International Quality Assessment Committee for Evaluation of Educational Studies in Israel***, The Council for Higher Education, Israel – Committee Member.
- 2011 - 2014 Membership & Election Committee, ***NARST: A Worldwide Organization for Improving Science Teaching and Learning through Research*** – Committee Member.
- 2006 - 2009 NSF Advisory Board – Diversifying Engineering through Gateway Courses: Assessment of Project-Based Learning in Undergraduate Physics, Mathematics and Engineering, PIs: Y.V. Zastavker and M. Ong, Franklin W. Olin College of Engineering, MA and Harvard Graduate School of Education, MA, USA.
- 2008 - 2009 Policy Strand, ***NARST: A Worldwide Organization for Improving Science Teaching and Learning through Research*** – Strand Coordinator.
- 2004 - 2006 Journal of Research in Science Teaching (JRST) Paper Award Committee, ***NARST: A Worldwide Organization for Improving Science Teaching and Learning through Research*** – Committee Member.
- 2004 - 2006 College Science Teaching and Learning Strand, ***NARST: A Worldwide Organization for Improving Science Teaching and Learning through Research*** – Strand Coordinator.
- 2003 - 2006 NSF Advisory Board – Exploring Quantum Concepts in Chemistry, PI: P. Garik, Boston University, MA, USA.
- 2002 - 2009 Technion representative of ***LINC – Learning International Networks Consortium***, organized by Massachusetts Institute of Technology, Cambridge, MA, USA.

- 2001 - 2006 Israeli Correspondent to *European Association for Research on Learning and Instruction (EARLI)*.
- 1999 - 2002 NSF Advisory Board – Quantum Science across Disciplines, PI: P. Garik, Boston University, MA, USA.
- 2000 - 2001 Member of the i-Campus Microsoft-supported Projects Assessment Committee at Massachusetts Institute of Technology, Cambridge, MA, USA.
- 1998 - 2001 International Committee, *NARST: A Worldwide Organization for Improving Science Teaching and Learning through Research* – Committee Member.
- 1997 - 2001 Assessment and Evaluation SIG, *European Association for Research on Learning and Instruction (EARLI)* – Coordinator.
- 1993 - 1997 Outstanding Paper Award Committee, *NARST: A Worldwide Organization for Improving Science Teaching and Learning through Research* – Committee member.

National Committees

- 2020 - 2021 *Chair, National Committee for Assessment in the Digital Era*, appointed by the Chief Scientist, Ministry of Education, Israel.
- 2016 - 2020 *Chair, National Committee for Science and Technology for All Curriculum*, appointed by the Ministry of Education, Israel.
- 2015 - 2016 *National Institute for Testing and Evaluation* – Committee member.
- 2014 - 2016 *ISF – Israel Science Foundation Committee for Grants in Research Education* – Committee member, in charge of science education.
- 2011 - 2013 *Chair, Late Naama Greenshpon Excellent Chemistry Teacher Prize Committee*, Department of Education in Technology and Science, Technion.
- 2003 - 2008 *Chair, National Committee for Chemistry Curriculum*, appointed by the Minister of Education, Israel.
- 2003 - 2006 *Chair, Distinguished Chemistry Teacher Prize Committee*, Israel Chemistry Society (ICS).
- 2004 - 2005 *Chair, National Committee for the Future of Chemical Education*, appointed by the Samuel Neaman Institute and the Chemical Industry Organization.
- 2003 - 2005 *ISF – Israel Science Foundation Committee for Grants in Research Education* – Committee member, in charge of science education.
- 2003 - 2005 *National MALAM Representative* – Executive Committee of the National Center for Science Education, Israel.
- 2003 - 2005 *Head of the Technion MALAM* – the National Center for Science Education, Israel.

- 1999 - 2002 *National Committee for Chemistry Curriculum*, appointed by the Minister of Education, Israel – Committee member.
- 1998 - 1999 *National Committee for Teacher Internship in Education*, Ministry of Education, Israel – Committee member.
- 1997 - 1998 *National Committee for Pre-school Science and Technology Education*, Ministry of Education, Israel – Committee member.

Membership in Professional Organizations

- NARST A Worldwide Organization for Improving Science Teaching and Learning through Research
- ACS American Chemical Society – Chemical Education
- EARLI European Association for Research on Learning and Instruction—SIG: Metacognition & Higher Education
- ESERA European Science Education Research Association
- ICS Israel Chemistry Society

TECHNION ACTIVITIES

- 2021 – 2022 Reduced Senate member, Representative of the Faculty of Education in Science and Technology.
- 2003 – 2022 Faculty of Education in Science and Technology, Promotion Preparatory Committee – Chair of the Committee between 2016 - Feb. 2020. Member till 2014, and from March 2020 to 2022.
- 2016 – Feb. 2000 Reduced Senate member, Ex-officio as Dean of the Faculty of Education in Science and Technology.
- 2011 – 2013 Member of the Interdepartmental Committee on Nano-science and Nano-technology.
- 2009 – 2013 Reduced Senate member, Ex-officio as Dean of the Division of Continuing Education and External Studies.
- 2006 – 2008 Representative of the Department of Education in Technology and Science at the Senate.
- 2005 – 2008 Department of Humanities and Arts, Promotion Preparatory Committee
2015 Member.
- 2005 – 2007 Technion Standing Graduate and Undergraduate – Subcommittee Member of Students' Excellency at the Technion.
- 2004 – 2007 Technion Standing Graduate and Undergraduate Committee Member.

- 2003 – 2008 Graduate Studies Coordinator, Department of Education in Technology and Science.
- 2003 – 2005 Representative of the Department of Education in Technology and Science at the Senate.
- 2001 – 2003 Undergraduate Studies Coordinator, Department of Education in Technology and Science.
- 1993 – 1994 Representative of the Department of Education in Technology and Science in the Links with the Technion Alumni. Responsible for the Department representation in the Technion's 70th Anniversary.
- 1991 – 2013 Representative of the Faculty of Education in Technology and Science in the Chemistry Department.

GRADUATE STUDENTS

Faculty of Education in Technology and Science, Technion, IIT.

Ph.D.

1. **Nitza Barnea** Integrating molecular modeling in teaching chemical bonding and structure and its effect on conceptual change, spatial ability and model perception. Graduated 1996. For more than a decade, she served as the Israeli Ministry of Education's National Chemistry Superintendent and the Head of the STEM Novice Teachers' Induction Program and Group Leader, STEM Novice Teachers' Induction Program (ret.), Faculty of Education in Science and Technology, Technion.
2. **Tali Tal** Industry-environment projects in a community school: Development of a model and its evaluation (secondary supervisor: R. Lazarowitz). Graduated 1998. Served as NARST Past-President Currently: Professor and Dean, Faculty of Education in Science and Technology, Technion.
3. **Irith Wertheim** A morphological approach as a way to improve spatial ability (primary supervisors: A. Wachman and N. Movshovitz- Hadar). Graduated 1998. Currently: Faculty Liaison at the Center for Advancement of Teaching, Technion.
4. **Mira Hameiri** Multidimensional analysis of quantitative problems in chemistry and its implementation in a studyware. Graduated 1999. Currently: Director of Principals' and Supervisors' Professional Development Track at Oranim Academic College, Kiryat Tivon, Israel; and Co-founder and CEO of Mashov, an education application used by many students and parents in Israel, which has been acquired for 50 million NIS (about \$15.8 million) to Priority.
5. **Orit Herscovitz** Science teachers in an era of reform – Toward an interdisciplinary case-based teaching-learning. Graduated 1999. Received Wolf Prize. Adjunct Associate Professor, Head of STEM Novice Teachers' Induction and Mentors Program, Faculty of Education in Science and Technology, Technion, and Senior Research Associate at the Technion Research & Development Foundation (TRDF).

6. **Yehuda Peled** Professional development of science and technology teachers who integrate Web-based teaching in their schools (secondary supervisor: G. Schuster). Graduated 2002. Received Fulbright Fellowship 2009-2010. Currently: Head of Science Education Department, Associate Professor, Western Galilee College and Educational Coordinator for the Central Consortium with the Western-Galilee Jewish Agency for Israel (JAFI).
7. **Miri Barak** A Model for a Web-based community of chemistry learners in higher education (secondary supervisor: N. Adir). Graduated 2002. Received the Excellent Woman Scientist Award, Technion, and the d'Arbelloff Fund for Post-doctoral Scholarship at MIT. Currently: Associate Professor, Faculty of Education in Science and Technology, Technion and Honorary Research Fellow at the University of Oxford, UK.
8. **Irit Sasson** Case-based computerized experiments and their effect on visualization skills and chemistry understanding of high-school students. Graduated 2007. Received Rashi-Sakta Fellowship for Doctoral Students in Science Education. Currently: Senior Lecturer, Head, Department of Education, Tel-Hai Academic College and Head, Educational Research & Development Unit, Shamir Research Institute, University of Haifa, Israel.
9. **Gadi Mador** Embedded assessment in medical model-based learning environment (secondary supervisor: A. Ziv). Graduated 2007. Currently: CEO, Technoda Museum, Hadera, Israel.
10. **Zvia Kaberman** National assessment of thinking skills of high-school chemistry Students. Graduated 2007. Received Rashi-Sakta Fellowship for Doctoral Students in Science Education, 2003-2007, Excellent Research Award and Excellent Tutor Award, 2007, and the Naama Greenshpon Award for Excellent Chemistry Teacher, 2010. Was Researcher at the Technion Research & Development Foundation and Adjunct Lecturer at the Department of Education in Technology and Science, Technion. Currently: Science Coordinator, Neshar High School, Israel.
11. **Abed Abir** Bilingual learning culture in computerized chemistry learning environment. Graduated 2008. Received Kaplan Award on her contribution to the educational system in Israel, 2006. Was Researcher at the Technion Research & Development Foundation and Adjunct Lecturer at the Department of Education in Technology and Science, Technion. Received the Naama Greenshpon Award for Excellent Chemistry Teacher, 2010. Currently: The Israeli Ministry of Education's Chemistry Regional Leader and Chemistry Teacher.
12. **Liora Saar** Reading, understanding and analyzing adapted scientific articles: Integrating metacognitive skills and chemistry understanding levels. Graduated 2008. Served as the Vice Principal of Hemda Science Center, Tel Aviv. Received the Naama Greenshpon Award for Excellent Chemistry Teacher, 2011 (ret. Since 2015).
13. **Rachel Levin-Peled** Learning and assessment in Web-based environments: Design principles for hybrid courses in higher education (primary supervisor: Y. Kali). Graduated 2008. Currently: Head of Teachers' Professional Development Program and Researcher, School of Education, Haifa University, Israel.

14. **Edit Weisselberg** Visual, textual, and quantitative representations embedded in learning and assessment of energy and dynamics in chemical processes. Graduated 2008. Chemistry teacher (ret.)
15. **Dana Fischer-Shachor** Higher order thinking skills of elementary gifted students (secondary supervisor: M. Carmi). Direct Path to PhD. Graduated 2010. Received Jacobson Award for Excellence and the Kaplan Award for Excellence in Educational Research. Lecturer at the Unit of Teaching and General Studies ORT Braude, College of Engineering, Karmiel, Israel.
16. **Vered Dangur** Visualizations and applications in teaching and learning the honors study unit “*From nano scale to microelectronics*”(secondary supervisor: U. Peskin). Graduated 2010. Currently: Lecturer, Ort Braude Academic College of Engineering and Zefat Academic College, Israel and The Israeli Ministry of Education’s Chemistry Regional Leader.
17. **Shirly Avargil** Metacognition, chemical understanding, and multiple representations in teaching and learning a context-based module (secondary supervisor: O. Herscovitz). Direct Path to PhD. Graduated 2011. Received Jacobson Award for Excellence and the Kaplan Award for Excellence in Educational Research. Received Post-Doctoral Award at the Maine Center for Research in STEM Education (RiSE Center) at the University of Maine, Orono, Maine, USA and Post-doctoral Women Fellowship for Excellence in Science at the Technion. Currently: Tenure Track Assistant Professor, Faculty of Education in Science and Technology, Technion.
18. **Nofar Barak** Simulative training for pre-nurses and nurses – Models' perceptions and skills (secondary supervisor: H. Berkenstadt). Graduated 2011. Currently: Lecturer, Ruppin Academic Center, Kfar Monash, Israel.
19. **Rania Hussein-Farraaj** Life-long learning at the Technion: Science and engineering students' perceptions about distance education and their learning experiences (secondary supervisor: Miri Barak). Graduated 2013. Currently: Post-doctoral Fellow at University of Haifa and Pedagogical Mentor, Hotam – Teacher Education Program, Israel.
20. **Rachel Nave** Faculty development program and online forums: Self-learning and self-assessment of medical-educators (secondary supervisor: Rakefet Ackerman). Graduated 2013. Was the Head of the Examination and Assessment Unit, The Ruth and Bruce Rappaport Faculty of Medicine, Technion (ret.).
21. **Amira Allouche** The effect of reading scientific articles and online forums’ discourse on biomedical engineering students’ academic performance. Graduated 2013. Head of Science Department and chemistry teacher, Nofey Golan High School, Katzrin, Israel.
22. **Hagit Mishkin** Motivation and gender factors affecting career choice of engineers and students. Graduated 2016. Currently: Leader of the Academia-Classroom Project at the Northern Area, The Israeli Ministry of Education.
23. **Rea Lavi** Systems thinking and conceptual modelling of interdisciplinary problems in science and engineering. Graduated 2019. Currently: Lecturer at the School

of Engineering, Massachusetts Institute of Technology, as part of the NEET Project – New Engineering Education Transformation <https://neet.mit.edu/about/>.

24. **Gabby Shwartz** Becoming a science teacher: Why and how? Graduated 2019. Received Kaplan Award on her contribution to the educational system in Israel. Currently: Adjunct Lecturer and Postdoctoral Fellow at the Faculty of Education in Science and Technology.
25. **Merchi Edry-Malul** Academic science inquiry-based project and STEM career choice: Gender and place of residence. Graduated: February 2020. Currently: Postdoctoral Fellow at the Educational Research & Development Unit, Shamir Research Institute, University of Haifa, Israel.
26. **Effrat Akiri** Professional growth of novice and experienced STEM teachers. Received Kaplan Award on her contribution to the educational system in Israel, Robert A. Stewart Fellowship, and Albert Einstein Doctoral Fellowship. Graduated: 2021. Currently: Pedagogical Consultant and Head of the Examination and Assessment Unit, The Ruth and Bruce Rappaport Faculty of Medicine, Technion.
27. **Shahaf Rocker Yoel** Soft skills, self-efficacy, and career choice in science, technology, engineering, and mathematics: The case of the FIRST program. Graduated: 2022. Currently: Senior Researcher at the Technion Research & Development Foundation and Lecturer at Braude Academic College.

PhD – In progress

28. **Roe Peretz** Teachers' assessment knowledge and engineering and science students' systems thinking and conceptual modeling skills. Candidacy Exam: October 2021. Expected Graduation, 2023.
29. **Avivit Arvatz** Integrating self-regulated learning and assessment for learning: Shall the two walk together? Candidacy Exam: November 2021. Expected Graduation, 2024.
30. **Or Shav-Artza** Narrowing the social and geographical gap: The effect of the ATIDIM Programs on the students and graduates. Candidacy Exam: October 2021. Expected Graduation, 2024.
31. **Boaz Hadas** Online assessment – Teachers' perceptions and knowledge. Candidacy Exam: July 2022. Expected Graduation, 2025.
32. **Shani Goldstein** The gender perspective of STEM career choice and persistence of FIRST participants. Candidacy Exam: May 2023. Expected Graduation, 2026.
33. **Ruth Edri** Students and graduates of Hispin technological college: Characteristics and factors of career choice. Expected Candidacy Exam: October 2023. Expected Graduation, 2026.

M.Sc.

34. Nitza Barnea Evaluation of in-service teachers training implementing a computer aided instruction module on polymers. Graduated, 1993.

35. Orly Yaroslavsky Teaching the cell topic in small groups using the jigsaw method and its effect on learning achievements, laboratory skills and learning activity (with secondary supervisor: R. Lazarowitz). Graduated, 1994. Head of the Education Administration, Municipality of Ma'alot Tarshiha, Israel.
36. Dalia Sarid Teaching sequence, concept mapping and achievement in genetics of ninth graders (with secondary supervisor: R. Lazarowitz). Graduated, 1995.
37. Orit Herscovitz Academic achievements and posing questions skills in teaching the topic of "Quality of Air Around Us" by the Jigsaw method. Graduated, 1996.
38. Adnan Abu Alhega The effect of incorporating a studyware in science teaching/learning on understanding the particle model and on the classroom environment of seventh graders. Graduated, 1996.
39. Yitzhak Grotos Using concept mapping of acid-rain topic in chemistry teaching. Graduated, 1996.
40. Sigal Kordova Development of a module on statistical quality control (SQC) and a study of its implementation in the school system (with secondary supervisor: Late A. Cohen). Graduated, 1996.
41. Yehuda Peled Teachers attitudes and intentions toward distance learning. Graduated, 1998.
42. Miri Barak High school students model perception and understanding of spatial structure of organic compounds. Graduated, 1999.
43. Gadi Mador Analyzing science and technology teachers' opinions about laboratory teaching methods. Graduated, 1999.
44. Yafa Sagy Model perception among science major high school students. Graduated, 1999.
45. Raya Gershoni Science teachers' understanding of the nature of matter at the phenomenon, particle and symbol levels. Graduated, 1999.
46. Masha Tsaushu Teaching/learning and assessing biotechnology topics through case studies with built-in dilemmas. Graduated, 1999.
47. Abed Abir Cognitive and affective aspects of bilingual teaching/learning of science using case studies among high school Arab students (with secondary supervisor: R. T. Tal). Graduated, 2002.
48. Zvia Kaberman Higher order thinking skills of high-school chemistry students conducting case-based computerized experiments. Graduated, 2003.
49. Catherine Marjieh Assessing the learning environment of computerized case-based laboratory of high school chemistry students. Graduated, 2007.
50. Katy Khoury Teaching, learning, and assessment of non-cognitive skills among undergraduate medical students (with primary supervisor: Z. Kaberman). Graduated, 2011.

51. Nihal Nasser Teaching case studies and adapted scientific articles in bilingual learning environment (with primary supervisor: O. Herscovitz). Graduated, 2011.
52. David Miedzinski Perceptions and self-efficacy of physic teachers who mentor inquiry-based projects (with primary supervisor: O. Herscovitz). Graduated, 2012.
53. Rana Abed Fostering Teachers' and Students' Scientific Literacy and Academia-Community Relations via BASHAAR Website (with secondary supervisor: O. Herscovitz). Graduated, 2013.
54. Gabby Shwartz Science teachers' perceptions and knowledge of teaching and assessment in technology-rich learning environments in junior high schools (with secondary supervisor: O. Herscovitz). Graduated, 2015.
55. Amal Jaraisy The effect of technology-enhanced learning environment in chemistry on middle and high school students' learning outcomes. Graduated, 2015.
56. Brian Isaac Rizowy The affective aspect of the flipped classroom: Mathematics for computer science course at MIT. Graduated, 2016.
57. Hrisilda Matathia Tor Attitudes toward STEM teaching and assessment methods: Policy makers and teachers. Graduated, 2018.
58. Marina Tal Assessing knowledge types of pre- and in-service chemistry teachers (with secondary supervisor: O. Herscovitz). Graduated Suma Cum Laude, 2018 – Views II Program. Currently: Lecturer at Ort Braude Academic College, Karmiel and a Researcher at Technion Research and Development Foundation.
59. Rana Abdalla Chemistry teachers' pedagogical content knowledge, assessment knowledge and challenges in teaching the energy topic. Graduated, 2018.
60. Or Shav-Artza Chemists` vision of chemistry-related profession. Graduated Cum Laude, 2020. Currently: IDF Officer – Major, Head of ATIDIM Program for Science and English Instruction.
61. Merav Varsano Chemistry teachers' assessment knowledge and teachers' perspectives on online assignments (with primary supervisor: O. Herscovitz). Graduated, 2020 – Views II Program.
62. Amit Galkin Project-based learning in food engineering: Cognition and metacognition (with secondary supervisor: A. Fishman). Graduated, 2020 – Views II Program.
63. Ola Faris Pedagogical content knowledge of pre- and in-service teachers designing and adapting online tasks in chemistry (with secondary supervisor: O. Herscovitz). Graduated, 2020.
64. Ximena Carrasco Romero Scientific levels of understanding and systems thinking models in science, technology, engineering, and mathematics education. Graduated, 2021.

MSc – In progress

65. Prof. Gideon Paret Perceptions of the neonatologists toward traditional and competency-based medical education in specialty fellowship. Expected graduation, 2024.

MSc – Complementary research

66. Roe Peretz Systems thinking and modeling of science and engineering undergraduate and graduate students: food-related issues. Graduated, Feb. 2021.
67. Boaz Hadas Teachers' perceptions towards teaching and assessment in an online environment. Graduated, Oct. 2021.
68. Ruth Edri Graduates of 'Adir Bamarom' technological college: Characteristics and factors of career choice. Graduated, Jan. 2023.

B.Sc. – UROP at Physics & EECS, Massachusetts Institute of Technology, MIT

69. Erin Hult Students' perceptions of TEAL – Technology-Enabled Active Learning at MIT, 2001.
70. Paula Jacobs Student motivation in technology rich collaborative settings, 2013.
71. Emily Salvador Undergraduate students' perceptions about learning in teams in Math for CS flipped classroom, 2014 (in collaboration with Prof. Eric Klopfer, MIT).
72. Chetna Mahajan Flipped classroom and the project-based learning models in Math for CS course, 2015 (in collaboration with Prof. Albert Meyer, MIT).
73. Summer Gu Team problem solving in large classes, 2015-2016 (in collaboration with Prof. Albert Meyer, MIT). She was also MISTI student at my research lab at the Technion.

Basic Sciences for Medical Doctors

74. Simon Vulfson, M.D. Development of an Intelligent Computer Assisted Instruction Module — a Case Study on the Respiratory System. 1994. Research required as part of Internship in Specialization Medical Schools. Currently: Director of the Institute for Pain Medicine at Rambam Health Care Campus.

Post-doctoral Fellows

75. **Miriam Carmi** Relationships between teachers' pedagogical content knowledge and chemistry computerized laboratory module. Lady Davis Fellowship, 2002-2004. Currently: Curriculum Developer at Weizmann Institute of Science.
76. **Hagit Yarden** Collaborative learning in higher education: investigating hybrid models implemented in Technion graduate courses. Lady Davis Fellowship, 2010-2012. Currently: Pedagogical Director, Open University, Israel.
77. **Niva Wengrowicz** Global Collaboration and Transactional Distance - Development of a TD Assessment Instrument for the VISIONAIR Project. Technion Research & Development Foundation – TRDF and Technion Fellowship, 2012-2015. Currently: Researcher and Senior Adjunct Lecturer, Faculty of Industrial Engineering, Technion

and Coordinator of Research & Evaluation Program, School of Professional Development, MOFET Institute, Tel Aviv, Israel.

78. **Zehavit Kohen** Attitudes of various stakeholders toward the importance of science communication, channel types, and scientific knowledge construction. 2013-2015. Currently: Tenure Track Senior Lecturer at the Faculty of Education in Science and Technology, Technion.
79. **Shari Reiss** "Breaking the glass ceiling" – factors impacting the transition of senior women scientists and engineers from graduate training into the STEM workforce. 2018 – 2020. Funded by the Ministry of Absorption, Israel. Currently: Adjunct Lecturer at the Faculty of Education in Science and Technology, Technion.

Collaborating Fulbright Fellows

Late Professor Joel Mintez Metacognition and assessment in science education, 2004.

Late Professor Michael Piburn Spatial visualization in science education, May-June, 2008.

Professor Gail Richmond Professional development of science teachers, May-June, 2018.

RESEARCH GRANTS

1991-1992	\$10,000	Development of CAI software for teaching chemistry. Ministry of Immigrant Absorption, Center for Absorption in Science and Technion New Scientist Fund #864-276.
1992-1993	\$13,500	Development and implementation of a Science-Environment curriculum for non-science majors in 10th grade. Ministry of Education, Center for Science Teaching, Tech # 769-737.
1992-1993 1995-1996	\$36,000	Mentoring science teacher for the use of computer applications in science teaching. Ministry of Education, Center for Educational Technology, Tech # 230-207.
1993-1997	\$135,000	Development and implementation of a computer aided instruction module on polymers and industry for high school students who major in chemistry. Ministry of Education, Center for Science Teaching, Tech. # 231-229.
1994-1998	\$170,000 out of \$500,000	Development and implementation of a "Science For All" curriculum - Science-Technology-Environment-Society (STES) (with U. Zoller and S. Keiny). Ministry of Education, Center for Science Teaching, Tech # 231-256.
1996-1998	\$150,000	Development and implementation of an approach to teaching computerized molecular modeling for high school chemistry students. Ministry of Education, Center for Science Teaching, Tech # 231- 246.
1998-1999	\$75,000	Evaluation of the "BAGRUT 2000" (Matriculation 2000) Project. <u>Chief Scientist, Ministry of Education</u> *, Tech # 231-286.
1998-2000	\$55,000	Center for "Ecotop Project" mentor supervision, Ministry of Environmental Quality, Department of Education, and Ministry of Education, Tech # 230- 301.
2000-2002	\$230,000	Development and assessment of a special computerized and laboratory module for high school students who major in chemistry (With Y. Apeloig, till 2001), Ministry of Education, Center for Science Teaching. Tech # 231- 299.
2003-2004	\$50,000	Scientific and pedagogical updates and translation into Arabic of a "Science For All" curriculum - Science-Technology-Environment-Society (STES). Ministry of Education, Center for Science Teaching, Tech # 231-351.
2003-2004	\$60,000	Assessment of the NETA project, Avi Chai Foundation and Hebrew College, MA, USA, Tech # 231-350.

*Underline in this section represents competitive grants.

2003-2005	\$67,200	A national model for assessing the laboratory (fifth) unit in the matriculation examination of chemistry honors in Israeli high school, Ministry of Education, Center for Science Teaching, Tech # 231-352.
2004-2005	\$15,000	Passing the barrier of guided inquiry (with M. Zion, secondary PI), Ministry of Education. Tech # 200-4781.
2004-2006	\$42,000	Everything is Chemistry – Analyzing Adapted Scientific Articles and Case Studies: Development and assessment of learning materials for teachers of advanced chemistry students in Israeli high school, Ministry of Education, Center for Science Teaching. Tech # 200-5422.
2004-2006	\$66,000	Taste of Chemistry: Development and assessment of learning materials for advanced chemistry students in Israeli high school, Ministry of Education, Center for Science Teaching. Tech # 200-4718.
2004-2007	\$88,000	Energy and Reaction Rate in Chemistry: Development and assessment of learning materials for advanced chemistry students in Israeli high school (C-PIs N. Adir and E. Kolodney), Ministry of Education, Center for Science Teaching. Tech # 200-5369.
2004-2007	\$88,000	From Nano Scale to Microelectronics: Development and assessment of learning materials for honors chemistry students in Israeli high school (Co-PI U. Peskin), Ministry of Education, Center for Science Teaching. Tech # 200-5369.
2005-2008	\$80,000	Equal opportunities and affirmative action in gifted girls: Assessment of the rational, implementation, and effectiveness of the program, Ministry of Education, <u>Chief Scientist Office</u> (Co-PI A. Zohar).
2005-2008	\$88,000	Biochemistry: Development and assessment of learning materials for honors chemistry students in Israeli high school (Co-PIs D. Zilberstein and S. Levenberg), Ministry of Education, Center for Science Teaching. Tech # 200-5369.
2006-2008	\$380,000	Semantically enhanced, multifaceted, collaborative access to cultural heritage (MOSAICA). <u>EU Sixth Framework Program</u> , Information, Society, and Technologies.
2007-2008	\$20,000	Assessment of the MIT Project: Integrating topics and disciplinary thinking from brain and cognitive science into Concourse Program. Funded by the Teaching and Learning Lab (TLL) at MIT.
2007-2009	\$35,000	Professional development training for science teachers who teach in a computerized, hands-on laboratory. Funded by World Ort-KADIMA Science.

2008-2009	\$45,000	Assessment of the effect of young children studying science with multimedia. Funded by BrainPop.
2008-2009	\$30,000	Assessing project-based learning in the product design and development courses. Funded by the MIT-Portugal Program at the Engineering Systems Design, MIT.
2008-2010	\$95,000	Pedagogical updates and translation into Arabic of three learning units: Energy and Reaction Rate in Chemistry, Taste of Chemistry, and Everything is Chemistry – Analyzing Adapted Scientific Articles and Case Studies. Ministry of Education, Center for Science Teaching.
2011-2012	\$20,000	Pedagogical updates, modifications, and addition of a fifth chapter to the learning unit: Energy and Reaction Rate in Chemistry. Ministry of Education, Center for Science Teaching.
2011-2014	\$350,000	<u>EU 7th Framework</u> : VISIONAIR: A World-class Infrastructure for Advanced 3D Visualization-based Research. Total project budget €6,500,000 (Co-PI, with PI Dov Dori).
2012-2013	\$7,000	Heterogeneity: State of the art in educational models and best practices for coping with systemic or local student heterogeneity. The Israel Academy of Sciences and Humanities – The Initiative for Applicative Research in Education.
2012-2014	\$130,000	Development, implementation and assessment of scientific learning materials in technology-reached environments for junior high school students in Israel, Yessod Publishing House.
2012-2014	\$30,000	Fostering academia-community relations: Students', teachers', and scientists' perspectives. The Samuel Neaman Institute, Technion.
2013-2014	\$20,000	The influence of mentoring program on interest, motivation and choice of women in the M.Sc. program in system engineering. The Gordon Center for Systems Engineering, Technion (Co-PI, with PI Prof. T. Tal).
2013-2014	\$20,000	Systems thinking in large undergraduate engineering courses. The Gordon Center for Systems Engineering, Technion.
2016-2018	\$13,000	Trends in education and professional career in science and technology: From high school to choosing a career. National Institute for Testing & Evaluation, (Researcher: Z. Kohen).
2016-2018	\$40,000	Pedagogical updates, modifications, as well as adaption to the Arab sector of the learning unit focusing on energy and reaction rate in chemistry. Ministry of Education, Center for Science Teaching.

2017-2019	\$132,000	Assessment of alternative teacher education programs in Israel: Examining graduates' integration into the school system. Ministry of Education, <u>Chief Scientist Office</u> (PI, with Co-PI T. Tal).
2016-2020	\$135,000	Modeling chemistry career choices: Academic, industrial, and first or second educational career paths, <u>Israel Science Foundation (ISF)</u> , (PI, with Co-PI Dr. S. Avargil).
2016-2022	\$160,000	Chemistry learning and assessment online materials. Ministry of Education, Center for Science Teaching.
2016-2023	\$1,100,000	Technology teachers' professional development and assessment – MORTECH. Ministry of Education, Center for Science Teaching.
2020-2022	EUR 230,000/ 780,000	TRACOD – Model-based tracking of cod and other fish value chain for consumer confidence boosting and food engineers education, <u>EIT FOOD</u> , <u>EU</u> (Co-PI, with PI Prof. D. Dori).
2021-2023	\$70,000/ 200,000	A hybrid approach to teacher education to create and support self-regulated learning, Ministry of Education, <u>Chief Scientist Office</u> (Co-PI, with PI Dr. A. Cohen, Tel Aviv University)

SIGNIFICANT PROFESSIONAL PROJECTS

- | | | |
|-----------|-----------|--|
| 1991-1999 | \$150,000 | Director of Induction Project: accompanying beginning science teachers who graduated from the Department of Education in Science and Technology at the Technion. This project applied a unique model of group support for beginning science teachers who conducted action research in their classes. Sponsored by the Ministry of Education, Israel. |
| 2000-2005 | \$5M | Assessment Leader, Technology Enabled Active Learning (TEAL) Project - a long-term educational experiment for redesigning the freshman MIT physics courses, supported by funds from the d'Arbellof Initiative, MIT/Microsoft i-Campus Alliance, the National Science Foundation under Grant # 9950380, and MIT School of Science. PI - Prof. John W. Belcher, MIT.
http://web.mit.edu/jbelcher/www/PhysicsNewsLetter.pdf
http://web.mit.edu/jbelcher/www/fnlEditedLinks.pdf |
| 2001-2007 | \$240,000 | Director of the Apprenticeship (STAJ) Project: accompanying beginning science teachers who graduated from the Department of Education in Science and Technology at the Technion. This was a mandatory training in order to obtain Teaching Permit (Researcher - N. Barnea). Sponsored by the Ministry of Education, Israel. |
| 2007-2009 | \$356,000 | Force Field: E&M Visualizations for Introductory Physics, National Science Foundation (NSF), Division of Undergraduate Education. PI - Prof. John W. Belcher, MIT. |
| 2013-2014 | \$50,000 | Flipped classroom - Assessment of Alternative Educational Approaches in Undergraduate Large-scale Course: 6.042J/18.062J - Mathematics for Computer Science. |
| 2015-2017 | \$25,000 | MISTI – MIT-Israel - Flipped classroom - Assessment of Alternative Educational Approaches in Undergraduate Large-scale Courses. PI - Prof. Albert Meyer, MIT. |
| 2014-2019 | \$316,000 | Trump Foundation – Pedagogical mentoring of chemistry, physics, and mathematics Views (MABATIM) graduates during their induction into the school system. |

PUBLICATIONS

Theses

- Ph.D. *The Development, Implementation and Evaluation of a Chemistry Curriculum for Nursing Schools in Israel*, Weizmann Institute of Science, 1988. Academic advisors: Professor D. Samuel and Professor A. Hofstein.
- M.Sc. *The Immunological Mechanism of Unresponsiveness to Experimental Allergic Encephalomyelitis in Mice; Replacement of Suppressor Cells by a Soluble Factor*. Weizmann Institute of Science, 1981. Academic advisors: Professor R. Arnon and Dr. D. Teitelbaum.

Papers in Refereed Journals

1. Lando, Z., Dori, Y., Teitelbaum, D., & Arnon, R. (1981). Unresponsiveness to experimental allergic Encephalomyelitis in mice: Replacement of suppressor cells by a soluble factor. *The Journal of Immunology*, 5, 1915-1919.
2. Lando, Z., Dori, Y., Teitelbaum, D., & Arnon, R. (1982). Lack of H-2 restriction of suppressor factor specific to myelin basic encephalitogen. *Journal of the Neurological Sciences*, 53, 113-123.
3. Dori, Y.J., & Yochim, J. M. (1990). Learning patterns of college students using an intelligent computer aided instruction. *Journal of College Science Teaching*, 20(2), 99-103.
4. Dori, Y. J., Dori, D., & Yochim, J. M. (1992). Characteristics of an intelligent computer assisted instruction shell with an example in human physiology. *Journal of Computers in Mathematics and Science Teaching*, 11(3/4), 289-302.
5. Dori, Y.J., & Barnea^{S†}, N. (1993). A computer aided instruction module on polymers. *Journal of Chemical Information and Computer Sciences*, 33(3), 325-331.
6. Dori, Y.J. (1994). Achievement and attitude evaluation of a case-based chemistry curriculum for nursing students. *Studies in Educational Evaluation*, 20(3), 337-348.
7. Dori, Y.J., & Yochim, J. M. (1994). Human physiology: Improving students' achievements through intelligent studyware. *Journal of Science Education and Technology*, 3(4), 263-269.
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^{† S} = graduate student of Y.J. Dori

10. Zoller, U., Lubezky, A., Nakhleh, M., Tessier, B., & Dori, Y. J. (1995). Success on algorithmic and LOCS vs. conceptual chemistry exam questions. *Journal of Chemical Education*, 72(11), 987-989.
11. Dori, Y. J., & Hameiri^S, M. (1996). "The Mole Environment" - development and implementation of a studyware. *Journal of Chemical Information and Computer Sciences*, 36(4), 625-628.
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13. Dori, D., & Dori, Y. J. (1996). Object-process analysis of a hypertext organic chemistry studyware. *Journal of Computers in Mathematics and Science Teaching*, 15(1/2), 65-84.
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15. Dori, Y. J., & Barnea^S, N. (1997). In-service chemistry teachers training: the impact of introducing computer technology on teachers' attitudes and classroom implementation. *International Journal of Science Education*, 19(5), 577-592.
16. Dori, Y. J., & Hameiri^S, M. (1998). The "Mole Environment" studyware: Applying multidimensional analysis to quantitative chemistry problems. *International Journal of Science Education*, 20(3), 317-333.
17. Dori, Y. J., Alon^{SO‡}, M., & Dori, D. (1998). Coordinating multimedia within groupware applications. *International Journal of Computers and Applications*, 20(2), 83-91.
18. Dori, Y. J., & Herscovitz^S, O. (1999). Question posing capability as an alternative evaluation method: Analysis of an environmental case study. *Journal of Research in Science Teaching*, 36(4), 411-430.
19. Barnea^S, N., & Dori, Y. J. (1999). High-school chemistry students' performance and gender differences in a computerized molecular modeling learning environment. *Journal of Science Education and Technology*, 8(4), 257-271.
20. Dori, Y. J., & Tal^S, R. T. (2000). Formal and informal collaborative projects: Engaging in industry with environmental awareness. *Science Education*, 84(1), 95-113.
21. Barnea^S, N., & Dori, Y. J. (2000). Computerized molecular modeling the new technology for enhancing model perception among chemistry educators and learners. *Chemistry Education: Research and Practice in Europe (CERP)*, 1(1), 109-120.
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‡ SO= graduate student of a colleague of Y.J. Dori

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25. Zoller, U., Dori, Y. J., & Lubezky, A. (2002). Algorithmic and LOCS vs. HOCS chemistry exam questions: Performance and attitudes of college students. *International Journal of Science Education*, 24(2), 185-203.
26. Dori, Y. J., Tal^S, R. T., & Peled^S, Y. (2002). Characteristics of science teachers who incorporate Web-based teaching. *Research in Science Education*, 32(4), 511-547.
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34. Lubezky, A., Dori, Y. J., & Zoller, U. (2004). HOCS-promoting assessment of students' performance on environmental-related undergraduate chemistry. *Chemistry Education: Research and Practice in Europe – CERP*, 5(2), 175-184. http://www.uoi.gr/cepr/2004_May/pdf/08Zoller.pdf
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§ US=undergraduate student whom Y.J. Dori mentored in a final project

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53. Barak, M. & Dori, Y. J. (2011). Science education in primary schools: Is an animation worth a thousand pictures? *Journal of Science Education and Technology*, 20, 608–620.
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59. Avargil^S, S., Herscovitz, O., & Dori, Y. J. (2013). Challenges in the transition to large-scale reform in chemical education. *Thinking Skills and Creativity*, 10, 189-207.
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**P= post-doctoral student of Y.J. Dori

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University Level – Software Modules with Workbooks

J.M. Yochim and Y.J. Dori (1993-6). Human Physiology. West Publishing Company, St. Paul, MN, USA.

1. The Endocrine System, ISBN: 0-314-02096-9
2. Nervous System: The Brain, ISBN: 0-314-02097-7
3. The Digestive System, ISBN: 0-314-02304-6
4. Nervous System: The Neuron, ISBN: 0-314-02305-4
5. The Heart, ISBN: 0-314-04007-2
6. The Renal System, ISBN: 0-314-04433-7
7. The Skeletal Muscle, ISBN: 0-314-06072-3
8. Reproductive System, ISBN: 0-314-08203-4
9. Pregnancy and Lactation, ISBN: 0-314-20075-4

University Level - Textbooks

10. Y. Dori, Chemistry for Nursing Schools (1986). Part I, 2nd Ed., Department of Science Teaching, Weizmann Institute of Science, Rehovot, Israel. 69 pages (in Hebrew).
11. Y. Dori, Chemistry for Nursing Schools (1987). Part II, Department of Science Teaching, Weizmann Institute of Science, Rehovot, Israel. 83 pages (in Hebrew).
12. Y. Dori, Problems and Solutions in Chemistry for Nursing Students (1987). Department of Science Teaching, Weizmann Institute of Science, Rehovot, Israel. 25 pages (in Hebrew).

High School Level - Software Modules

13. N. Barnea and Y.J. Dori. (1996). The Polymers Studyware. 180 screens. Department of Education in Technology and Science, Technion IIT, Haifa, Israel (in Hebrew).
<http://www.us-israel.org/jsource/Education/five.html>
14. M. Hameiri and Y.J. Dori. (1996). The Mole Environment and in Industry Studyware. 120 screens. Department of Education in Technology and Science, Technion IIT, Haifa, Israel (in Hebrew).

High School Level - Textbooks††*

15. O. Yaroslavsky, Y. Dori, and R. Lazarowitz (1994). Teaching the Cell Topic Using the Jigsaw Method. Department of Education in Technology and Science, Technion IIT, Haifa, Israel. 70 pages (in Hebrew).
16. O. Herscovitz and Y.J. Dori (1998; 2013). The Quality of Air around Us, 2nd Edition. Department of Education in Technology and Science, Technion IIT, Haifa, Israel. 160 pages (in Hebrew, translation to Arabic: 2005; 2014).

*†† Supported by the Curriculum Development Department, Ministry of Education, Jerusalem, and the Israeli Center for Science Education

17. N. Barnea, M. Barak, and Y.J. Dori (1999). Structure, Chemical Bonding and Carbon Compounds - Integrating Computerized and Physical Molecular Modeling. Department of Education in Technology and Science, Technion IIT, Haifa, Israel. 110 pages (in Hebrew).
18. M. Tsaushu, R.T. Tal, and Y.J. Dori (1999). Biotechnology, Environment and Related Issues. Department of Education in Technology and Science, Technion IIT, Haifa, Israel. 140 pages (in Hebrew, translation to Arabic: 2005).
19. O. Herscovitz, Z. Kaberman, I. Sasson, and Y.J. Dori (2002, 2004). Computerized Chemistry Laboratory. Department of Education in Technology and Science, Technion IIT, Haifa, Israel. 120 pages (in Hebrew, translation to Arabic: 2005).
20. O. Herscovitz, Z. Kaberman, I. Sasson, and Y.J. Dori (2002, 2004). Computerized Chemistry Laboratory - Teacher Guide. Department of Education in Technology and Science, Technion IIT, Haifa, Israel. 75 pages (in Hebrew).
21. M. Tsaushu and Y.J. Dori (2005). Biotechnology, Environment and Related Issues - Teacher Guide. Department of Education in Technology and Science, Technion IIT, Haifa, Israel. 80 pages (in Hebrew - CD).
22. O. Herscovitz, L. Saar, and Y.J. Dori (2007). It's All Chemistry – Analyzing Adapted Scientific Articles and Case Studies. Yessod Publishing House, Holon, Israel. 62 pages (in Hebrew; modified into Arabic 2011).
23. O. Herscovitz, Z. Kaberman, and Y.J. Dori (2007). Taste of Chemistry. Yessod Publishing House, Holon, Israel. 153 pages (in Hebrew; modified into Arabic 2010).
24. I. Sasson, R. Stanger, Y.J. Dori, and U. Peskin (2007). Chemistry – From “the Hole” to “the Whole”: From Nano Scale to Microelectronics. Yessod Publishing House, Holon, Israel. 112 pages (in Hebrew).
25. M. Carmi, E. Wisselberg, and Y.J. Dori (2007). Energy and Reaction Rate in Chemistry. Yessod Publishing House, Holon, Israel. 175 pages (in Hebrew; modified into Arabic 2010).
26. M. Barak, R. Interior, E. Geva, and Y.J. Dori (2008). Biochemistry – The Chemistry of Proteins and Nucleic Acids. Yessod Publishing House, Holon, Israel. 112 pages (in Hebrew).
27. O. Herscovitz & Y.J. Dori (2015). Wired for Chemistry. Yessod Publishing House, Holon, Israel. Published both as a textbook and as an on-line module. 100 pages (in Hebrew).

ERIC – Archived Publications

1. Y. Dori, A. Hofstein, and D. Samuel (1988). The development and evaluation of a chemistry curriculum for nursing schools in Israel, *ERIC Clearinghouse for Science, Mathematics and Environmental Education*, Columbus, Ohio, AN: ED292612; CHN: SE048954.
2. Y.J. Dori (1989). Attitudes toward a simulation based chemistry curriculum for nursing students, *ERIC Clearinghouse for Science, Mathematics and Environmental Education*, Columbus, Ohio, AN: ED319605; CHN: SE051415. <http://www.acusd.edu/~mruiz/simubibliionurs.html>

3. Y.J. Dori and N. Barnea (1994). In-service chemistry teachers training: the impact of introducing computer technology on teachers' attitudes, *ERIC Clearinghouse for Science, Mathematics and Environmental Education*, Columbus, Ohio, ED3696646; SE 054350.
4. Y.J. Dori, O. Yaroslavsky, and R. Lazarowitz (1995). The effect of teaching the cell topic using the Jigsaw method on students' achievement and learning activity, *ERIC Clearinghouse for Science, Mathematics and Environmental Education*, Columbus, Ohio, ED387 336; SE 056654.
5. N. Barnea, Y.J. Dori, and M. Finegold (1995). Model perception among pre- and in-service chemistry teachers, *ERIC Clearinghouse for Science, Mathematics and Environmental Education*, Columbus, Ohio, ED387 329; SE 056647.
6. Y.J. Dori and A. Hofstein (2000). The development, implementation and initial research findings of 'Science and Technology for All' in Israel, *ERIC Clearinghouse for Science, Mathematics and Environmental Education*, Columbus, Ohio, ED439955; SE 063454.

Research and Case Reports in Hebrew

1. Y.J. Dori (1995). Education towards awareness and understanding of the relationship between industry and environment. In R. Tal and H. Ackerman (Eds.) *Industry and Manufacturing: The Central Theme for 1996*, Ministry of Education, Culture and Sport, the Center for Environmental Education in Kfar Vradim, Tefen Industrial Park and Iscar, 20-29.
2. N. Barnea and Y.J. Dori (1997). A computer aided instruction module on polymers — development and implementation. Dapim, MOFET Institute Publication, 24, 107-124.
3. Y.J. Dori (1997) "The Climate Around Us" in junior high school Abu-Snan. Demonstrators Publication, Ministry of Education, Culture and Sport, 2, 107-109.
4. O. Herscovitz and Y.J. Dori (1997). "The Quality of Air Around Us" module - Teaching through cooperative learning. *Biology Teachers Bulletin*, 154, 78-81.
5. O. Herscovitz and Y.J. Dori (1999). "The Quality of Air around Us" - Integrative learning module. *Biology Teachers Bulletin*, 158, 145-148.
6. M. Barak and Y.J. Dori (1999). Teaching organic chemistry with computerized molecular modeling and plastic models. *Chemistry, Technology and Society*, 78, 12-17.
7. M. Tsausho, R.T. Tal, and Y.J. Dori (1999). The learning module - "Biotechnology, Environment and Related Issues". *Biology Teachers Bulletin*, 158, 149-151.
8. Y.J. Dori, N. Barnea, and T. Kaberman (1999). 22 high school project evaluation - "BAGRUT 2000" (Matriculation 2000) project. Research Report for the Chief Scientist, Ministry of Education, 120 pages.
9. O. Herscoviz, Z. Kaberman, I. Sasson, and Y.J. Dori (2003). Case-based computerized laboratories and molecular modeling in chemistry. *Bulletin of Chemistry Teachers- ALCHEMIA*, 4, 30-37.
10. O. Herscoviz, Z. Kaberman, and Y.J. Dori (2008). The taste of chemistry: A learning module for third unit level. *Bulletin of Chemistry Teachers-ALCHEMIA*, 11.
11. M. Barak, R. Hussein-Farraj and Y.J. Dori (2008). Biochemistry – the chemistry of proteins and nucleic acids: A learning module for fifth unit level. *Bulletin of Chemistry Teachers-ALCHEMIA*, 11.

12. Y.J. Dori and A. Zohar (2009). Equal opportunities and affirmative action in gifted girls: Assessment of the rational, implementation, and effectiveness of the program. Report published by the Ministry of Education, Chief Scientist Office (200 pages).
13. Y.J. Dori, O. Herscovitz, and Z. Kaberman (2010). A Survey and case study of professional development via distance teaching and learning to overcome teachers' shortage. Paper invited by The Israel Academy of Sciences and Humanities – The Initiative for Applicative Research in Education Retrieved Oct. 2013 <http://education.academy.ac.il/files/dori-ohad.pdf>
14. E. Weisselberg and Y.J. Dori (2010). Developing argumentations skills in learning the energy and dynamics in chemical processes module. Bulletin of Chemistry Teachers - ALCHEMIA, **16**, 35-40.
15. V. Dangur, U. Peskin, and Y.J. Dori (2011). Chemistry: From Nano-scale to Microelectronics – To think and not only to calculate. Bulletin of Chemistry Teachers - ALCHEMIA, **17**.
16. Y.J. Dori and Z. Kohen (2013). Research Review on Heterogeneity: State of the art in educational models and best practices for coping with systemic or local student heterogeneity. Review invited by The Israel Academy of Sciences and Humanities – The Initiative for Applicative Research in Education (with extended abstract in English).
17. O. Herscovitz, S. Avargil & Y.J. Dori (2014). Teachers' knowledge and development of students' assessments tasks while implementing a new chemistry curriculum. Bulletin of Chemistry Teachers - ALCHEMIA, **24**, 21-28.
http://stwww.weizmann.ac.il/chemcenter/Newspaper.asp?id=265&al_id=21
18. O. Hazzan, O. Herscovitz & Y.J. Dori (2015). Technion "Views" (MABATIM) program for training future chemistry teachers. Bulletin of Chemistry Teachers - ALCHEMIA, **26**, 13-21.
<http://stwww.weizmann.ac.il/chemcenter/img/news/2033.pdf>
19. Dori, Y. J., Kohen, Z., & Hershkovitz, O. (2015). Academy-community relations: Attitudes of various stakeholders toward the importance of science communication, channel types, and scientific knowledge construction. The Samuel Neaman Institute, Technion, Haifa, Israel, 50 pages (with abstract in English). <https://www.neaman.org.il/Holistic-Assessment-Science-Communication-Based-Positions-Different-Stakeholders-HEB>
20. Dori, Y. J., Tal, T., Goldman, D., Sarid, A., Lavi-Alon, N., Shwartz, G., & Rafael, A. (2019). Assessment of alternative teacher education programs in Israel: Examining graduates' integration into the school system. Ministry of Education, Chief Scientist Office, Jerusalem, Israel, 239 pages. <https://meyda.education.gov.il/files/LishcatMadaan/Uniqueprograms.PDF>
21. Dori, Y. J., Shwartz, G. & Shav-Artza, O. (2020). Chemistry education: Where are we headed? The Samuel Neaman Institute, Technion, Haifa, Israel, 88 pages (with abstract in English). <https://www.neaman.org.il/Chemistry-education-Where-are-we-headed>
22. Dori, Y. J., Lavi, R. & Tal, M. (2020). Perceptions of Technion alumni and students on developing their 21st century skills. The Samuel Neaman Institute, Technion, Haifa, Israel, 50 pages (with abstract in English). <https://www.neaman.org.il/Perceptions-of-Technion-Alumni-and-Students-on-Developing-Their-21st-Century-Skills>
23. Dori, Y. J., Herscovitz, O., Arvatz, A. & Hadas, B. (2021). Online learning, teaching, and assessment – Teachers' perceptions, knowledge, and reflective ability. Ministry of Education, Chief Scientist Office, Jerusalem, Israel, 70 pages.
<https://meyda.education.gov.il/files/LishcatMadaan/CovidResearch/presentation-dori.pdf>
<https://meyda.education.gov.il/files/LishcatMadaan/CovidResearch/final-report-dori.pdf>

CONFERENCES

Keynote Lectures in International Conferences

- Sept. 2005 The relationships between scientific phenomena and understanding science in a media-rich environments. *The Conference of the German Organization for Research in Chemistry and Physics Education (GDCEP)*, the University of Paderborn, Germany.
- July 2007 Virtual expeditions methodology. *The 15th International Conference on Conceptual Structures (ICCS 2007)*, Sheffield Hallam University, Sheffield, UK.
<http://www.iccs2007.info/speakers.html>
- March 2015 Self-regulated learning in science education: From theory to practice. *Self-regulated Learning Conference*, Bar-Ilan University, Ramat Gan, Israel.
<http://www.srlnews.co.il/conference-seminar-agenda/>
- July 2022 Fostering 21st century skills and career choice in STEM: Shall the two walk together? *ECRICE 2022 - 15 European Conference on Research in Chemical Education*, Weizmann Institute of Science, Rehovot, Israel.
<https://www.weizmann.ac.il/conferences/ECRICE2022/speakers>
<https://www.weizmann.ac.il/conferences/ECRICE2022/program>

Invited Lectures and Symposia in International Conferences

- Aug. 2000 Chemical compounds - Composition and properties symposia, *Invited Talk at the 16th International Conference on Chemical Education (16th ICCE)*, Budapest, Hungary.
- Aug. 2002 A technology-based chemistry teaching: How should we proceed? Dori, Y.J., Lerman, Z. M., and Hoffman, M. Z. Cosponsored with the International Activities Committee, Division of Chemical Education, *Invited Symposium presented at the 224th American Chemical Society (ACS) National Meeting*, Boston, MA, USA.
- Aug. 2001 Assessing the effect of visualization on students' understanding of scientific concepts. *Science Education and Visualization - Gordon Research Conference*, Mount Holyoke College, South Hadley, MA, USA.
<http://www.grc.uri.edu/programs/2001/sciedu.htm>
- July 2003 The relationships between visualizations of scientific phenomena and understanding science. *Science Education and Visualization - Gordon Research Conference*, Queen's College, University of Oxford, UK.
<http://www.grc.uri.edu/programs/2003/visualiz.htm>
- Aug. 2003 A framework for project-based assessment in science education. *SIG Invited Session, 10th European Conference for Research on Learning and Instruction*, Padova, Italy. <http://earli2003.psy.unipd.it/>
- Sept. 2004 Multidimensional assessment in higher education. *Avignon International Invited Conference on Assessment 2004*, Avignon, France.

- Aug. 2005 Integrating assessment and instruction in effective learning environments: Preparing teachers to practice embedded assessment in an inquiry-based and computerized laboratory environments. *EARLI Invited Symposium, 11th European Conference for Research on Learning and Instruction*, Nicosia, Cyprus.
- Aug. 2007 Fostering higher order thinking skills via a computer-supported inquiry-based chemistry laboratory. *EARLI SIG Invited Symposium on Recent Developments in the Design of Computer Supported Inquiry Learning Environments, 12th European Conference for Research on Learning and Instruction*, Budapest, Hungary.
- Nov. 2008 Virtual expeditions in MOSAICA Project. *The 5th Annual Conference on the Digitization of Cultural Heritage EVA/MINERVA*, Jerusalem, Israel.
- April 2009 Quality research, policy, and practice in service of science education. *Invited Policy Symposium presented at the Worldwide Organization for Improving Science Teaching and Learning through Research (NARST)*, Garden Grove, CA, USA.
- June 2009 Chemistry: From Nano-scale to Microelectronics - Teaching undergraduate science and engineering majors and high school chemistry majors for conceptual understanding and thinking skills. *Invited Gordon Research Conference on Chemical Education Research & Practice*, Colby College, Waterville, ME, USA.
- July 2014 Scientific articles and metacognition – Enhancing students' understanding. *Invited Lecture. American Association of Physics Teachers (AAPT) National Meeting*, Minneapolis, MN, USA.
- June 2015 Learning to practice chemistry in meaningful contexts. *Invited Discussant Leader, the 2015 Gordon Research Conference on Chemistry Education Research and Practice*. Bates College in Lewiston, ME, USA.
- Dec. 2018 Pedagogical content knowledge and assessment knowledge in teaching the energy topic. *Invited Lecturer. Reforms in Science Teaching and Learning towards the 21st Century*. The Academic Arab College for Education in Israel, Haifa, Israel.
- April 2019 Second career STEM teachers: Preparation and integration into the school system. *Invited Presidential Symposium* (with H. Sevian, C. Black, W. Temmerman, G. Richmond, and J. Hamos) – Science teacher professional development: addressing challenges of complexity, responsivity, & scale – *at the 92nd Annual International Conference, National Association for Research in Science Teaching (NARST)*, Baltimore, MD, April 2019.
- April 2021 My science education journey: From chemical education to metacognition and 21st century skills. *DCRA Recipient Invited Talk at the 94th Annual International Conference, National Association for Research in Science Teaching (NARST)*, Virtual Conference, April 2021.

Invited Lectures in National Conferences

- Feb. 1992 Toward developing chemistry courseware through an intelligent computer aided instruction shell, *57th Conference of the Israel Chemistry Society*, Technion, Israel Institute of Technology, Haifa, Israel.
- Feb. 1995 Incorporating environmental aspects into high school chemistry and science teaching, *60th Conference of the Israel Chemistry Society*, Weizmann Institute of Science, Rehovot, Israel.
- Feb. 1996 The phenomena, molecular and symbolic levels in teaching and learning of chemistry, *61st Conference of the Israel Chemistry Society*, Hebrew University, Jerusalem, Israel.
- Jan. 2002 Technology-stimulated conceptual understanding in higher education, *67st Conference of the Israel Chemistry Society*, Hebrew University, Jerusalem, Israel.
- Dec. 2005 The effect of technology-enabled active learning on undergraduate students understanding of electromagnetism, *51st Annual Meeting of the Israel Physical Society*, Ort-Braude College, Karmiel, Israel.
- Feb. 2007 Visualizations and real-life applications in teaching and learning the module: "From nanochemistry to microelectronics". *The 72th Meeting of the Israel Chemical Society*, Weizmann Institute of Science, Rehovot, Israel (with I. Sasson, U. Peskin, V. Dangur, and R. Stanger).
- Feb. 2008 Teaching and assessing for thinking skills in chemistry: Are we there yet? *The 73th Meeting of the Israel Chemical Society*, Jerusalem, Israel.
- Feb. 2017 The views program at the Technion: Relieving Israel's shortage of chemistry teachers (with G. Shwartz and O. Herscovitz). *The 82nd Meeting of the Israel Chemical Society*, Tel Aviv, Israel.

Contributed Talks in International Conferences 2010-date^{‡‡}

- 101.M. Barak, T. Ashkar, and Y.J., Dori. Animated movies in science education: their effect on elementary school students' motivation to learn science and achievements. Paper presented at the *2010 Annual Meeting of the Worldwide Organization for Improving Science Teaching and Learning through Research (NARST)*, Philadelphia, PA, USA, March 2010.
- 102.S. Avargil, O. Herscovitz, and Y.J. Dori. Perceived vs. actual knowledge of students in chemical education. Paper presented at the *2010 Annual Meeting of the Worldwide Organization for Improving Science Teaching and Learning through Research (NARST)*, Philadelphia, PA, March, 2010.
- 103.S. Avargil, O. Herscovitz, and Y.J. Dori. Teachers' perceptions toward context-based learning and thinking skills. Paper presented at the *2010 Annual Meeting of the Worldwide Organization for Improving Science Teaching and Learning through Research (NARST)*, Philadelphia, PA, USA, March 2010.
- 104.Y.J. Dori, O. Herscovitz, and Z. Kaberman. A Survey of professional development via distance teaching and learning. Paper presented at the *21st Annual SITE - Society for Information Technology & Teacher Education International Conference*, San-Diego, CA, USA, March-April 2010.
- 105.Y.J. Dori. International product design & development graduate courses: The MIT-Portugal collaboration. Paper presented at the *5th International LINC Conference*, MIT, Cambridge, MA, USA, May 2010.

^{‡‡} About 100 additional contributed talks in international conferences before 2010 are not listed.

106. Y.J. Dori, M. Barak, and R. Hussein-Farraj. Initiating a distance education program: Attitudes and dispositions of business and industry professionals. Paper presented at the *3rd Annual EuroMed Conference*, Cyprus, November 2010.
107. S. Avargil, O. Herscovitz, and Y.J. Dori. Assessing students' graphing skills in a context-based chemistry module. Paper presented at the *2011 Annual Meeting of the Worldwide Organization for Improving Science Teaching and Learning through Research (NARST)*, Orlando, FL, USA, April 2011.
108. R. Hussein-Farraj, M. Barak, and Y.J. Dori. Initiating a distance education program: Attitudes and preferences of STEM graduate students. Paper presented at the *2012 Annual Meeting of the Worldwide Organization for Improving Science Teaching and Learning through Research (NARST)*, Indianapolis, IN, USA, March 2012.
109. Y.J. Dori, H. Yarden, and A. Allouche. Fostering scientific literacy in biomedical engineering hybrid courses. Paper presented at the *2012 Annual Meeting of the Worldwide Organization for Improving Science Teaching and Learning through Research (NARST)*, Indianapolis, IN, USA, March 2012.
110. S. Avargil, O. Herscovitz, and Y.J. Dori. Challenges in transition to a large-scale reform in chemical education. Paper presented at the *2012 Annual Meeting of the Worldwide Organization for Improving Science Teaching and Learning through Research (NARST)*, Indianapolis, IN, USA, March 2012.
111. N. Wengrowicz, Y.J. Dori, and D. Dori. Global Collaboration and transactional distance - Development of a TD assessment instrument for the VISIONAIR project. Paper presented at the *3rd IEEE International Conference on Cognitive Infocommunications (CogInfoCom)*, Kosice, Slovakia, December 2012.
112. R. Hussein-Farraj, M. Barak, and Y.J. Dori. Learning via face to face and distance methods: Students' self-regulated and transfer components. Paper presented at the *15th Annual International Conference on Education*, Athens, Greece, May 2013.
113. N. Wengrowicz, Y.J. Dori and D. Dori. Peer- and meta-assessment in a project-based large systems engineering course. Paper presented at the *39th Annual Conference of the International Association for Educational Assessment*, Tel Aviv, October 20-25, 2013.
114. R. Abed, O. Herscovitz and Y.J. Dori. Assessing the BASHAAR website as a tool for enhancing the communication between scientists, teachers, and students. Paper presented at the *39th Annual Conference of the International Association for Educational Assessment*, Tel Aviv, October 20-25, 2013.
115. H. Refaeli-Mishkin, G. Jounas-Ahrend, N. Wengrowicz and Y.J. Dori. Assessment of visualization-rich learning environment and virtual science fairs. Paper presented at the *39th Annual Conference of the International Association for Educational Assessment*, Tel Aviv, October 20-25, 2013.
116. Y.J. Dori, A. Allouche, and H. Yarden. Promoting scientific literacy of biomedical engineering students via reading research articles and online discussions. Paper presented at the *Annual Conference of the Worldwide Organization for Improving Science Teaching and Learning through Research (NARST)*, Rio Grande, Puerto Rico, April 6-9, 2013.
117. N. Wengrowicz, D. Dori and Y.J. Dori. Visualization-Based Collaboration and Transactional Distance among Students in a Mini-Project in Industrial Engineering Course. Paper presented at the *Annual Conference of the Worldwide Organization for Improving Science Teaching and Learning through Research (NARST)*, Rio Grande, Puerto Rico, April 6-9, 2013.
118. Z. Kohen, L. Saar and Y.J. Dori. Two perspectives of reading adapted scientific articles: Cognitive and practical versus metacognitive. Paper presented at the *Annual Conference of the Worldwide Organization for Improving Science Teaching and Learning through Research (NARST)*, Pittsburgh, Pennsylvania, March-April, 2014.
119. N. Wengrowicz, Y.J. Dori, and D. Dori, OPM-UML Clarity and Understandability Comparison: Assessment of Large Scale Project-based System Engineering Courses. Paper presented at the *Annual Conference of the Worldwide Organization for Improving Science Teaching and Learning through Research (NARST)*, Pittsburgh, PA, USA, March 30-April 2, 2014.

120. N. Wengrowicz, Y.J. Dori, D. Baker, and D. Dori, Large Scale Assessment in Engineering Courses Using Multiple Approaches. Paper presented at the *National Science Teachers Association (NSTA) National Conference*, Boston, MA, USA, April 3-6, 2014.
121. Y.J. Dori, V. Dangur, S. Avargil, and U. Peskin, Learning quantum chemistry via a visual-conceptual approach: Students' bidirectional textual and visual understanding. Paper presented at the *2014 Biennial Conference on Chemical Education*, Grand Rapids, MI, August 3-7, 2014.
122. H. Refaeli-Mishkin, N. Wengrowicz, D. Dori, and Y.J. Dori, Motivation factors affecting career choice of senior women and undergraduates in information and systems engineering. Paper presented at the *Annual Conference of the Worldwide Organization for Improving Science Teaching and Learning through Research (NARST)*, Chicago, IL, USA, April 11-14, 2015.
123. N. Wengrowicz, Y.J. Dori, and D. Dori, Student-oriented meta-assessment in a project-based systems engineering course. Paper presented at the *Annual Conference of the Worldwide Organization for Improving Science Teaching and Learning through Research (NARST)*, IL, USA, April 11-14, 2015.
124. Z. Kohen, D. Perlman, and Y.J. Dori, The effect of engaging science programs on undergraduates' educational experiences. Paper presented at the *Annual Conference of the Worldwide Organization for Improving Science Teaching and Learning through Research (NARST)*, Chicago, IL, USA, April 11-14, 2015.
125. S. Avargil, G. Shwartz, O. Herscovitz, and Y.J. Dori. Implementing technology and visualization in chemical education: high and middle school science teachers' views. Paper presented at the *Annual Conference of the Worldwide Organization for Improving Science Teaching and Learning through Research (NARST)*, Chicago, IL, USA, April 11-14, 2015.
126. Y.J. Dori, Z. Kohen, and A. Meyer. Flipped classroom for computer science undergraduates: The Effect of In-Class Team Problem Solving and Projects. Paper presented at the *Annual Conference of the Worldwide Organization for Improving Science Teaching and Learning through Research (NARST)*, Chicago, IL, USA, April 11-14, 2015.
127. I. Sasson and Y.J. Dori, Developing life-long learning: The design of learning assignments in transfer skills. Paper presented at the *16th EARLI Conference for Research on Learning and Instruction*, Limassol, Cyprus, August 25-29, 2015.
128. Y.J. Dori, Z. Kohen, and L. Saar, Learning in context via reading adapted scientific articles. Paper presented at the symposium on context-based learning at the *European Science Education Research Association (ESERA) Conference*, Helsinki, Finland, August 31-September 4, 2015.
129. N. Wengrowicz, W. Swart, K. MacLeod, R. Paul, D. Dori, and Y.J. Dori, Relationship between students' collaborative learning attitudes and their satisfaction with an online collaborative case-based course. Interactive poster presented at the *Annual Conference of the Worldwide Organization for Improving Science Teaching and Learning through Research (NARST)*, Baltimore, MD, USA, April 14-17, 2016.
130. S. Avargil, R. Lavi, and Y. J. Dori. Literature review of students' metacognition and metacognitive strategies in science education. Paper presented at the *Annual Conference of the Worldwide Organization for Improving Science Teaching and Learning through Research (NARST)*, Baltimore, MD, USA, April 14-17, 2016.
131. Y. J. Dori, Z. Kohen, and A. Meyer. Team learning in a computer science flipped classroom: undergraduates' problem solving, conceptual, and declared knowledge. Paper presented at the *Annual Conference of the Worldwide Organization for Improving Science Teaching and Learning through Research (NARST)*, Baltimore, MD, USA, April 14-17, 2016.
132. R. Lavi, Y. J. Dori, N. Wengrowicz, and D. Dori. An Assessment Instrument for Systems Thinking in Science and Engineering Education. Paper presented at the *Annual Conference of the Worldwide Organization for Improving Science Teaching and Learning through Research (NARST)*, San Antonio, TX, USA, April, 2017.
133. E. Akiri, N. Barnea, O. Herscovitz, and Y. J. Dori. Joint action research of STEM teachers: mentor-mentee interaction. Paper presented at the *European Science Education Research Association (ESERA) Conference*, Dublin, Ireland, August, 2017.

- 134.R. Lavi and Y. J. Dori. Context-based learning via conceptual modelling: Assessing science teachers' systems thinking. Paper presented at the *European Science Education Research Association (ESERA) Conference*, Dublin, Ireland, August 2017.
- 135.R. Lavi, N. Wengrowicz, Y. J. Dori, and D. Dori. Review of systems thinking and design of an assessment instrument. Paper presented at the *European Science Education Research Association (ESERA) Conference*, Dublin, Ireland, August 2017.
- 136.O. Hescovitz, M. Tal, and Y. J. Dori. Second career pre-service chemistry teachers' knowledge: CK, PCK, AK and self-declared. Paper presented at the *European Science Education Research Association (ESERA) Conference*, Dublin, Ireland, August 2017.
https://keynote.conference-services.net/resources/444/5233/pdf/ESERA2017_0457_paper.pdf
- 137.G. Schwartz and Dori, Y. J. Towards a new beginning: Preparing second-career chemistry teachers. Paper presented at the *European Science Education Research Association (ESERA) Conference*, Dublin, Ireland, August 2017.
https://keynote.conference-services.net/resources/444/5233/pdf/ESERA2017_0370_paper.pdf
- 138.N. Barnea, E. Akiri, O. Herscovitz, and Y. J. Dori. Joint action research of chemistry teachers: Mentor-mentee interaction. Paper presented at the *European Science Education Research Association (ESERA) Conference*, Dublin, Ireland, August 2017.
https://keynote.conference-services.net/resources/444/5233/pdf/ESERA2017_0883_paper.pdf
- 139.E. Akiri, G. Schwartz, N. Barnea, O. Herscovitz, and Y. J. Dori. Practices in the mentoring process of STEM teachers during their integration into the school system. Paper presented at the *Annual International Conference, National Association for Research in Science Teaching (NARST)*, Atlanta, GA, April, 2018.
- 140.I. Sasson, M. Edry-Malul, and Y. J. Dori. Research apprenticeship for high school students: Participants' characteristics and STEM career pathways. Paper presented at the *Annual International Conference, National Association for Research in Science Teaching (NARST)*, Atlanta, GA, April, 2018.
- 141.Z. Kohen, O. Shav-Artza, O. Nitzan-Tamar, and Y. J. Dori. Chemists' and chemical engineers' perceptions of chemistry-related careers in industry. Paper presented at the *Annual International Conference, National Association for Research in Science Teaching (NARST)*, Atlanta, GA, April, 2018.
- 142.E. Akiri, G. Schwartz, and Dori, Y. J. Investigating professional identity of novice teachers during the mentoring process. Paper presented as part of a symposium – Examining sociocultural perspectives on agency and identity as framings for learning and teaching science at the *Annual International Conference, National Association for Research in Science Teaching (NARST)*, Baltimore, MD, April 2019.
- 143.M. T., Hrisilda, E. Akiri, and Y. J. Dori. Attitudes toward STEM teaching and assessment methods: Policy makers and teachers. Paper presented at the *Annual International Conference, National Association for Research in Science Teaching (NARST)*, Baltimore, MD, April 2019.
- 144.S. Avargil, Z. Kohen, D. Shwarts-Asher, G. Schwartz, O. Shav-Artza, G. Strimbaum, P. Vincent-Ruz, H. Sevian, C. D. Schunn, and Y. J. Dori. Choosing a science career: self-efficacy and identity perspectives. Symposium presented at the *Annual International Conference, National Association for Research in Science Teaching (NARST)*, Baltimore, MD, April 2019.
- 145.E. Akiri and Y. J. Dori. Assessing novice and experienced STEM teachers' professional growth. Paper presented at the *European Science Education Research Association (ESERA) Conference*, Bologna, Italy, August 2019.
- 146.E. Akiri, G. Schwartz, and Dori, Y. J. Integration into the school system: Challenges of second career STEM teachers. A paper presented as part of the symposium on Science teacher professional development: Addressing challenges of complexity, responsivity, and scale. Chaired by H. Sevian. Presented at the *European Science Education Research Association (ESERA) Conference*, Bologna, Italy, August 2019.
147. Avargil, S., Kohen, Z., & Dori, Y. J. Chemistry as a major and career choice: trends vs. personal and environmental themes. Oral presentation at the *15th European Conference on Research in Chemical Education (ECRICE)*, Rehovot, Israel (Canceled due to Covid-19), 2020.
148. Galkin, A., Akiri, E., Lesmes, U., Shpigelman, A., Fishman, A., & Dori, Y. J. Assessing question posing and transfer skills in a project-based learning food engineering course. Oral presentation at the *15th European Conference on Research in Chemical Education (ECRICE)*, Rehovot, Israel (Canceled due to Covid-19), 2020.
149. Herscovitz, O., Herscu-Kliska, R., Allouche, A., Yarden, H., Levenberg, S., & Dori, Y. J. Scientific literacy of science and engineering students: Question posing and graphing skills. Oral presentation at the *15th*

European Conference on Research in Chemical Education (ECRICE), Rehovot, Israel (Canceled due to Covid-19), 2020.

150. Avargil, S., Shwarts-Asher D., Riess, R. S., & Dori, Y. J. Scientists' perspectives: Choosing an academic career in chemistry. Paper presented virtually at the 95th *Annual International Conference, National Association for Research in Science Teaching (NARST)*, April, 2021.
151. Tal, M., Lavi, R., & Dori, Y. J. Developing 21st century skills through teaching and learning methods: Perceptions of STEM students and alumni. Paper presented virtually at the 95th *Annual International Conference, National Association for Research in Science Teaching (NARST)*, April, 2021.
152. Peretz, R., Tal, M., Akiri, E., Dori, D., & Dori, Y. J. Systems thinking and modeling of STEM students and teachers: Food-related issues. Paper presented at the *Annual International Conference, National Association for Research in Science Teaching (NARST)*, April, 2022.
153. Peretz, R., Tal, M., Akiri, E., Dori, D., & Dori, Y. J. Fostering undergraduate STEM students' and teachers' systems thinking and modeling skills via a food-related mini-course. Paper presented at *ECRICE 2022, 15 European Conference on Research in Chemical Education*, Weizmann Institute of Science, Rehovot, Israel, July 2022. <https://www.weizmann.ac.il/conferences/ECRICE2022/program>
154. Hadas, B., Herscovitz, O. & Dori, Y. J. Mapping chemistry teachers' knowledge types by analyzing online tasks they developed. Paper presented at *ECRICE 2022, 15 European Conference on Research in Chemical Education*, Weizmann Institute of Science, Rehovot, Israel, July 2022. <https://www.weizmann.ac.il/conferences/ECRICE2022/program>

Contributed Talks in National Conferences

Over 350 presentations, including ones by graduate students, at national conferences and seminars, notably *the Israel Chemistry Society, Learning Sciences, and Rashi Foundation Science, Mathematics, and Engineering Education Seminars*.