

Orit Zaslavsky[oritrath@gmail.com](mailto:oritrath@gmail.com) , [orit.zaslavsky@nyu.edu](mailto:orit.zaslavsky@nyu.edu)**ACADEMIC DEGREES**

- 1987: Ph.D., Mathematics Education. Technion – Israel Institute of Technology, Haifa.
- 1980: M.Sc., Mathematics Education. Technion – Israel Institute of Technology, Haifa.
- 1974: High School Teaching Certificate in Mathematics. Technion – Israel Institute of Technology, Haifa.
- 1972: B.Sc., Mathematics (extensive curriculum), Statistics, and Supplementary Studies. The Hebrew University, Jerusalem.

**ACADEMIC APPOINTMENTS**

- 2010-to date: **Professor.** Department of Teaching and Learning, Steinhardt School of Culture, Education, and Human Development, New York University.
- 2009-2010: **Associate Professor.** Department of Teaching and Learning, Steinhardt School of Culture, Education, and Human Development, New York University.
- 2004-2011: **Associate Professor.** Department of Education in Science & Technology, Technion (retired as of 2011).
- 2005-2006: **Visiting Scholar.** Department of Mathematics, University of California, San Diego, USA (September – November, 2005); School of Education, University of Michigan, Ann Arbor, Michigan, USA (December, 2005); Centre for Mathematics Education, Department of Education, London South Bank University (January – February, 2006).
- 1996-2003: **Senior Lecturer.** Department of Education in Science & Technology, Technion. Received tenure in 1997.
- 1998: **Visiting Scholar.** Graduate School of Education, Rutgers University, New Brunswick, NJ, USA (March – September, 1998).
- 1991-1996: **Lecturer.** Department of Education in Science & Technology, Technion.
- 1989-1991: **Research and Teaching Associate.** Department of Education in Technology & Science, Technion.
- 1987-1989: **Post-Doctoral Research Fellow.** Learning Research and Development Center (LRDC), University of Pittsburgh, Pittsburgh, PA, USA.
- 1982-1987: **Instructor.** Department of Education in Science & Technology, Technion.
- 1985-1986: **Senior Research Assistant.** Department of Education in Science & Technology, Technion.
- 1980-1985: **Research Assistant.** Department of Education in Science & Technology, Technion.
- 1972-1976: **Teaching Assistant.** Department of Mathematics and Department of Education in Science & Technology, Technion.

## HONORS AND AWARDS

- 2014: An article, "Generic Proving: Reflections on Scope and Method", co-authored with Uri Leron, was selected for and included in the collection of **The Best Writing on Mathematics: 2014**.
- 2007: **Visiting Fellow Award**. Centre of Science, Mathematics and Technology visiting fellow award, Monash University, Australia.
- 2005-2007: **Associate Research Fellow**. Department of Educational Studies, University of Oxford, England (a two-year title, awarded by the Research Committee at the Department of Educational Studies).

## PROJECTS AND SCHOLARLY ACTIVITIES

- 2014-to date: **Co-Principal Investigator** (at NYU), *DR K-12: Teaching STEM with Robotics: Design, Development, and Testing of a Research-based Professional Development Program for Teachers*; a 4-year research project with Vikram Kapila (PI), Magued Iskander (co-PI) – NYU Polytechnic School of Engineering, and Catherine Milne (co-PI) – NYU Dept. of Teaching and Learning (funded by NSF).
- 2012-to date: **Co-Principal Investigator** (NYU's PI), *DR K-12: The Role and Use of Examples in Learning to Prove*, a 3-year joint research project with Eric Knuth (PI) and Amy Ellis (co-PI) – University of Wisconsin (funded by NSF).
- 2011-2014: **Principal Investigator** (at NYU), *TUES: Mathematical Proof and Proving (MPP) - Design and Implementation of a Special Undergraduate Course*, with Jalal Shatah co-PI (funded by NSF).
- 2008-to date: **Principal Investigator** (at the Technion). Curriculum design, development & experimentation of learning and teaching material in secondary mathematics: Mathematics textbooks and teacher guides for 7<sup>th</sup>, 8<sup>th</sup>, and 9<sup>th</sup> grade students (duration of each – 3 years), and a book for secondary mathematics teachers on mathematical and pedagogical aspects of Calculus (duration – 2 years). The projects were granted on the basis of winning in a tender (Funded by Israel Ministry of Education with "MaLaM", the Amos De-Shalit Israeli Center for Science and Technology Education).
- 2002-2012: **Director** (at the Technion). "*Mitsui & Mitsuyanut in Mathematics*" – An outreach program for promoting excellence and advancing the potential in mathematics of high (and low) achieving students; A joint project with the Hebrew University in Jerusalem, funded by the Ministry of Education, Israel. (Prof. Liora Linchevski is Director of the component addressing the low achieving students). The program involves extensive in-service courses for teachers, to prepare them for implementation in their classes.
- 2011: **Guest Editor**. Special issue of *ZDM - Zentralblatt fuer Didaktik der Mathematik* on: Examples in mathematical thinking and learning from an educational perspective, Vol. 43, no. 2. (co-Guest-Editors: Samuele Antonini, Norma Presmeg, Maria Alessandra Mariotti).

- 2008-2011: **Associate Editor.** *Journal of Mathematics Teacher Education.*
- 2007: **Guest Editor.** Special triple-issue of the *Journal of Mathematics Teacher Education* on: The Nature and Role of Tasks in Mathematics Teacher Education, Vol. 10, no. 4-6. (co-guest-editors: Anne Watson & John Mason).
- 2004-2007: **Principal Investigator** (at the Technion). *The Interplay between Teachers' Use of Instructional Examples in Mathematics and Students' Learning*, a research project, within which two doctoral theses have been completed (funded by the ISF – Israel Science Foundation, a highly competitive foundation).
- 2000-2002: **Editor** of PME News - the newsletter of the *International Group for the Psychology of Mathematics Education (PME).*
- 1999-2010: **Director** (at the Technion). “TeLeM – Technion Lessons in Mathematics” - A Technion outreach project, jointly operated by the Dept. of Education in Technology and Science and the Center for Pre-University Education. The main goals of the project are: to enhance students' motivation and interest in learning mathematics; to develop students' mathematical thinking; to foster excellence in mathematics; and to acquaint students with opportunities for higher education in science and technology. The program involves ongoing professional development activities for secondary teachers, to enhance their implementation in their classes.
- 1999-2002: **Principal Investigator** (at the Technion). “*Learning Mathematics in a Cooperative Mode*”. The goal of the project was to develop and implement a unit in Trigonometry for students (at the 3-unit level of math) to learn in a variety of cooperative modes and settings (funded by “MaLaM”, the Amos De-Shalit Israeli Center for Science and Technology Education).
- 1999-2001: **Academic Advisor.** “*Advancing Students towards Higher Education Directed to Hi-Tech Industry*”. Within the framework of the Technion Alumni Association.
- 1997-2008: **Member.** Editorial Board of the *Journal of Mathematics Teacher Education.*
- 1993-1998: **Director** (at the Technion). “*Tomorrow 98*” in the Upper Galilee and the East Valleys – *Improving Secondary Mathematics Education.* The goal of these projects was to design, adapt and implement an ongoing reform-oriented professional-development program for middle school and senior high school mathematics teachers (funded by the Ministry of Education).
- 1991-1993: **Mathematics Coordinator** for Population 2 (8<sup>th</sup> & 9<sup>th</sup> grades) in Israel, *TIMSS: The Third International Mathematics and Science Study.* An international survey of educational outcomes in over 50 countries. (P. Tamir & N. Movshovitz-Hadar, National Research Coordinators).

## RESEARCH INTERESTS

The roles of examples, non-examples and counter-examples in learning and teaching mathematics, with a focus on mathematical proof and proving;  
Professional development of secondary mathematics teachers and teacher-educators;  
Characteristics of mathematics-related tasks that foster teacher and student learning, with a focus on the roles and nature of tasks for secondary teacher education; Evoking uncertainty and doubt as a vehicle for investigating and promoting secondary students' and teachers' mathematical understanding.

## PUBLICATIONS

### Theses

- Ph.D.: *An Empirical Investigation of Misconceptions in Quadratic Functions*. Technion, Haifa, 1987.  
Nitsa Movshovitz-Hadar – supervisor.
- M.Sc.: *Individualized Instruction as an Alternative Mode of Mathematics Teaching at the Technion*. Technion, Haifa, 1980.  
Nitsa Movshovitz-Hadar – supervisor.

### Peer Reviewed Papers in Journals

- Raveh, I., Koichu, B., Peled, I., & Zaslavsky, O. (submitted). Four (algorithms) in one (bag): Evaluation of an integrative framework for teaching the standard algorithms of the four basic arithmetic operations. *Research in Mathematics Education*.
- Koichu, B., Zaslavsky, O., & Dolev, L. (in press). Effects of variations in task design on mathematics teachers' learning experiences: A case of a sorting task. *Journal of Mathematics Teacher Education*.
- Leron, U. & Zaslavsky, O. (2013). Generic Proving: Reflections on scope and method. *For the Learning of Mathematics*, 33(3), 24-30.
- Buchbinder, O. & Zaslavsky, O. (2011). Is this a coincidence? The role of examples in creating a need for proof. *ZDM - Zentralblatt fuer Didaktik der Mathematik*, 43(2), 269-281.
- Peled, I. & Zaslavsky, O. (2008). Beyond local conceptual connections: Meta-knowledge about procedures. *For the Learning of Mathematics*, 28(3), 28-35.
- Zodik, I. & Zaslavsky, O. (2008). Characteristics of teachers' choice of examples in and for the mathematics classroom. *Educational Studies in Mathematics*, 69, 165-182.
- Zaslavsky, O. (2007). Tasks, teacher education, and teacher educators. *Journal of Mathematics Teacher Education*, 10, 433-440.
- Zaslavsky, O. & Zodik, I. (2007): Mathematics teachers' choices of examples that potentially support or impede learning. *Research in Mathematics Education*, 9, 143-155.

- Zaslavsky, O. (2005). Seizing the opportunity to create uncertainty in learning mathematics. *Educational Studies in Mathematics*, 60, 297-321.
- Zaslavsky, O. & Shir, K. (2005). Students' conceptions of a mathematical definition. *Journal for Research in Mathematics Education (JRME)*, 36(4), 317-346.
- Zaslavsky, O. (2004). Learning events in the life of a community of mathematics educators. *ZDM - Zentralblatt fuer Didaktik der Mathematik*, 36(1), 20-26.
- Zaslavsky, O. & Leikin, R. (2004). Professional development of mathematics teacher-educators: Growth through practice. *Journal of Mathematics Teacher Education*, 7(1), 5-32.
- Mashlach-Eizenberg, M. & Zaslavsky, O. (2004). Students' verification strategies for combinatorial problems. *Mathematical Thinking and Learning*, 6(1), 15-36.
- Mashlach-Eizenberg, M. & Zaslavsky, O. (2003). Cooperative problem solving in combinatorics – the inter-relations between control processes and successful solutions. *Journal of Mathematical Behavior*, 22(4), 389-403.
- van Dormolen, J. & Zaslavsky, O. (2003). The many facets of a definition: The case of periodicity. *Journal of Mathematical Behavior*, 22(1), 91-106.
- Zaslavsky, O., Sela H., & Leron, U. (2002). Being sloppy about slope: The effect of changing the scale. *Educational Studies in Mathematics*, 49(1), 119-140.
- Zaslavsky, T., Zaslavsky, O. & Moore, M. (2001). Language influences on prospective mathematics teachers' understanding of probabilistic concepts. *FOCUS on Learning Problems in Mathematics*, 23 (2&3), 23-40.
- Leikin, R., Berman, A. & Zaslavsky, O. (2000). Learning through teaching: The case of symmetry. *Mathematics Education Research Journal*, 12, 16-34.
- Leikin, R., Berman, A. & Zaslavsky, O. (2000). Applications of symmetry to problem solving. *International Journal of Mathematical Education in Science and Technology*, 31 (6), 799-809.
- Leikin, R. & Zaslavsky, O. (1999). Cooperative learning in mathematics. In the Connecting Research to Teaching Section of the *Mathematics Teacher*, 92, (3), 240-246.
- Leikin, R., Berman, A. & Zaslavsky, O. (1998). Definition of symmetry. *Symmetry: Culture and Science*, 9 (2-4), 375-382.
- Leikin, R. & Zaslavsky, O. (1997). Facilitating students' interactions in mathematics in a cooperative learning setting. *Journal for Research in Mathematics Education (JRME)*, 28(3), 331-354.
- Movshovitz-Hadar, N., Zaslavsky, O. & Inbar, S. (1987). An empirical classification model for errors in high school mathematics. *Journal for Research in Mathematics Education (JRME)*, 18(1), 3-14.
- Zaslavsky, O. (1997). Conceptual obstacles in the learning of quadratic functions. *FOCUS on Learning Problems in Mathematics*, 19 (1), 20-44.

- Peled, I. & Zaslavsky, O. (1997). Counter-Examples that (only) Prove and Counter-Examples that (also) Explain. *FOCUS on Learning Problems in Mathematics*, 19 (3), 49-61.
- Zaslavsky, O. & Peled, I. (1996). Inhibiting factors in generating examples by mathematics teachers and student-teachers: The case of binary operation. *Journal for Research in Mathematics Education (JRME)*, 27(1), 67-78.
- Leikin, R., Berman, A. & Zaslavsky, O. (1995). The role of symmetry in mathematical problem solving: an interdisciplinary approach. In G. Darvas, D. Nagy and M. Pardavi-Horvath (Eds.) *Symmetry: Culture and Science*, 6(2), *Special Issue: Symmetry Natural and Artificial*, 332-335.
- Zaslavsky, O. (1995). Open-ended tasks as a trigger for mathematics teachers' professional development. *For the Learning of Mathematics*, 15(3), 15-20.
- Movshovitz-Hadar, N. Shmukler, A. & Zaslavsky, O. (1994). Facilitating an intuitive basis for the fundamental theorem of algebra through graphical technologies. *Journal of Computers in Mathematics and Science Teaching (JCMST)*, 13(3), 339-364.
- Zaslavsky, O. (1994). Tracing students' misconceptions back to their teacher: A case of symmetry. *Pythagoras*, No. 33, 10-17.
- Leinhardt, G., Zaslavsky, O. & Stein, M.K. (1990). Functions, graphs and graphing: Tasks, learning and teaching. *Review of Educational Research*, 60(1), 1-64.
- Zaslavsky, O. & Movshovitz-Hadar, N. (1988). Inductive problem-sequences for independent study of linear algebra. *International Journal of Mathematics Education in Science and Technology*, 19(3), 421-434.
- Movshovitz-Hadar, N., Inbar, S. & Zaslavsky, O. (1987). Sometimes students' errors are our fault, *Mathematics Teacher*, 80(3), 191-194.
- Movshovitz-Hadar, N., Inbar, S. & Zaslavsky, O. (1986). Students' distortions of theorems. *FOCUS on Learning Problems in Mathematics*, 8(1), 49-57.
- Zaslavsky, O. & Movshovitz-Hadar, N. (1986). Independent learning of college mathematics: An inductive approach. A guest editorial, *Undergraduate Mathematics and its Applications Journal (UMAP)*, 7(4), 277-280.

## Special Issues

- Antonini, S., Presmeg, N., Mariotti, M. A., & Zaslavsky, O. (Eds.) (2011). Examples in mathematical thinking and learning from an educational perspective. *ZDM - Zentralblatt fuer Didaktik der Mathematik*, 43(2), 191-320.
- Zaslavsky, O., Watson, A., & Mason, J. (Eds.) (2007). The nature and role of tasks in mathematics teachers' education. *Journal of Mathematics Teacher Education*, 10, Nos. 4-6, 201-440.

## Editorials

- Antonini, S., Presmeg, N., Mariotti, M. A., & Zaslavsky, O. (2011). On examples in mathematical thinking and learning. *ZDM - Zentralblatt fuer Didaktik der Mathematik*, 43(2), 191-194.
- Zaslavsky, O. (2010). The challenge of listening. *Journal of Mathematics Teacher Education*, 13, 3-5.

## Peer Reviewed Chapters in Books

- Leron, U. & Zaslavsky, O. (2014). Generic Proving: Reflections on scope and method. In M. Pitici (Ed.), *The Best Writing on Mathematics 2014* (pp. 198-215). Princeton University Press.
- Zaslavsky, O., & Zodik, I. (2014). Example-generation as indicator and catalyst of mathematical and pedagogical understandings. In Li, Y., Silver, E. A., & Li, S. (Eds.), *Transforming mathematics instruction: Multiple approaches and practices* (pp. 525-546). Advances in Mathematics Education. New York: Springer.
- Krainer, K., Chapman, O., & Zaslavsky, O. (2014). Mathematics Teacher Educator as Learner. In S. Lerman (Ed.), *Encyclopedia of Mathematics Education*, (pp. 431-434). London: Springer.
- Zaslavsky, O., Nickerson, S., Styliandes, A., Kidron, I., & Winicki, G. (2012). The need for proof and proving: Mathematical and pedagogical perspectives. In G. Hanna & M. de Villiers (Eds), *Proof and proving in mathematics education* (pp. 215-229). New York: Springer.
- Zaslavsky, O. & Sullivan, P. (2011). Setting the stage: A Conceptual framework for examining and developing tasks for mathematics teacher education. In O. Zaslavsky & P. Sullivan (Eds.), *Constructing knowledge for teaching secondary mathematics: Tasks to enhance prospective and practicing teacher learning* (pp. 1-18). New York: Springer.
- Zaslavsky, O. (2010). The explanatory power of examples in mathematics: Challenges for teaching. In M. K. Stein, & Kucan, L. (Eds.), *Instructional explanations in the disciplines* (pp. 107-128). New York: Springer.
- da Pedro, J. P., Zaslavsky, O., Silver, E., Borba, M., Heuvel-Panhuizen, M., Gal, H., Fiorentini, D., Miskulin, R., Passos, C., Palis, G. R., Huang, R., & Chapman, O. (2009). Tools and settings supporting mathematics teachers' learning in and from practice. In R. Even & D. L. Ball (Eds.), *The Professional Education and Development of Teachers of Mathematics: The Fifteenth ICMI Study* (pp. 185-209). New York: Springer.
- Zaslavsky, O. (2009). Mathematics educators' knowledge and development. In R. Even & D. L. Ball (Eds.), *The Professional Education and Development of Teachers of Mathematics: The Fifteenth ICMI Study* (pp. 105-111). New York: Springer.

- Zaslavsky, O. (2008). Meeting the challenges of mathematics teacher education through design and use of tasks that facilitate teacher learning. In B. Jaworski & T. Wood (Eds.), *The Mathematics Teacher Educator as a Developing Professional*, Vol. 4, of T. Wood (Series Ed.), *The International Handbook of Mathematics Teacher Education* (pp. 93-114). Rotterdam, the Netherlands: Sense Publishers.
- Zaslavsky, O., & Peled, I. (2007). Professional Development of Mathematics Educators. In B. Choksi & C. Natarajan (Eds.), *epiSTEME Reviews: Research trends in Science, Technology and Mathematics Education* (pp. 211-225). Mumbai, India: Macmillan Ltd.
- Zaslavsky, O., Chapman, O., & Leikin, R. (2003). Professional Development in Mathematics Education: Trends and Tasks. In A. J. Bishop, M. A. Clements, C. Keitel, J. Kilpatrick, and F. K. S. Leung (Eds.), *Second International Handbook of Mathematics Education* (pp. 877-917). Dordrecht, the Netherlands: Kluwer Academic Publishers.
- Brandon, D., Dotan, M., Zaslavsky, O., & Leikin, R. (2003). Talent Development and Cultural Diversity. In P. Csermely & L. Lederman (Eds.), *Science Education: Talent Recruitment and Public Understanding*. NATO Science Series, (pp. 77-88). Budapest, Hungary: IOS Press.

## Books

- Zaslavsky, O., & Sullivan, P. (Eds.) (2011). *Constructing knowledge for teaching secondary mathematics: Tasks to enhance prospective and practicing teacher learning* (320 pp.). New York, Springer.
- Zaslavsky, O. (Ed.) (1999). *Proceedings of the 23<sup>rd</sup> Conference of the International Group for the Psychology of Mathematics Education* (Vol. 1 - 399 pp., Vol. 2 - 360 pp., Vol. 3 - 360 pp., Vol. 4 - 360 pp.). Haifa: Technion Printing Center.
- *Hebrew-Russian-English Dictionary for Mathematical Terms* (1992). A team-written dictionary for pedagogical use, published by the Department of Education in Technology & Science, Technion, Haifa. Invited and funded by the Curricula Department, Israel Ministry of Education and Culture. (with A. Shmukler and others).

## Refereed Papers in Israeli Journals (in Hebrew)

- Zaslavsky, O. (2006). Past, present and future directions in fostering excellence in mathematics. *Aleh – The (Israeli) Senior High School Mathematics Journal*, No. 37, 24-29.
- Zaslavsky, O. (2003). On teaching and learning algorithms – the case of Long Division. "Number Power" – *The (Israeli) Elementary School Mathematics Journal*, No. 6, 38-43.
- Leikin, R. & Zaslavsky, O. (2003). TeLeM – a program for promoting excellence in mathematics. *Aleh – The (Israeli) Senior High School Mathematics Journal*, No. 30, 36-44.
- van Dormolen, J. & Zaslavsky, O. (1999). The various aspects of a mathematical definition. *Aleh – The (Israeli) Senior High School Mathematics Journal*, No. 24, 5-16.
- Zaslavsky, O., Movshovitz-Hadar, N. & Shmukler, A. (1995). A survey of the use of computers for mathematics. *Aleh – The (Israeli) Senior High School Mathematics Journal*, No. 16, 46-48.



- Movshovitz-Hadar, N., Zaslavsky, O. & Shmukler, A. (1995). An intuitive basis for the fundamental theorem of algebra. *Aleh – The (Israeli) Senior High School Mathematics Journal*, No. 16, 56-66.
- Patkin, D., Shaham, Z., Zaslavsky, O. & Movshovitz-Hadar, N. (1994). A survey of high school mathematics department heads' needs and self-perception of their duty. *Dapim*, No. 18, 76-86.
- Zaslavsky, O. (1994). Questions with multiple correct answers. *Aleh – The (Israeli) Senior High School Mathematics Journal*, No. 14, 56-60.

### Refereed Papers in Conference Proceedings

- Zaslavsky, O. (2014). Thinking with and through examples. In Liljedahl, P., Nicol, C., Oesterle, S., & Allan, D. (Eds.), *Proceedings of the Joint Meeting of PME 38 and PME-NA 36, v.1*, pp. 21-34. Vancouver, Canada: PME.
- Buchbinder, O. & Zaslavsky, O. (2013). Inconsistencies in students' understanding of proof and refutation of mathematical statements. In A. M. Lindmeier & A. Heinze (Eds.), *Proceedings of the 37<sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education, v.2*, pp. 129-136. Kiel, Germany: PME.
- Ron, G., Zaslavsky, O., & Zodik, I. (2013). Engaging teachers in the web of considerations underlying the design of tasks that foster the need for new mathematical concepts or tools: The case of calculus. In C. Margolinas (Ed.), *Task Design in Mathematics Education. Proceedings of ICMI Study 22*, pp. 643-649. Oxford.
- Buchbinder, O. & Zaslavsky, O. (2013). A holistic approach for designing tasks that capture and enhance mathematical understanding of a particular topic: The case of the interplay between examples and proof. In C. Margolinas (Ed.), *Task Design in Mathematics Education. Proceedings of ICMI Study 22*, pp. 27-35. Oxford.
- Koichu, B., Zaslavsky, O., & Dolev, L. (2013). Effects of variations in task design using different representations of mathematical objects on learning: A case of a sorting task. In C. Margolinas (Ed.), *Task Design in Mathematics Education. Proceedings of ICMI Study 22*, pp. 463-471. Oxford.
- Sabouri, P., Thoms, M., & Zaslavsky, O. (2013). *The Merits of Collaboration Between Mathematicians and Mathematics Educators on the Design and Implementation of An Undergraduate Course on Mathematical Proof and Proving*. The paper appears in the online proceedings of RUME-16 – the 16<sup>th</sup> Annual Research Conference of the Special Interest Group of the Mathematical Association of America on Research in Undergraduate Mathematics Education, Denver, Colorado.
- Sullivan, P., & Zaslavsky, O. (2011). Researching the Nature and Use of Tasks and Experiences for Effective Mathematics Teacher Education. In B. Ubuz (Ed.), *Proceedings of the 35<sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education, v.1*, pp. 107-110. Ankara, Turkey: PME.

- Zodik, I., & Zaslavsky, O. (2009). Teachers' treatment of examples as learning opportunities. In M. Tzekaki, M. Kaldrimidou, & C. Sakonidis (Eds.), *Proceedings of the 33<sup>rd</sup> Conference of the International Group for the Psychology of Mathematics Education, v.5*, pp. 425-432. Thessaloniki, Greece: PME.
- Buchbinder, O., & Zaslavsky, O. (2009). A framework for understanding the status of examples in establishing the validity of mathematical statements. In M. Tzekaki, M. Kaldrimidou, & C. Sakonidis (Eds.), *Proceedings of the 33<sup>rd</sup> Conference of the International Group for the Psychology of Mathematics Education, v.2*, pp. 225-232. Thessaloniki, Greece: PME.
- Leron, U., & Zaslavsky, O. (2009). Generic Proving: Reflections on Scope and Method. In F-L. Lin, F-J. Hsieh, G. Hanna & M. de Villiers (Eds.), *Proceedings of the ICMI Study 19 Conference: Proof and proving in mathematics education, v.2*, 53-58. The Department of Mathematics, National Taiwan Normal University, Taipei, Taiwan.
- Zodik, I., & Zaslavsky, O. (2007). Is a visual example in geometry always helpful? In J-H. Woo, H-C. Lew, K-S. Park, & D-Y. Seo (Eds.), *Proceedings of the 31<sup>st</sup> Conference of the International Group for the Psychology of Mathematics Education, v.4*, 265-272. Seoul, Korea.
- Sela, H., & Zaslavsky, O. (2007). Resolving cognitive conflict with peers: Is there a difference between two and four? In J-H. Woo, H-C. Lew, K-S. Park, & D-Y. Seo (Eds.), *Proceedings of the 31<sup>st</sup> Conference of the International Group for the Psychology of Mathematics Education, v.4*, 169-176. Seoul, Korea.
- Zodik, I. & Zaslavsky, O. (2007). Exemplification in the mathematics classroom: What is it like and what does it imply? In D. Pitta-Pantazi & G. Philippou (Eds.), *Proceedings of the Fifth Congress of the European Society for Research in Mathematics Education* (pp. 2024-2033). Larnaca, University of Cyprus.
- Buchbinder, O., & Zaslavsky, O. (2007). How to decide? Students' ways of determining the validity of mathematical statements. In D. Pitta-Pantazi & G. Philippou (Eds.), *Proceedings of the Fifth Congress of the European Society for Research in Mathematics Education* (pp. 561-570). Larnaca, University of Cyprus.
- Bills, L., Dreyfus, T., Mason, J., Tsamir, P., Watson, A., & Zaslavsky, O. (2006). Exemplification in mathematics education. In J. Novotná, H. Moraová, M. Krátká, & N. Stehliková (Eds.), *Proceedings of the 30<sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education, v.1*, 126-154.
- Zaslavsky, O., Harel, G., & Manaster, A. (2006). A teacher's treatment of examples as reflection of her knowledge-base. In J. Novotná, H. Moraová, M. Krátká, & N. Stehliková (Eds.), *Proceedings of the 30<sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education, v.5*, 457-464.
- Zodik, I. & Zaslavsky, O. (2004). Characteristics of mathematical problem solving tutoring in an informal setting. In M. J. Høines & A. B. Fuglestad (Eds.), *Proceedings of the 28<sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education, v.4*, 489-496.

- Mashiach-Eizenberg, M. & Zaslavsky, O. (2002). Undergraduate students' verification strategies of solutions to combinatorial problems. In A. D. Cockburn & E. Nardi (Eds.), *Proceedings of the 26<sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education, v.2*, 321-328.
- Shir, K. & Zaslavsky, O. (2002). Students' conceptions of an acceptable geometric definition. In A. D. Cockburn & E. Nardi (Eds.), *Proceedings of the 26<sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education, v.4*, 201-208.
- Shir, K. & Zaslavsky, O. (2001). What constitutes a (good) definition? The case of a square. In M. van den Heuvel-Panhuizen (Ed.), *Proceedings of the 25<sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education, v.4*, 161-168.
- Zaslavsky, O. & Leikin, R. (1999). Interweaving the training of mathematics teacher-educators and the professional development of mathematics teachers. In O. Zaslavsky (Ed.), *Proceedings of the 23<sup>rd</sup> Conference of the International Group for the Psychology of Mathematics Education, v.1*, 143-158.
- Zaslavsky, O. & Ron, G. (1998). Students' understandings of the role of counter-examples. In A. Olivier & K. Newstead (Eds.), *Proceedings of the 22<sup>nd</sup> Conference of the International Group for the Psychology of Mathematics Education, v.4*, 225-232.
- Leikin, R., Berman, A., & Zaslavsky, O. (1997). Defining and understanding symmetry. In E. Pehkonen (Ed.) *Proceedings of the 21<sup>st</sup> Conference of the International Group for the Psychology of Mathematics Education, v.3*, 192-199.
- Leikin, R. & Zaslavsky, O. (1994). Promoting active classroom activities through cooperative learning of mathematics. In J. Pedro da Ponte & J.F. Matos (Eds.) *Proceedings of the 18<sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education, v.3*, 136-143.
- Zaslavsky, O. & Peled, I. (1994). Difficulties with commutativity and associativity encountered by teachers and student-teachers. In J. Pedro da Ponte & J.F. Matos (Eds.), *Proceedings of the 18<sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education, v.4*, 417-422.
- Zaslavsky, O. (1991). In what ways are similar figures similar? In F. Furinghetti (Ed.), *Proceedings of the 15<sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education, v.3*, 378-385.

## Research Reports

- Zaslavsky, O. & Shatah, J. (2014). *Mathematical Proof and Proving (MPP) - Design and Implementation of a Special Undergraduate Course*. Final report to NSF, grant 1044809, 260 pp.
- Zaslavsky, O. (2008). *Teachers' and Students' Use of Examples in Mathematics*. Final scientific report to ISF, grant 834/04, 29 pp.
- Zaslavsky, O. (2005). A 3-year report of the "Mitsui & Mitsuyanut in Mathematics" program – scope of activities and outcomes, 80 pp., in Hebrew.

- Leikin, R. & Zaslavsky, O. (2002). A 3-year report of *TeLeM – Technion Lessons in Mathematics* – scope of activities and outcomes 37 pp., in Hebrew.
- Zaslavsky, O. (2001). An annual report of *Advancing Students towards Higher Education Directed to Hi-Tech Industry*, 26 pp., in Hebrew.
- Zaslavsky, O. (1997). A three-year overall report of Technion Project “*Tomorrow 98*” in the Upper Galilee – *A Model for Improving Secondary Mathematics Education*, 50 pp., in Hebrew.
- Zaslavsky, O. (1993). Fourth year annual report on the mathematics component, in: M. Barak (Ed.), *Report of Technion Project Advancing the Studies of Science and Technology in Galilee Schools*, pp. 13-25, in Hebrew.
- Zaslavsky, O. (1992). Third year annual report on the mathematics component of Technion Project *Advancing the Studies of Science and Technology in Galilee Schools*, 97 pp., in Hebrew.
- Zaslavsky, O. (1992). The inservice course in mathematics, in: A. Evyatar (Ed.), *Advancing the Studies of Science and Technology in Galilee Schools*, 4-6, in Hebrew.
- Zaslavsky, O. (1991). Second year annual report on the mathematics component, in: E. Eisenberg (Ed.), *Report of Technion Project Advancing the Studies of Science and Technology in Galilee Schools*, pp. 17-134, in Hebrew.
- Zaslavsky, O. (1990). First year annual report on the mathematics component, in: M. Barak (Ed.), *Report of Technion Project Advancing the Studies of Science and Technology in Galilee Schools*, pp. 57-249, in Hebrew.

## **Text Books and Learning & Teaching Resource Material**

### Undergraduate Level:

- *Vectors and Analytic Geometry* – Vol. 1, 2, 3: Three modules for individual learning for first year Technion students (155 pp.), Technion experimental edition, Haifa, 1978 (in Hebrew; with N. Movshovitz-Hadar).

### High-School Level:

- “*Learning and Teaching Calculus*” - A team-written book for secondary mathematics teachers on mathematical and pedagogical aspects of Calculus. Ma-alott, 2014 (in Hebrew, 620 pp.). A product of a funded project by the Israel Ministry of Education (O. Zaslavsky PI). Editor: G. Ron.
- “*Efshar Gam Acheret*” – A series of team-written mathematics textbooks for 7<sup>th</sup>, 8<sup>th</sup>, & 9<sup>th</sup> grades, experimental editions. Bonus Books Publishing Company, 2014. (in Hebrew). A product of the curriculum design projects (O. Zaslavsky PI).
- *Beginning with the Right Foot* (with G. Ron) - 5 exemplary lesson openings for secondary school mathematics. Electronic version on Keshet-Cham site, <http://keshet.ort.org.il/>, 2005 (in Hebrew).

- *Learning Mathematics in a Cooperative Mode – Trigonometry* (with R. Leikin). A booklet for students and guidelines for teachers, including activities designed for cooperative learning of 3-unit trigonometry. Ma-alott Ltd., 2004 (in Hebrew).
  - *Mathematics for Enrichment Clubs* – a series of 50 team-written booklets of activities for a three-year program of maths clubs for 6<sup>th</sup>-9<sup>th</sup> grade students, including guidelines for teachers, within the framework of the “TeLeM” Project (O. Zaslavsky director). Technion Printing Center, Haifa, 2001-2003 (in Hebrew).
  - *Doing Mathematics* – a series of team-written booklets for mathematics teachers and teacher-educators, within the framework of “Tomorrow 98” Project (O. Zaslavsky director). Technion Printing Center, Haifa (in Hebrew):
    - A Collection of Mathematical Projects for Students, 1996;
    - Mathematical Questions with Multiple Correct Answers, 1996;
    - The Van Hiele Theory and Teaching Geometry, 1996;
    - The Complex Numbers, 1996;
    - The Real Numbers – Developing the Topic in Secondary School, 1997;
    - Periodicity – Multiple Approaches to Teaching the Concept, 1997;
    - Reflection – in and outside the Classroom, 1998;
    - Mathematical Herbs: A Collection of Stories about the History of Mathematics, Visual-Proofs, Paradoxes, Games and Puzzles, 1998.
2. *Area and Surface Area* (with B. S. Shechter), within the framework of “Mass-Mathics” Project (N. Movshovitz-Hadar Director). Material for low-achievers in high-school mathematics. Published and disseminated by Ma-alott Ltd., Tel-Aviv, 1989 (In Hebrew).
  3. *Using Graphical Technologies to Explore Functions* (with A. Shmukler and D. Oshrat) – a series of investigations. Experimental Edition, Technion Printing Center, Haifa, (in Hebrew):
    - Linear Functions, 1993;
    - Quadratic Functions, 1993;
    - Power Functions, Polynomial Functions and Rational Functions, 1994;
    - Functions – Basic Concepts and Uses, 1995.
  4. *Mathematics for Adults* – experimental editions, Open University publication, Ramat-Aviv (in Hebrew).
    - Unit 1 – Positive and negative numbers (98 pp.), 1981;
    - Unit 2 – Open sentences (67 pp.), 1981;
    - Unit 5 – Graphs (118 pp.), 1983;
    - Units 6/7 – Basic concepts in statistics (83 pp.), 1983.

Elementary-School Level:

5. *Simple-Math, Vol. 1, & 2*: A team-written textbook and instructional aid kit to augment broadcasts of mathematics for elementary school students. Published by the Israeli Instructional Television Center, Tel-Aviv, 1982 (in Hebrew).

## *TEACHING EXPERIENCE*

### **Undergraduate Courses**

At NYU:

- Teaching Secondary School Mathematics (MTHED-UE.1043/ MTHED-GE.2033)
- The Teaching of Geometry, Grades 7-12 (MTHED-UE.1046)
- Mathematical Proof and Proving (MTHED-UE.1049)
- Teaching Mathematical Proof and Proving (MTHED-UE.1050)

At the Technion, Haifa:

Since 1989:

- Teaching Methods for Secondary School Algebra (214206)
- Teaching Methods for Secondary School Geometry (214207)
- Mathematics in Senior High Schools (214208, 214209)
- Methods 3 (practice teaching) Mathematics (214203, 214212)

Before 1988:

- Teaching Skills & Strategies (214108, 214109) – (as T.A.)
- Mathematics 1 (104080) and Calculus 1 (104003) – (as T.A.)

### **Graduate Courses**

At NYU:

- Mathematical Investigation and Problem Posing (MTHED-GE.2104)
- Mathematical Proof and Proving (MTHED-GE.2050)
- Research Investigations in Mathematics Education (MTHED-GE.2008)
- Departmental Seminar 1: Mathematics Teaching and Teacher Education [Doctoral Seminar] (MTHED-GE.3021)
- Mathematics Curriculum Research and Evaluation [Doctoral Seminar] (MTHED-GE.3015)
- Pro Seminar I: An introduction to the languages of theory, and an exploration of the ways that research, theory and practice intersect [Doctoral Seminar] (TCHL-GE.3037)

At the Technion, Haifa:

- Proof and Justification in Mathematics Education (216132)
- Innovative Approaches to Assessment in Mathematics Education (216125)
- Fostering Excellence in Mathematics (218140/216141)
- Curriculum Development Project in Mathematics (218131)
- Advanced Workshop for High School Mathematics (218112/216112)
- Research Implications for Mathematics Teaching (218130/216133)
- Issues in Mathematics Teachers' Professional Development (218129)
- Studies in Mathematics Education Research 1 & 2 (218125, 218127)
- Seminar in Educational Research [Dissertation Seminar] (218122/218123)

Secondary School Mathematics in Jerusalem and in Haifa (1971-1973, 1976-1982)

## GRADUATE STUDENTS

### M.Sc. - Completed Theses:

- Leikin, Roza – M.Sc. (1993)  
*Implementation of a Method of Cooperative Learning in Mathematics.*
- Zaslavsky, Tatyana – M.Sc. (1996)  
*Teachers' and Student-Teachers' Subject-Matter and Pedagogical Knowledge in Probability.*
- Ron, Gila – M.Sc. (1997)  
*Counter-Examples in Mathematics: Students' Understanding of Their Role.*
- Zamir, Smadar – M.Sc. (1999)  
*Understanding the Connections between the Graph of a Function and the Graph of its Derivative.*
- Bershadsky, Irina – M.Sc. (Entitled to her M.Sc. degree since 1998, based on her Doctoral Candidacy Exam, within the framework of a direct track of studies)  
*The Concept of Locus in a Dynamic Geometry Environment.*
- Shir (Yalin) Karni – M.Sc. (Entitled to her M.Sc. degree since 1999, based on her Doctoral Candidacy Exam; a special track of studies, from B.Sc. to Ph.D.)  
*Definitions in Mathematics Education.*
- Sela, Hagit – M.Sc. (2000)  
*Changing the Scale on the Axes: Mathematical and Pedagogical Implications.*
- Tachnai, Ronit – M.Sc. (2001)  
*Problem Posing Strategies of Junior High School Students.*
- Zodik-Tanchum, Iris – M.Sc. (2004)  
*Characteristics of Mathematics Instruction by an Engineer in a Project Aiming at Promoting Students to the High-Tech Industry – in an Informal Setting of a Secondary School*
- Buchbinder, Orly – M.Sc. (2006)  
*Counter Examples: Generation Processes and Modes of their Use*

### Ph.D. – Completed Theses:

- Leikin, Roza – Ph.D. (1997)  
[currently, tenured professor, Haifa University]  
*Symmetry as a Way of Thought: A Tool for Professional Development of Mathematics Teachers.*  
Co-Supervisors: Abraham Berman and Orit Zaslavsky
- Mashiach-Eizenberg, Michal – Ph.D. (2001)  
[currently, tenured Senior Lecturer, Emek Yezreel College]  
*Verification Strategies of Solutions to Combinatorial Problems.*
- Katzir, Avivit – Ph.D. (2001)  
[currently, Lecturer at a College in CA, USA]  
*Students' Coping with Uncertainty Regarding the Truth of Mathematical Claims.*

- Shir (Yalin), Karni – Ph.D. (2004) [Special Track of studies, from B.Sc. to Ph.D.]  
[former Head of field activities of the program for excellence in mathematics, The Society for Excellence through Education; currently, teaches at Shaanan College, Haifa]  
*Learning a Meta-Mathematical Concept: The Case of a Mathematical Definition.*
- Dickman, Nomy – Ph.D. (2005)  
[currently, Chair of the Department of Education, Sachnin College]  
*The Role of Journal Writing in Reflecting and Enhancing Professional Development of Mathematics Teachers, in the Course of Becoming Mathematics Teacher-Educators.*
- Bershadsky, Irina – Ph.D. (2006) [Direct track of studies, from B.Sc. to Ph.D.]  
*Learning the Concept of Locus through Problem Solving in a Dynamic Geometry Environment.*
- Sela, Hagit – Ph.D. (2007)  
[2009-2011, Post Doctoral Fellow, University of Maryland; currently: SunBay Math Professor in Residence at University of Florida]  
*Aspects of Peer Groups' Coping with Tasks that Lead to Mathematical Contradictions.*
- Zodik-Tanchum, Iris – Ph.D. (2008)  
[currently, Researcher, the Dept. of Education in Science & Technology, Technion]  
*Instructional Examples in Mathematics: Teachers' Modes of Use and Learning Opportunities.*
- Lavie, Orna – Ph.D. (2009)  
*Students' Conceptions and Use of Mathematical Examples.*
- Buchbinder, Orly – Ph.D. (2010)  
[granted a prestigious 3-year excellence scholarship from the Chief Scientist of the Ministry of Education; Currently: assistant professor of mathematics education at the Department of Mathematics and Statistics at the University of New Hampshire].  
*The role of examples in establishing the validity of mathematical statements.*
- Dolev, Lea – Ph.D. (2011)  
*Considerations in the Design of Learning Tasks for Teachers: The Case of Classification of Mathematical Items.*  
Co-Supervisors: Orit Zaslavsky and Boris Koichu
- Raveh, Ira – Ph.D. (2012) [Direct track of studies, from B.Sc. to Ph.D.]  
*Teachers' knowledge of the interconnections between the elementary algorithms of the four basic arithmetic operations and their underlying mathematical principles*  
Co-Supervisors: Orit Zaslavsky and Boris Koichu
- Segal, Ruti – Ph.D. (2013)  
*Characteristics of Mathematics Teacher Educators' knowledge and Practice*  
Co-Supervisors: Orit Zaslavsky and Boris Koichu



## ***SPECIAL UNIVERSITY RESPONSIBILITIES***

- 2012-2015: Chair, Department's Faculty Support and Evaluation Committee, NYU
- 2010-to date: Program Director, Mathematics Education, NYU.
- 2011-2012: Chair, Search Committee for mathematics education tenure track faculty, NYU.
- 2008-2009 & 2001-2003: Coordinator of the Graduate Studies in the Dept. of Education in Science & Technology, Technion.
- 2001-2003: Academic advisor for Youth Programs, within the framework of the Center for Pre-University Education (Appointed by the Dean of Undergraduate Studies), Technion.
- 1998-1999 & 1992-1994: Coordinator of the Undergraduate Studies in the Dept. of Education in Science & Technology, Technion.

## ***PUBLIC PROFESSIONAL SERVICE***

- 2002-2014: **Chair.** Steering committee for Israel's participation in the international study *PISA (Programme for International Student Assessment)*. Appointed by Chief Scientist of the Ministry of Education and Culture, Israel; extended appointment by Director-General of RAMA – the National Authority for Measurement and Evaluation in Education.
- 2005-2012: **Member.** Steering committee for Israel's participation in the international study *TIMSS*. Appointed by Chief Scientist of the Ministry of Education and Culture, Israel; extended appointment by Director-General of RAMA – the National Authority for Measurement and Evaluation in Education.
- 2004-2009: **Chair.** Prize Committee for excellence in mathematics teaching, the late Prof. Avital's Foundation, Technion, Israel.
- 2003: **Chair.** Program Committee of the 10<sup>th</sup> Israeli National Conference of the *Association for the Improvement of Mathematics Education in Israel* (held in Tel Aviv, May 2003).
- 2002: **Member.** Israel's national committee for examining the participation of Israel in international comparison studies in mathematics and science (Prof. D. Gordon Chair). Appointed by the director of "MaLaM", the Amos De-Shalit Israeli Center for Science and Technology Education, at the request of the Deputy Director General of the Ministry of Education and Culture, Israel.
- 1999-2000: **Member.** Program Committee of the 24<sup>th</sup> International Conference of the *International Group for the Psychology of Mathematics Education (PME)*, held in Hiroshima, Japan, July 2000.
- 1999: **Chair.** Program and Organizing Committees of the 23<sup>rd</sup> International Conference of the *International Group for the Psychology of Mathematics Education (PME)*, held at the Technion, Haifa, July 1999.

- 1997-2001: **Member.** The International Committee of the *International Group for the Psychology of Mathematics Education (PME)*.
- 1997: **Chair.** Program Committee of the 4<sup>th</sup> Israeli National Conference of the *Association for the Improvement of Mathematics Education in Israel* (held in Haifa, May 1997).
- 1996-1997: **Member.** Israel's steering committee for designing standards for regional teacher centers (Prof. B. Geiger, Chair). Appointed by the Deputy Director General of the Ministry of Education and Culture, Israel.
- 1995-1996: **Member.** Israel's steering committee for 9<sup>th</sup> grade mathematics curriculum analysis and assessment (Dr. M. Koren, Chair). Appointed by the Chief Scientist of the Ministry of Education and Culture, Israel.

## CONFERENCES AND SEMINARS

### Invited Contributions

- July, 2014. *Thinking with and through Examples*. Invited **keynote address**, at the 38<sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education (PME), Vancouver, Canada.
- April, 2013: *To prove or not to prove? Pre-service mathematics teachers' use of examples in proving and disproving mathematical claims*. Invited paper presentation (with P. Sabouri) at the Research Symposium on: How does example use influence conjecturing and proving? National Council of Teachers of Mathematics 2013 Research Pre-session, Denver, Colorado.
- April, 2013: *Is this a coincidence? Students' understanding of the role of examples in proving or refuting algebraic statements*. Invited paper presentation (with O. Buchbinder) at the Research Symposium on: How does example use influence conjecturing and proving? National Council of Teachers of Mathematics 2013 Research Pre-session, Denver, Colorado.
- May, 2012: *There is more to examples than meets the eye: The interplay between examples and tasks*. Invited keynote speaker at the 1<sup>st</sup> International Workshop of the Graduate Program ProfaS: Educational Reconstruction at its best – Fostering Teacher Education. University of Oldenburg, Germany.
- November, 2011: *There is more to examples than meets the eye: Mathematical and pedagogical perspectives*. Invited colloquium, University of Georgia (UGA), Athens, Georgia.
- February, 2009: *There is more to examples than meets the eye: Challenges and affordances of teachers' choice of instructional examples*. Invited keynote speaker at RUME-12 - the 12<sup>th</sup> Annual Research Conference of the Special Interest Group of the Mathematical Association of America on Research in Undergraduate Mathematics Education, Raleigh, North Carolina.

- July, 2008: *Attention to similarities and differences: A fundamental principle for task design and implementation in mathematics education*. Invited presentation at the Topic Study Group (TSG34) on Research and Development on Task Design and Analysis, the 11<sup>th</sup> International Congress on Mathematics Education (ICME-11), Monterrey, Mexico.
- June, 2008: Panel speaker, at the International Education Conference, Bat Yam, Israel.
- May, 2008: *There is more to examples than meets the eye*. Annual Distinguished Speaker for the Mathematics & Science Education Joint Program of UCSD (University of California San Diego) and SUSD (State University of San Diego).
- May, 2008: *The explanatory power of mathematical examples*. Invited speaker at a conference organized by and held at LRDC – Learning Research & Development Center, University of Pittsburgh, on *Instructional Explanations* (as a Festschrift in honor of Gaea Leinhardt, former Editor of RER).
- March, 2008: *The role of teacher educators in mathematics teacher education – their practice and development*. Invited introductory presentation and group discussion leader in WG2 - on the professional formation of teachers, at the Symposium for Celebration of the Centennial of ICMI – International Commission on Mathematical Instruction (participation by invitation only), Rome, Italy.
- July, 2007: *Teacher change in the context of addressing students' special needs in mathematics*. Invited presentation at a Research Forum on Teacher Change, at the 31<sup>st</sup> Conference of the International Group for the Psychology of Mathematics Education, Seoul, Korea.
- February, 2007: *Review of research on professional development of mathematics teachers and teacher educators*. Invited keynote presentation, at epiSTEME-2, the second International Conference to Review Research in Science, Technology and Mathematics Education, Mumbai, India.
- October, 2006: *Past, present and future directions in fostering excellence in mathematics*. Invited plenary speaker at a Symposium on the Future of Mathematics Education in Israel, Technion, Haifa.
- March, 2006: *What do we gain and lose by participating in international studies assessing mathematics achievements?* Plenary speaker at the 3<sup>rd</sup> International Platform for Public Discourse on Mathematics Education, the Center of Educational Technology, Hertzeliya, Israel.
- October, 2005: Keynote discussant of the opening plenary session (in reaction to John Mason's keynote presentation). The 27<sup>th</sup> conference of the *North American Chapter of the International Group for the Psychology of Mathematics Education*, Roanoke, Virginia, USA.
- August, 2005: *Refining the notion of slope through change of scale of a Coordinate System*. Invited presentation at a symposium on Reasoning with Graphs: Preconditions, Challenges, and Instructional Implications, the 11<sup>th</sup> biennial conference of ERALI - European Association for Research on Learning and Instruction. Nicosia, Cyprus.

- September, 1998: *Views on the Learning of Algebra*. Invited speaker at the Action Conference on the Nature and Teaching of Algebra in Middle Grades, organized by the National Academy of Sciences/National Research Council, Washington DC, USA.
- April, 1998: *Teachers' learning from students' thinking: The case of probability*. Invited presentation at a symposium on: Classroom Research on Students' Probabilistic Thinking, at the NCTM Research Pre-Session, Washington DC, USA.
- August, 1992: Invited Discussant, the Algebra Group, ICME VII – the 7<sup>th</sup> International Congress on Mathematics Education, University of Laval, Quebec, Canada.
- April, 1991: Organizer, Chairperson, and Discussant of an invited session on the Learning and Teaching of Functions, at the NCTM Research Pre-Session, New Orleans, USA. (participating presenters: K. Heid, A. Schoenfeld, J. Schwartz, & S. Vinner).

### **Initiator, Coordinator and Organizer of Special Sessions at Conferences**

- July, 2011: *Researching the Nature and Use of Tasks and Experiences for Effective Mathematics Teacher Education*. Coordinator of (with Peter Sullivan) and discussant at a Research Forum at the 35<sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education (PME), Ankara, Turkey.
- July, 2009: *Generic proving: Unpacking the main ideas of a proof*. Coordinator (with U. Leron) of a Working Session at the 33<sup>rd</sup> Conference of the International Group for the Psychology of Mathematics Education, Thessaloniki, Greece.
- July, 2008: *Complementary perspectives on teachers' use of (non-routine) tasks in classrooms from three perspectives: Mathematics teacher, teacher educator, and researcher*. Coordinator of a Research Forum (with R. Tzur & P. Sullivan) at the 32<sup>nd</sup> Conference of the International Group for the Psychology of Mathematics Education, Morelia, Mexico.
- April, 2007: *The nature and role of tasks that foster learning in mathematics teacher education*. Initiator and organizer of a Symposium at the Annual Conference of the American Educational Research Association, Chicago (SIG/RME).
- July, 2006: *Exemplification in mathematics education*. Coordinator (with L. Bills, J. Mason & A. Watson) of a Research Forum at the 30<sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education, Prague, Czech Republic.

**Contributed Talks** (The list includes only presentations in the past 10 years that do not appear in conference proceedings)

- February, 2013. *The merits of collaboration between mathematicians and mathematics educators on the design and implementation of an undergraduate course on Mathematical Proof and Proving* (with Pooneh Sabouri and Michael Thoms). Paper presentation at RUME-16 - the 16<sup>th</sup> Annual Research Conference of the Special Interest Group of the Mathematical Association of America on Research in Undergraduate Mathematics Education, Denver, Colorado.

- April, 2007. *Characteristics of tasks that foster knowledge for teaching mathematics*. Paper presentation at an AERA Symposium. The Annual Conference of the American Educational Research Association, Chicago.
- February, 2006: *Features of teachers' choice and treatment of examples that may support or impede mathematics learning*. Paper presentation, at the conference of BSRLM – the British Society of Research into Learning Mathematics, Warwick University, UK.
- May, 2005: *Teachers' use of instructional examples* (with Orna Lavie). Presented at the 15<sup>th</sup> Study Conference of the International Commission on Mathematical Instruction (ICMI), on: *The Professional Education and Development of Teachers of Mathematics*. Águas de Lindóia, Brazil. Speaker: O. Zaslavsky. (Participation in the study conference by invitation only).
- December, 2004: *Transparent objects and processes in learning mathematics*. Presented at the epiSTEME-1 Conference – the first International Conference to Review Research on Science, Technology & Mathematics Education, Goa, India. Speaker: O. Zaslavsky.

### Participation in Organizing Conferences & Workshops

- 2007: **Co-organizer** (with Maria Alessandra Mariotti). A 3-day international workshop on: *The role of examples in argumentation and proof and in concept definition and formation*. University of Siena, Italy. October, 2007.
- 2005: **Co-organizer** (with John Mason & Anne Watson). A 3-day international workshop on: *Exemplification in mathematics education*. University of Oxford, UK. June, 2005.
- 2003: **Chair**. Program Committee of the 10<sup>th</sup> Israeli National Conference of the *Association for the Improvement of Mathematics Education in Israel*. Tel Aviv. May, 2003.
- 2000: **Member**. Program Committee of the 1<sup>st</sup> International Conference in Israel on *Schools in Transition to Autonomic Management*. Tel Aviv, Israel. April, 2000.
- 2000: **Member**. Program Committee of the 24<sup>th</sup> International Conference of the *International Group for the Psychology of Mathematics Education (PME)*. Hiroshima, Japan. July, 2000.
- 1999: **Chair**. Program and Organizing Committees of the 23<sup>rd</sup> International Conference of the *International Group for the Psychology of Mathematics Education (PME)*. Technion, Haifa, Israel. July, 1999.
- 1997: **Chair**. Program Committee of the 4<sup>th</sup> National Conference of the *Association for the Improvement of Mathematics Education in Israel*. Haifa, Israel. May, 1997.

## RESEARCH AND DEVELOPMENT GRANTS

Years	Grant	Funded by	Role	Project Title
2014-2018 (NYU)	\$2,500,000	NSF (Polytechnic School of Engineering & Steinhardt's Dept. of Teaching and Learning)	Co-PI (V. Kapila PI, M. Iskander Co-PI, & C. Milne Co-PI)	<i>DR K-12: Teaching STEM with Robotics: Design, Development, and Testing of a Research-based Professional Development Program for Teachers</i>
2012-2015 (NYU)	\$ 995,000 (\$388,000 for NYU)	NSF (UW & NYU)	Co-PI (E. Knuth PI, & A. Ellis, Co-PI)	<i>DR K-12: The Role and Use of Examples in Learning to Prove</i>
2011-2014 (NYU)	\$180,000	NSF	PI (J. Shatah Co-PI)	<i>TUES: Mathematical Proof and Proving (MPP) – design and implementation of a special undergraduate course</i>
2008-2014 (Technion)	\$1,200,000	Israel Ministry of Education ("MaLaM")	PI	<i>Design, development and experimentation of learning and teaching material in mathematics</i>
2002-2011 (Technion)	\$1,300,000	Israel Ministry of Education	Director	<i>"Mitsui &amp; Mitsuyanut in Mathematics"</i>
2004-2007 (Technion)	\$75,000	Israel Science Foundation (ISF) (Grant no. 834/04)	PI	<i>The Interplay between Teachers' Use of Instructional Examples in Mathematics and Students' Learning</i>
2004-2005 (Technion)	\$5,500	Israel Ministry of Education ("MaLaM")	Director (within the framework of "Kesher-Cham")	<i>"Starting-out with the Right Foot" - exemplary lesson openings for secondary school mathematics</i>
2003-2004 (Technion)	\$15,000	Israel Ministry of Education ("MaLaM")	PI	<i>Adaptation &amp; translation of TeLeM enrichment resource materials for Arabic speaking students.</i>
1999-2003 (Technion)	\$227,500	Harry Stern Foundation (\$181,000) + Rashi-Sakta Foundation (\$46,500)	Director (with D. Brandon Co-Director)	<i>"TeLeM – Technion Lessons in Mathematics"</i>
1999-2002 (Technion)	\$90,000	Israel Ministry of Education ("MaLaM")	PI	<i>"Learning Mathematics in a Cooperative Mode"</i>

<b>Years</b>	<b>Grant</b>	<b>Funded by</b>	<b>Role</b>	<b>Project Title</b>
1993-1998 (Technion)	\$3,750,000	Israel Ministry of Education	PI	<i>“Tomorrow 98”– Improving Secondary Mathematics Education in Upper Galilee &amp; East Valleys</i>
1993-1995 (Technion)	\$580,000 (of \$1,500,000)	The Jewish Agency	Co-Director (of the Math, w. N. Movshovitz- Hadar)	<i>Advancing the Studies of Science and Technology in Galilee Schools</i>