

**Name: Ruti Segal**

**Date: May 2026**

## **CURRICULUM VITAE**

### **1. Personal Details**

Permanent Home Address: Kibbutz Nir-David, Emek Hamahayanot, 1080300, Israel.

Home Telephone Number: 972-4-6488834

Office Telephone Number: 972-4-9839674

Cellular Phone: 972-50-7618419

Electronic address: [ruti.segal@oranim.ac.il](mailto:ruti.segal@oranim.ac.il); [rutisegal@gmail.com](mailto:rutisegal@gmail.com)

### **2. Higher Education**

#### **A. Undergraduate and Graduate Studies**

<b>Period of Study</b>	<b>Name of Institution and Department</b>	<b>Degree</b>	<b>Year of Approval of Degree</b>
2008-2013	Technion - Israel Institute of Technology, Haifa, Israel. The Faculty of Science and Technology Education	Ph.D. Mathematics Education	2013
1998-2001	Hebrew University, Jerusalem, Israel. The Science Teaching Program	M.Sc. Mathematics Education	2001
1996-1997	Hebrew University, Jerusalem, Israel. The Faculty of Education.	Teaching certificate	1997
1985-1988	Haifa University, Haifa, Israel. Department of Mathematics and Computer Science	B.Sc. Mathematics and Computer Science.	1988

#### **B. Post-Doctoral Studies**

<b>Period of Study</b>	<b>Name of Institution, Department and Host</b>	<b>Degree</b>	<b>Year of Completion</b>
2017-2019	Technion - Israel Institute of Technology, Haifa, Israel. The Faculty of Science and Technology Education	Post-Doctoral fellow	2019

2014-2016	Samuel Neamann Institute for National Policy Studies, Haifa, Israel. Prof. Nitsa Movshovitz-Hadar and Prof. Atara Shriki	Post-Doctoral fellow	2016
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### **3. Academic Ranks and Tenure in Institutes of Higher Education**

<b>Dates</b>	<b>Name of Institution and Department</b>	<b>Rank/Position</b>
2026- Present	Oranim – an Academic College of Education, Kyrat Tivon	Associate Professor
2026- Present	Shannan Academic College of Education, Haifa	Associate Professor
2017-2025	Oranim – an Academic College of Education, Kyrat Tivon	Senior Lecturer (Tenure) - 100%
2012-2017	Oranim – an Academic College of Education, Kyrat Tivon	Lecturer
2017-2025	Shannan Academic College of Education, Haifa	Senior Lecturer - 33%
2012-2017	Shannan Academic College of Education, Haifa	Lecturer

### **4. Offices in Academic Administration**

#### **Oranim Academic College of Education**

2021-Present - Member, Academic Staff Development Committee.

2019-Present - Head of the Department, B.Ed. in Mathematics Education of Primary School Education.

2019-Present - Department Chair, M.Ed. in Mathematics and Science of Primary School Education at the Faculty of Advanced Studies.

### **5. Scholarly Positions and Activities outside the Institution**

2025-Present Admission to the Mandel Academic Leadership Program, Teacher Training, Mandel Leadership Institute, Jerusalem, Israel.

2025-Present Member of the editorial board of the journal Research and Review in Mathematics Education, Sha'anani College Press, Israel

2024- Present Member of the editorial board of the journal Research and Review in Mathematical Education, Shannan Publishing, Israel.

- 2024-2025      Leading annual workshop for primary mathematics teachers: Integrating technology in mathematics education. A part of the collaboration between Oranim College of Education and Emek Hamaayanot Regional Council.
- 2021-Present      Establishment and management of inter-college research groups as part of the Research Authority at Oranim College, which focuses on diverse aspects of "Integrating diverse technologies in teaching and research mathematics and science education".
- 2021-2026      Member of the steering committee for the Hagar Kolman scholarship, for the Bedouin sector. Oranim College of Education and Society.
- 2021-2022      Member of the development team of a MOOC – Massive Open Online Course, about Mathematics is the queen and handmaiden of human existence. A mathematics course for the general public for college students. In collaboration with Prof Nitza Movshovitz-Hadar and Dr. Yaniv Biton. As part of the joint management of the Center for Educational Technology, Technion, and Sha'an-an- Academic Religious College of Education. <https://campus.gov.il/course/mathematics-the-queen-and-servant-of-the-human-being/>
- 2021      Participating in "Alumot," a program for leaders in an academic institution, on behalf of the Prime Minister's Office, Mofet Institute, Tel Aviv, Israel
- 2021      Member of the Steering Committee of the National Forum on the Research-Practice Partnership (RPP), led by Dr. Adiv Gal and Dr. Dafna Gen, Office of the Chief Scientist, Ministry of Education.
- 2018      Member of the development team of a MOOC – Massive Open Online Course, on the subject of Geometric Auxiliary Construction for college students in collaboration with Dr. Biton, Y., Dr. Kouropatov, A., Dr. Harel, R.. As part of the joint management of the Center for Educational Technology, Levinsky- Academic College of Education, and Sha'an-an- Academic Religious College of Education. <https://campus.gov.il/course/levinsky-geocons/>
- 2017      Team member and researcher in the project "Ramzor to Rishon Lezion - Mathematical Greenhouse" - Development of leadership mathematics teachers. Funded by the Trump Foundation, led by Prof. Atara Shriki.

- 2003-2013 I served for over a decade as the senior assistant to the superintendent of mathematics school at the Ministry of Education, responsible for 10th-12th grade mathematics education.
- 1996-1997 Participated in the "Manor" program for developing mathematics teacher educators' leadership, Feinberg College, Weizmann Institute of Science.

### **Reviewer Experience**

- 2026- Reviewer for Interactive Learning Environments (IF=1.976, Q1)
- 2025-Present Reviewer for Teaching and Teacher Education. (IF=1.7, Q1).
- 2025-Present Reviewer for ICRE Israeli Conference on Research in Education 2025.
- 2025- Present Reviewer for Asian Journal of Education and Science Studies.
- 2025- Present Reviewer for Journal of Mathematics Teacher Education (IF=1.367, Q1).
- 2024- Present Reviewer for Technology, Knowledge and Learning (IF=3; Q1).
- 2024 - Present Reviewer for Digital Experiences in Mathematics Education.
- 2024 – Present Reviewer for International Journal of Artificial Intelligence in Education (IF=4.7; Q1).
- 2023 - Present Reviewer for an annual conference on "Connecting action and research in education". Ben Gurion University, Israel.
- 2021-Present Reviewer for EJMSTE Eurasia Journal of Mathematics, Science and Technology Education. (Q2)
- 2020- Present Reviewer for Journal of Cognitive Education and Psychology.
- 2018– Present Reviewer for International Journal of Science and Mathematics Education (IF=1.9; Q1).
- 2017– Present Reviewer for Jerusalem Conference on Research in Mathematics Education.
- 2015- Present Reviewer for International Journal of Mathematical Education in Science and Technology.
- 2014- Present Reviewer for The Israel Journal of Research in Mathematics Education, Israel [Hebrew].

### **Academic Staff Development Committee**

2026- Member, Academic Staff Development Committee, Yezreel Valley College.  
 2023 - Member, Academic Staff Development Committee, Western Galilee College.  
 2023 - Member, Academic Staff Development Committee, Gordon Academic College of Education.  
 2021 – Member, American Educational Research Association.  
 2017-2019 - Academic advisor to the "Vidaktika" project - A framework for the professional development of mathematics teachers at the level of 5 units, following self-video, Department of Science Education, Weizmann Institute of Science, Rehovot, Israel.

## **6. Participation in Scholarly Conferences**

### **A. Active Participation**

#### **International conferences**

<b>Date</b>	<b>Name of Conference</b>	<b>Place of Conference</b>	<b>Subject of Lecture/Discussion</b>	<b>Role</b>
July 2026	<i>The 49<sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education (PME)</i>	Helsinki, Finland	Students' and teachers' perspectives on social-emotional support when learning mathematics via anonymous WhatsApp posts  Accepted as Research Report  (With Dr. Biton Yaniv and Dr. Olga Fellus)	presenter
July 2026	<i>The 49<sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education (PME)</i>	Helsinki, Finland	The contribution of generative AI (ChatGPT) to pre-service mathematics teachers' problem posing  Accepted as oral communication  (With Dr. Biton Yaniv)	Co-author

July 2026	<i>EAERLY SIG 2 Conference 2026 Comprehension of Text and Graphics in a World of Uncertainty</i>	Geneva Switzerland	Bridging Dynamic Geometry and GenAI: A Multi-Environment Approach to Developing Teachers' TPACK.  Accepted as a poster presentation  (With Dr. Anat Klemer)	Co-author
March 2026	<i>International Consortium for Research in Science and Mathematics Education (ICRSME)</i>	Online	Prospective Teachers' Development of Critical Thinking Through Mathematical Paradoxes & Generative AI. (With Prof. Nitsa Movshovitz-Hadar)	Presenter
Dec. 2025	Incorporating Technologies in Teaching Mathematics: Conference Honoring Ada Lovelace's Birthday	online	Visualizing Understanding: The Role of Dynamic Technology in Addressing Persistent Geometry Misconceptions. (With Fellus Olga)	Presenter
June 2025	The International Conference on Innovation and Entrepreneurship in Education	Acre, Israel	Generative AI as a pedagogical partner: Supporting TPACK development through utilizing dynamic geometry environments (With Klemer, A.)	Presenter
Feb. 2025	The 14 <sup>th</sup> Congress of the European Society for Research in Mathematics Education (CERME14) TWG10	Bolzano, Italy	Mathematical problem-posing according to defined educational needs, utilizing generative AI as a lever to enhance pre-service mathematics teachers' TPACK (With Biton, Y.)	Presenter

Nov. 2024	ICERI2024 – The 17th Annual International Conference of Education, Research and Innovation	Seville, Spain 11th-13th Nov. 2024	Mathematics teachers' TPACK development as a result of posing problems in a dynamic geometry environment	Presenter
July 2024	The 15 <sup>th</sup> International Congress on Mathematical Education (ICME)	Sydney, Australia	Changing practices in a changing world: the dynamics of TPACK in a mathematics teacher educator's task design (Research Report) (With Fellus, O.)	Presenter
July 2023	The 46 <sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education (PME)	Haifa University, Israel	WhatsApp group + Bagrut = Bagroup: Teachers' perspectives (Poster) (With Biton, Y.)	Presenter
			Communicating 21st-century competencies while bridging between contemporary and school mathematics (Oral Communication) (With Movshovitz-Hadar, N., Shir, K., Shriki, A., & Fell, M.)	Co-author
			longitudinal impact of mathematics news snapshots on high-school students' perceptions of mathematics (Poster) (With Silverman, B., Shriki, A. & Movshovitz-Hadar, N.)	Co-author
July 2023	The 13 <sup>th</sup> Congress of the European Society for Research in Mathematics Education (CERME13) TWG15	Bodaphesht, Hungary	Teachers' attitudes towards technology during emergency remote learning (With Klemer, A., Miedijensky, S., Herscu-Kluska, R., & Kouropatov, A.)	Presenter

			Science and mathematics teachers' attitudes and emotions regarding technology integration (With Miedijensky, S., Klemer, A., Raveh, I., Lavie, I. & Wagner-Gershgoren, I.)	Presenter
			Reaction for four presentations – Session 3	Presenter
June 2023	Passion and Professionalism in Teacher Education	The MOFET Institute, Tel Aviv	Passion and professionalism informed by teachers' perspectives on technologically-supported environments	Full session chair
			Pedagogical content awareness: A possible framework to study teachers' mentoring (With Lehavi, Y., & Merzel, A.)	Co-author
			Using evidence-based Curiosity-Driven Discourse for enhancing mathematics teacher instructors' professional awareness (With Merzel, A., & Lehavi, Y.)	Presenter
			Teachers' attitudes and emotions regarding the integration of technology into teaching (With Miedijensky, S., Klemer, A., Raveh, I., Lavie, I. & Wagner-Gershgoren, I.)	Presenter
			Teachers' attitudes about the computerized technology tools they incorporate in their teaching (With Klemer, A.,	Co-author

			Miedijensky, S., Herscu-Kluska, R., & Kouropatov, A.)	
Sep. 2022	CADGME – Conference on Digital Tools in Mathematics Education	Lev Institute, Jerusalem, Israel	Digital tools before and since the outbreak of the COVID-19 pandemic: mathematics and science teachers' priorities (With Kouropatov, A., Klemer, A., Miedijensky, S., & Herscu-Kluska, R.)	Co-author as leader of research group
July 2022	The 6 <sup>th</sup> International conference on advanced research in education, teaching and learning	University College of Dublin (UCD) Dublin, Ireland	Personalization of mathematics teaching based on student's mathematical-communication-forms (With Levi, Y., & Movshovitz-Hadar, N.)	Presenter
July 2022	The 45 <sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education: PME	Alicante, Spain	Personalization of mathematics teaching based on students' mathematical communication forms (Poster) (With Levi, Y., & Movshovitz-Hadar, N.)	Presenter
July 2022	The wonder of STEM and STEAM education: What, why, and how?	Mofet Institute Online	Implementing STEAM education: Towards a scalable pedagogical paradigm (With Nachshon, M., Fuhrmann, T., Fellus, O., Miedijensky, S., & Biton, Y.)	Leader of Research & Development Group
Feb. 2022	ATEE (Association for Teacher Education in Europe) ICT in education & training in times of pandemic	Online (Universidad de Granada, Spain)	Mathematics and science teachers' attitudes towards using technology for learning before and during the pandemic (With Kouropatov, A., Klemer, A., Miedijensky, S., & Herscu-	co-author as the leader of a research group

			Kluska, R.)	
Feb. 2022	The 12 <sup>th</sup> Congress of the European Society for Research in Mathematics Education (CERME12) TWG-15	Online - Following the spread of the coronavirus Free University of Bozen-Bolzano	Teachers' perceptions of teaching and learning mathematics in the WhatsApp environment through the "Bagroup" project (With Biton, Y.)	
			Students' perceptions of learning mathematics in the WhatsApp environment through the Bagroup project (With Biton, Y.)	Presenter as co-author
July 2021	ICME-14: The 14 <sup>th</sup> International Congress on Mathematical Education, Shanghai	Online - Following the spread of the coronavirus East China Normal University, China	A multi-stage attempt at narrowing the gap between contemporary mathematics and High school mathematics. (Research Report) (With Movshovitz-Hadar, N., Shir, K., Shriki, A., & Silverman, B.)	Participating as co-author
			Interweaving mathematics-News-Snapshots in class: Implications for teachers horizon content knowledge (Research Report) (With Shriki, A., Silverman, B., & Movshovitz-Hadar, N.)	Presenter
Apr. 2021	AREA - American Educational Research Association Virtual Annual Meeting, Accepting Educational Responsibility	Online - Following the spread of the coronavirus	Heightening teachers' professional awareness in video-based peer discourse to develop specialized content knowledge (With Merzel, A., & Lehavi, Y.)	Presenter
			Curiosity-driven discourse as	Participating

			an opportunity for mentors' professional growth as teachers (With Jutkowitz, R., Merzel, A., & Lehavi, Y.)	as co-author
			Introducing pedagogical content awareness to model growth in the context of teacher peer (With Lehavi, Y.& Merzel, A.)	Participating as co-author
Feb. 2020	ICMI 25 conference-proceedings: Teachers of Mathematics Working and Learning in Collaborative Groups. Theme D .The International Commission on Mathematical Instruction	Lisbon, Portugal	Ramzor – A digital environment that constitutes opportunities for mathematics teachers' collaboration (Research Report) (With Shriki, A., & Movshovitz-Hadar, N.)	Presenter
Aug. 2019	The Conference of European Science Education Research Association (ESERA)	Bologna, Italy	Employing curiosity-driven video-based discourse to facilitate teachers as mentors of teachers (Workshop Group) (With Lehavi, Y., Merzel, A., & Baram, A.)	Co-author
Aug. 2019	The 15 <sup>th</sup> International Conference of The Mathematics Education for the Future Project: Theory and Practice: An Interface or A Great Divide?	Maynooth University, Kildare, Ireland	Bridging between school mathematics and contemporary mathematics: Turning a dream into reality (With Movshovitz-Hadar, N., Shir, K., Shriki, A., Silverman, B., & Zigerson, V.)	Co-author
June 2019	The Story of Innovation in Teacher Education	MOFET Institute, Tel-Aviv, Israel	High-school teachers' professional development towards interweaving contemporary disciplinary	Presenter

			<p>knowledge in school: The case of mathematics-news-snapshots (Workshop Group) (With Movshovitz-Hadar, N., Shir, K., Shriki, A., Silverman, B., &amp; Zigerson, V.)</p>	
			<p>Mathematical Discourse as a Lever for Understanding the Concepts of "Area" and "Perimeter" among Fifth Graders. (Poster) (With Saaida, H. )</p>	<p>Co-author and participate as a facilitator of the graduate student</p>
			<p>"What if not?" Inquiry method using technology for developing students' mathematical knowledge for teaching (Research Report) (With Oberman. J., &amp; Stupel, M.)</p>	<p>Presenter</p>
			<p>Teachers as mentors of teachers: A new dimension in teachers' professional development (Workshop Group) (With Lehavi. Y., Merzel. A., &amp; Baram. A.)</p>	<p>Presenter</p>
June 2019	International conference The Future of Education	Florence, Italy	<p>Self-video-based discourse as a lever for developing pre-service mathematical knowledge for teaching (With Lehavi. Y, Merzel. A., Baram. A., &amp; Eylon. B.)</p>	<p>Presenter</p>
			<p>Educational and experiential</p>	<p>Presenter</p>

			activities for students and teachers of mathematics and sciences in a classical museum of archaeology (With Segal, D.)	
April 2019	NCTM research conference	San Diego Convention Center, California.	Refreshing high school curricula with mathematics-news-snapshots (background for leading a discussion session) (With Movshovitz-Hadar, N., Shir, K., Shriki, A., Silverman, B., & Zigerson, S.)	Co-author
Feb. 2019	CERME 11 TWG18b	Utrecht University, the Netherlands	Interweaving mathematics news snapshots as a facilitator for the development of mathematical knowledge for teaching (Research Report) (With Shriki, A., Movshovitz-Hadar, N., & Silverman, B.)	Presenter
Nov. 2018	ICERI – the 11th Annual International Conference of Education, Research and Innovation	Seville, Spain	Introducing high-school students to contemporary mathematics through mathematics-news-snapshots: Networking with mathematics educators about meeting the challenge (Research Report) (With Movshovitz-Hadar, N., Shir, K., Shriki, A., Silverman, B., & Zigerson, V.)	Participating as co-author
July 2018	Contemporary Mathematics Education conference (CME)	Warsaw, Poland	Closing the gap between school mathematics and contemporary mathematics: Introducing students to MathematicS-News-Snapshots (Workshop)	Co-author

			(With Movshovitz-Hadar, N., Shriki, A., Zigerson, V., Silverman, B., & Shir, K.)	
			Pre-service teachers' knowledge about shifting between function representations (Research Report) (With Ovadiya, T.)	Presenter
July 2018	The 42 <sup>nd</sup> Conference of the International Group for the Psychology of Mathematics Education: PME	Umeå, Sweden	Using self-video-based conversation in training mathematics teacher instructors. (Research Report) (With Lehavi, Y., Merzel, A., Baram, A., & Eylon, B.)	Presenter
			Graduate students' conceptual understanding of shifting between representations. (Poster) (With Ovadiya, T.)	Presenter
			The effect of exposing students to Mathematics-News-Snapshots on their image of mathematics (Poster) (With Movshovitz-Hadar, N., & Shriki, A.)	Presenter
Feb. 2018	The Conference of International Research Group on Physics Teaching (GIREP)	San-Sebastian, Spain	Elevating physics teachers' instruction using video-based didactics - A model of growth in professional awareness (With Merzel, A., Lehavi, Y., Baram A., & Eylon B-S.)	Co-author
July 2017	The Conference of International Research Group on Physics Teaching	Dublin, Ireland	Using self-video-based conversations in training physics teachers (With Lehavi,	Co-author

	(GIREP)		Y., Merzel, A., Baram, A., & Eylon, B-S.)	
July 2017	The 41 <sup>st</sup> Conference of the International Group for the Psychology of Mathematics Education (PME)	Singapore	Mentoring and collaborating on lesson plans as a means for training mathematics teachers towards teaching higher levels (With Shriki, A., & Movshovitz-Hadar, N.)	Presenter
			Principles in designing technology-integrated geometry tasks for teaching teachers. (Research Report) (With Ovadia, T.)	Participating as co-author
Sept. 2016	The 6 <sup>th</sup> Central- and Eastern European Conference on Computer Algebra and Dynamic Geometry Systems in Mathematics Education, CADGME	Targu Mures, Romania	The development of interesting connections between the radiuses of circles that are inscribed in or by triangles, and the discovery of unique features, with algebraic manipulations and dynamic exploration (With Sigler, A., & Oxman, O.2016)	Participating as co-author
			Problem posing and problem-solving of geometrical configurations by integrating dynamic geometry software (With Sigler, A., & Stupel, M.)	Participating as co-author
Aug. 2016	The 40 <sup>th</sup> conference of the International Group for the Psychology of Mathematics Education PME	Szeged, Hungary	Facilitating mathematics teachers' sharing of lesson plans (Research Report) (With Shriki, A., & Movshovitz-Hadar, N.)	Presenter
July 2015	The 9 <sup>th</sup> Annual	Athens, Greece	Making use of dynamic	Participating

	International Conference on Mathematics & Statistics: Education & Applications		software and mathematical tools in the solution of extremum problems in geometry (With Oxman, V., & Stupel, M.)	as co-author
			Surprising results of an investigation of loci using dynamic software (With Oxman, V., & Stupel, M.)	Presenter

### National professional conferences

Date	Name of Conference	Place of Conference	The subject of the Lecture/Discussion	Role
April 2026	<i>Mathematics as Creation: Between Human Intelligence and Dialogue with a Machine</i>	Online Western Galilee Academic College	Session titled: Collaborative Process and Iterative Dialogue: Teachers and Artificial Intelligence in Geometry (With Dr. Anat Klemer)	Leading and presenting the session
Feb 2026	<i>JCRME14 - The 14th Jerusalem Conference on Research in Mathematics Education</i>	Lev Institute, Jerusalem, Israel	Bagroup project from teachers' perspective: Opportunities and challenges in integrating the social network WhatsApp for teaching high-school mathematics. Presented as a poster presentation. (With Dr. Biton Yaniv)	Presenting
Feb. 2026	<i>JCRME14 - The 14th Jerusalem Conference on Research in Mathematics Education</i>	Jerusalem	An instrumental approach to designing geometric inquiry tasks and its contribution to the development of mathematics teachers' TPACK. Presented as a short research report. (With Dr. Anat Klemer)	Co-author
July 2025	The Annual International	Oranim Academic	The contribution of integrating artificial intelligence during problem-	Full session chairs

	Conference on Creativity in Teaching	College of Education	posing according to the educational needs defined by secondary school mathematics teaching students for their TPACK knowledge (With Biton, Y.)	(Symposium) And Presenter
			Dialogues between mathematics teachers and GenAI during the design of geometry tasks that combine two dynamic technological environments and their contribution to teachers' TPACK (With Klemer, A.)	Full session chair (Symposium) And Co-author
			How the use of generative artificial intelligence during the planning of pedagogical and mathematical events contributes to the TPACK of mathematics teacher educators (With Biton, Y., Segal, R., & Alush, K.)	Full session chair (Symposium) And Co-author
			Dialogue between mathematics teachers and artificial intelligence during the planning of geometry inquiry and its contribution to the development of their 21st-century skills (With Klemer, A.)	Presenter
July 2025	Icer - Israeli Conference on Education Research	Acre, Israel	Teachers' and students' perspectives on WhatsApp-based social-emotional support in mathematics education (Poster) (With Biton, Y.)	Presenter
Feb. 2025	JCRME14 - the 14th Jerusalem Conference on Research in Mathematics Education	Lev Institute, Jerusalem, Israel	The process of posing mathematics problems through dialogue with artificial intelligence and its contribution to the TPACK knowledge of pre-service mathematics teachers (With Biton, Y.)	Presenter
July 2024			Characterization of the pedagogical-	Presenter

	The Annual International Conference on Creativity in Teaching	Oranim Academic College of Education	technological knowledge that mathematics teachers acquired and transferred from distance teaching during the Covid-19 to face-to-face teaching (With Fleer, E.)	
"Teaching in the WhatsApp environment allowed me to meet the specific needs of each student" - Teachers' perception of mathematics learning processes within the "Bagroup" project (With Biton, Y.)			Presenter	
Things I saw from there - About teaching and research in the context of integrating technologies and education in a STEM approach, the experience of meeting the educational act in universities in Europe and the U.S.A.			Presenter	
July 2023	The Annual International Conference on Creativity in Teaching	Oranim Academic College of Education	Processes in practice in the department of mathematical education and in the master's degree program in prism's lens	Presenter
			Examining the effects of an technological learning environment for teaching geometry using paper folding on student achievement and teacher attitudes.	Presenter
			Implementing education in STEM approach combined with SEL processes and professional development of science and math teachers. (With Nachshon, M., Rom, A., & Eldar, O.)	Presenter
			TPACK & EMOTIONS - Of math teachers and science that incorporate	Full session chair

			teaching technologies	(Symposium)
			Mathematics and science teachers attitude and emotions regarding the integration of technology into teaching (With Miedijensky, S., Klemer, A., Rave, I., Lavy, I., & Wagner, I.)	Presenter
			Mathematics and science teachers attitudes towards their TPACK and the uses they make of integrating technological tools in teaching and the relationship between them (With Lavy, I., Wagner, I., Miedijensky, S., Rave, I., & Klemer, A.)	Participating as co-author
			Teachers' attitudes towards integrating technological tools in teaching mathematics and science before and during the coronavirus pandemic (With Klemer, A., Miedijensky, S., Korporatov, A., & Herscu-Kluska, R.)	Participating as co-author
Feb. 2023	JCRME11 - The 11 <sup>th</sup> Jerusalem Conference on Research in Mathematics Education	Lev Institute, Jerusalem, Israel	Science and mathematics teachers' attitudes regarding their TPACK and their emotions (With Miedijensky, S., Klemer, A., Raveh, I., Lavie, I., & Wagner-Gershgoren, I.)	Presenter
			Analyzing the potential of existing teaching materials for imparting 21 <sup>st</sup> century skills - The case of Mathematics News Snapshots (MNS) in mathematics (Working Group) (With Movshovitz-Hadar, N., Eisenberg, E., Fell, M., Shir, K., & Shriki, A.)	Presenter
July 2022	The national	Online	Attitudes of mathematics and science	Participating

	conference for teaching mathematics in elementary education	conference National Center for Mathematics Teachers University of Haifa	teachers towards their technological knowledge in teaching, before and during the corona epidemic (With Klemer, A., Miedijensky, S., Korporatov, A., & Herscu-Kluska, R.)	as co-author and leader of research group
July 2022	The annual conference for study, perusal and creation	Oranim Academic College of Education	SEL integrated with STEAM at Oranim Academic College of Education - Symposium	Presenter
Feb. 2022	JCRME10 - The 10 <sup>th</sup> Jerusalem Conference on Research in Mathematics Education	Online conference Lev Institute Jerusalem	Personalization of mathematics teaching in reinforcement groups [Hebrew] (With Levi, Y., & Movshovitz-Hadar, N.)	Presenter
			Students' perceptions of learning mathematics in the WhatsApp environment as part of a 'Bagroup' program [Hebrew] (With Biton, Y.)	Participating as co-author
July 2021	The 21 <sup>st</sup> science conference of research study and creativity	Oranim Academic College of Education	Designing tasks using technological tools in teaching mathematics and science [In Hebrew] (With Ovadiya, T., Krupatov, A., Eldar, O., Lehavi, Y., Nachson, M., Lavi, I, Basan, R., & Medijinski, S. (2021)	Participating as co-author
			Teachers' perception on the contribution of integrating mathematical news snapshots in teaching to the development of mathematical knowledge for teaching [Hebrew]	Presenter
June 2021	Prizma – Leading the Assimilation of	Online conference	Integrating innovative technological environments in mathematics teaching	Presenter

	Technologies for Officials in Colleges and Universities.	The MOFET Institute, Tel Aviv	that includes a task design process for students [Hebrew]	
Feb. 2020	JCRME8 - The 8 <sup>th</sup> Jerusalem Conference on Research in Mathematics Education	Lev Institute, Jerusalem, Israel	Integrating mathematical news snapshots in high-school mathematical lessons as a lever for developing mathematical knowledge for teaching (Research Report)	Presenter
			Mathematical discourse as a lever for understanding development the concepts area and perimeter of polygon among fifth grades students. (Research Report)	Presenter
			How does ongoing exposure to mathematical news affect high school students' perceptions of mathematics? (Research Report) (With Silverman, B., Movshovitz-Hadar, N., Shriki, A)	Participating as co-author
			The Contribution of integrating game-based tasks to mathematical and pedagogical Knowledge building of pre-service teachers (Research for Discussion) (With Sinitsky, I., Stupel, M.)	Participating as co-author
Jan. 2019	JCRME7 - The 7 <sup>th</sup> Jerusalem Conference on Research in Mathematics Education	Lev Institute, Jerusalem, Israel	Self- video-based discourse as a tool for professional development of mathematics instructors (Research Report)	Presenter
			On research in mathematics education in Israel - Reflections and appeals (Discussion group)	Presenter

July 2018	Creativity in Teaching - International conference	Oranim Academic College Education	Developing a community of teachers as a lever to empower inexperienced teachers to teach 5 units of mathematics - the case of "Ramzor Latzafon" (Research Report)	Presenter
Feb. 2018	JCRME6 - The 6 <sup>th</sup> Jerusalem Conference on Research in Mathematics Education	Lev Institute, Jerusalem, Israel	Design geometry tasks integrate technology into a teacher's learning environment. (Research Report)	Presenter
			The mentoring model is a lever for the professional development of mathematics teachers at the level of 5 units. (Research Report)	Presenter
			Math News Snapshots for high school students (Video poster) (With Movshovitz-Hadar, N., Berman, A., Shriki, A., Zigerson, V., Silverman, B., & Shir, K.)	Co-presentation
Feb. 2017	Entry into the teaching profession: A challenge and an opportunity	Gordon College, Haifa	Project "Ramzor Latzafon" - Developing of teachers community as a lever to empowering inexperienced teachers for teaching at 5 units mathematics	Presenter
Nov. 2016	Annual meeting of technology integration in Mathematics Education	Gordon College, Haifa	Use of computer technology to study properties of conservation and change	Presenter
April 2016	Annual meeting of high school mathematics teacher	Shfayim, Israel	Teaching math in A level heterogeneous class, how to do it?	Presenter
Feb 2016	JCRME4 - The 4 <sup>th</sup> Jerusalem Conference on Research in Mathematics	Lev Institute, Jerusalem, Israel	Project "Ramzor Latzafon" - Actions, insights, and challenges (With Movshovitz-Hadar, N., Zigerson, V., & Shriki, A.)	Co-presentation

	Education			
March 2015	annual meeting of high school mathematics teachers	Shfayim, Israel	Loci with preservation properties using dynamic software	Presenter
			Ramzor Project (Movshovitz-Hadar, N., Zigerson, V., & Shriki, A.)	Co-presentation
Oct. 2014	The Study conference	Gordon College of Education, Israel	Finding a locus with a conserved property through a combination of mathematical tools and dynamic geometric software.	Presenter
Feb. 2014	The 15 <sup>th</sup> science conference of research study and creativity	Oranim Academic College Education	Characterizing the knowledge and teaching of mathematics teacher educators	Presenter

**b. Organization of Conferences or Sessions**

<b>Date</b>	<b>Name of Conference</b>	<b>Place of Conference</b>	<b>Subject of Conference/ Role at Conference/ Comments</b>	<b>Role</b>
July 2026	Research Study, and Creation	Oranim College of Education	Members of the academic Conference Committee, Research Study, and Creation, Oranim College of Education	Member of the conference committee
April 2026	Leading excellence in STEM in teacher training	ZOOM	Head of the Mathematics Education department in the elementary grade B.Ed.	A member of the team leading the conference
June 2023	Passion and Professionalism in Teacher Education	The MOFET Institute, Tel Aviv	Session: Passion and professionalism informed by teachers' perspectives on technologically supported environments	Session organizer and chair

Jan. 2023	Research conference	The Faculty of Advanced Studies, Oranim Academic College of Education	Master's degree program in Mathematics Education in the elementary grade	Organizer and head of the conference
Feb. 2023	JCRME11 - the 11 <sup>th</sup> Jerusalem Conference on Research in Mathematics Education	Lev Institute Jerusalem	Integrating technology in mathematics and science teaching: Aspects of technological pedagogical content knowledge and teachers' emotions	Session organizer and chair
July 2022	The wonder of STEM and STEAM education: What, Why, and How?	Mofet Institute Online	Implementing STEAM Education	A member of the Research & Development group and of the team leading the conference
May 2022	S-T-E-A-M! The Whole is Greater Than the Sum of its Parts - International symposium	Oranim College of Education and the University of Ottawa, Canada, and CET- The Center for Educational Technology Online	Master's degree program in Mathematics Education at the elementary grade level	Conductor
May 2022	STEAM symposium	ZOOM - Oranim	Joint seminar for students of Mathematics and Science in	Conductor

		Academic College of Education	elementary school and high school: Presentation of students' lesson plans using STEAM approach.	
2021	SEL Integrated with STEM (SIS)	Oranim Academic College of Education	Seminar for faculty members from Mathematics and Science Education in elementary school and high school	Conductor
2019-2020	JCRME8 - The 8 <sup>th</sup> Jerusalem Conference on Research in Mathematics Education	Lev Institute, Jerusalem, Israel	An academic meeting between researchers and a presentation of research in mathematics education	Head of JCRME8
2020	A different way of Teaching science at the Elementary School in"	Oranim Academic College of Education	Seminar for Primary School Science teachers and graduate students in Science Education - Faculty of Advanced Studies	Conductor
2020	Integrating Technology in Online Mathematics Teaching at the Elementary School	Oranim Academic College of Education	Seminar for Primary School Mathematics teachers and graduate students in Mathematics Education program - Faculty of Advanced Studies	Conductor
2018-2019	JCRME7 - The 7 <sup>th</sup> Jerusalem Conference on Research in Mathematics Education	Lev Institute, Jerusalem, Israel	An academic meeting between researchers and presentation of research in mathematics education	A Member JCRME7 conference program committee

### **7. Invited Lectures\ Colloquium Talks**

<b>Date</b>	<b>Place of Lecture</b>	<b>Name of Forum</b>	<b>Presentation/Comments</b>
Sep 2025	MUZA, Eretz Israel	Invited lecture by the	Artificial Intelligence and the Big

	Museum, Tel Aviv	leaders of "Alumot," a program for leaders in an academic institution, on behalf of the Prime Minister's Office, Mofet Institute, Tel Aviv, Israel	Pedagogical Questions: From Philosophy to Practice
May 2024	Oranim Academic College of Education	Invited lecture by the head of the Department for Secondary School Teacher Training for faculty members serving as lecturers for the didactics course	Improving the professional awareness of teachers and pedagogical teacher instructors using self video-based curiosity-driven discourse
March 2024	Research Authority – in Oranim Academic College of Education - ZOOM	Research Authority for academic staf	A methodological dilemma accompanies intervention research in the field
Sep. 2023	Research Authority – in Oranim Academic College of Education	Oranim academic staff	Insights from submitting a research proposal
Sep. 2023	The Faculty of Mathematics Education, Bridgewater University, Massachusetts, USA	B.Ed. students of mathematics Education	The relationship between the construction trajectory of geometric objects in a dynamic geometry environment and their definition and properties
May 2023	Girona University, Girona, Spain	The European Union programme education, training, youth and sport	Geometric Inquiry activities with integration of technology – GeoGebra. As part of Erasmus Mobility
May 2023	The Faculty of Mathematics Education, Girona University, Spain	Erasmus Mobility Invited Three Lectures with Workshops	Geometric Inquiry activities with integration of technology - GeoGebra

April 2022	Oranim Academic College of Education Online	The department seminar in the Preschool Education Department	Self-video-based Curiosity Driven Discourse as a lever to enhance pre- service teachers' professional development
March 2022	Oranim Academic College of Education Online	The department seminar in M.teach. program	Self video based Curiosity Driven Discourse as a lever to enhance teachers' professional development
Oct. 2021	The Northern District Ministry of Education Online	Invited Lecture Online Conference for Mathematics Teachers in Elementary School for the Druze-Circassian and Bedouin Sectors,	Integrating technology in mathematics teaching - from a static task in the textbook to a dynamic task What are the benefits of this?
Feb. 2021	JCRME9 - the 9 <sup>th</sup> Jerusalem Conference on Research in Mathematics Education Online	Research in Mathematics Education	The Speed the time and the distance of learning and teaching on the social network [Hebrew]
Dec. 2019	Oranim Academic College of Education	The Faculty of Education - Heads of B.Ed. Departments	Implementing curiosity-driven discourse as a lever for teachers' professional awareness
Dec. 2019	Oranim Academic College of Education	The Faculty of Advanced Studies - Heads of the M.Ed. program	Curiosity-driven discourse based on self-video to raise teachers' levels of awareness
June 2018	Technion, Israel	The Faculty of Education, Science and Technology, Departmental seminar	Research accompanying the "Ramzor North" project 2014-2017
May 2015	Shannan College of Education	Joint meeting of the faculty of mathematics education of Shannan College and Gordon College members	Preservation and difference in geometry
March 2013	Technion, Israel	The Faculty of Education,	Characterizing the knowledge and

		Science and Technology Departmental seminar	teaching work of mathematics teacher educators
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## 10. Teaching

### a. Courses Taught in Recent Years

Year	Name of Course	Type of Course Lecture/Seminar/ Workshop/High Learn Course/ Introduction Course (Mandatory)	Degree	Number of Students
<b>Oranim Academic College of Education</b>				
2025-present	Problem-posing by combining generative artificial intelligence while preserving and developing human intelligence	Hybrid Course	M.Ed. & B.Ed.	21
2024-Present	Mathematics, the queen and handmaiden of human existence	MOOC course	M.Ed.	20
2022-Present	Communicating 21st century skills during teaching and learning	Seminar	M.Teach.	25
2022- Present	Integrating technology in high school mathematics instruction	Lecture and Workshop	M.Ed.	20
2022- Present	Geometric constructions with the help of a ruler and a compass in a technological environment	MOOC - course	M.Ed	35
2018-Present	Mathematical Education Studies (STEAM Education)	Seminar	B.Ed.	30
2015-Present	Integrating technology in primary geometry instruction	Lecture and Workshop	M.Ed.	20
2015-2022	Master's project supervision	Seminar	M.Ed.	9

2015-2022	Teaching and learning mathematics through inquiry	Seminar	M.Ed.	20
2017-2019	Non-routine mathematics problems Solution	Asynchronous online course	B.Ed.	24
2011-2018	Didactic of mathematics, junior high school level	Lecture and Workshop	B.Ed., B.Sc.	35
2011-2018	Didactic of mathematics, senior high school level	Lecture and Workshop	B.Ed., B.Sc.	35
2016	Number theory	Lecture	B.Ed.	28
2011-2012	statistics	Lecture	B.Ed.	24
2011	Analytic Geometry integrated technology approach	Lecture and Workshop	M.Teach.	18
<b>Weizmann Institute</b>				
2019	Integrating technology high school mathematics instruction	Lecture and Workshop	M.A.	10
<b>Technion</b>				
2016	Integrating technology into 5 units (A level) high school mathematics instruction	Lecture and Workshop	The program to expand the scope of certification for high school mathematics teaching 5 units	30
<b>Shannan Academic College of Education</b>				
2016- Present	Integrating technology in mathematics education junior and senior high school level	Lecture and Workshop	B.Ed.	20

2012-Present	Didactics and pedagogy of teaching trigonometry, junior high school, and senior high school level	Lecture and Workshop	B.Ed.	15
2012-Present	Analytic geometry integrated technology approach junior and senior high school level	Lecture and Workshop	B.Ed.	15
2022- Present	Geometric constructions with the help of a ruler and a compass in a technological environment	MOOC - course	B.Ed.	18
2013-2018	Didactic of mathematics, junior high school, and senior high school level	Lecture and Workshop	B.Ed.	20

**b. Supervision of Graduate Students**

<b>Name of Student</b>	<b>Title of Thesis</b>	<b>Degree</b>	<b>Date of Completion / in Progress</b>	<b>Students' Achievements</b>
Hazhar Mahajan	21st Century Skills in Teaching Science in Secondary Schools: Their Implementation from a Teachers' Perspective	M-Teach.	In progress	
Marva Jaber	Instrumental orchestration in the teaching of functions and graphs in combination with the Desmus software in view of teachers' perceptions of their professional knowledge and the teaching processes they implement	M-Teach.	Submitted for evaluation	91
Flayer Erez	Characterization of the pedagogical-technological knowledge mathematics teachers transferred from remote teaching during the Corona to face-to-face teaching	M-Teach.	November 2023	91

Genin Natalia	Professional development of a primary math teacher during the posing and teaching of sustainability issues problem	M.Ed.	January 2023	83
Herman Yardena	An elementary school math teacher's perception of the contribution of integrating children's stories in math lessons to the development of her mathematical and pedagogical knowledge	M.Ed.	December 2022	90
Noentcha Nasrin	The contribution of integrating technological tools in teaching the multiplication table to the development of the knowledge and skill of an elementary school teacher	M.Ed.	December 2022	89
Zvidat Duaa	The contribution of teaching fractions in the inquiry approach with visual aids for the knowledge of mathematics teachers in elementary school	M.Ed.	December 2022	83
Hattib Assil	The contribution of integrating non-routine problems in teaching mathematics in elementary school, to the knowledge of a teacher at the beginning of his career	M.Ed.	December 2022	90
Cohen Einav	The attitudes and beliefs of mathematics teachers regarding algebraic thinking and its integration into the teaching of mathematics in elementary school	M.Ed.	November 2022	89
Amal Yaakov	Characterizing the challenges of a mathematics teacher reflected in the process of connecting unconventional problems to first graders	M.Ed.	December 2021	89
Livnat Karasenty	Characterization of the contribution of posing and integrating open problems in mathematics to the pedagogical and mathematical teacher's knowledge	M.Ed.	December 2021	92

Amal Bokaei	The contribution posing and integrating problems about mathematics in nature to the development of teacher knowledge	M.Ed.	December 2021	99
Nahaeya Chamud	Challenges of mathematics teachers in the process of posing and integrating non-routine problems in elementary school mathematics	M.Ed.	December 2021	86
Affiffa Chir Aldin	The contribution of posing and integrating mathematical problems regarding intelligent consumption in the elementary school for the development of mathematical knowledge for teaching	M.Ed.	December 2021	96
Nariman Hosein	Characterization of teacher knowledge in the process of posing and integrating mathematical problems connected everyday life with multiplication and division for fourth graders	M.Ed.	December 2021	96
Arrin Hallil	Problems posing and integrating regarding the area and perimeter of a rectangle	M.Ed.	December 2021	96
Tavor Keren	Development of a study unit on the subject: Financial education for sixth-grade students	M.Ed.	July 2020	100
Goren Hadas	Characterization of the knowledge and the skills of a teacher instructor for mentoring mathematics teacher biased personal principles - A case study	M.Ed.	July 2020	94
Tapilzki Luba	Teachers' perception of the illustrations' contribution to understanding and reasoning processes through solving a problem	M.Ed.	July 2019	89
Cohen Yamit	Teachers' perception of the contribution of explicit instruction and writing diary discussion to fourth-grade students' mathematical reasoning development	M.Ed.	July 2019	97

Cohen Michal	Development of a study unit on the integration of Fractals in teaching geometry and mathematics	M.Ed.	July 2019	100
Levi Hili	Development of a study unit on geometry in art in the museum	M.Ed.	July 2019	94
Shushlev Irena	Teacher perception of the contribution of extracurricular learning to students' motivation and understanding of length measurement	M.Ed.	July 2019	91
Saidda Hibba	Mathematical discourse as a lever for understanding the concepts of polygons "area" and "perimeter" among 5 <sup>th</sup> graders	M.Ed.	September 2018	96
Yuniss Amal	Transferring the concept of line symmetry from mathematics to everyday life	M.Ed.	September 2018	91
Ben-David Marva	Illustrations as a strategy for solving mathematical questions in mathematics among fifth graders	M.Ed.	July 2017	96
Cohen Dganit	Students' perceptions of the containment relationship in parallelograms family	M.Ed.	Oct 2016	95

### **11. Professional Experience**

- 2021-Present Member of the Steering Committee of the National Forum on the interdisciplinary wonders of education for STEAM, led by Prof. Shriki, A., and Dr. Rigoris, N., Mofet Institute. <https://mofet-web.macam.ac.il/iun/m-event/steam-education/>
- 2020-2021 Leader of the community of mathematics coordinators in Shefar'am - leadership development for leading excellence in mathematics education. Funded by the Trump Foundation, led by Prof. Boris Koichu.
- 2021 Member of the Education Committee that accompanies the Footprints in the Valley Museum. An Educational Experience in Gan Hashlosa National Park.

- 2017-2020 Chairman of the education system at Kibbutz Nir David, Israel. Leading the formal and informal education policy in Kibbutz Nir David, assimilating the policy and decisions of the Ministry of Education.
- 2011-2016 National supervisor, assistant to the superintendent of school mathematics, in charge of a team of over 20 regional supervisors of mathematics teaching at the senior high school grades (10<sup>th</sup> -12<sup>th</sup>).
- 1989-2012 Junior & senior high schools (grades 7th -12th) Mathematics Teacher at senior 5 units level (A level), including preparing students for their matriculation exams in three high schools: Geon-Hayarden school - kibbutz Neve Eitan - 12 years; Brener school - kibbutz Givat Brener – 11 years.
- 2007-2010 Pedagogic School Director "Geon Hayarden", Emek Hamaayanot.
- 2003-2010 A district supervisor of school Mathematics, in charge of a team of over 25 school supervisors of mathematics teaching at the senior high school grades (10<sup>th</sup> -12<sup>th</sup>), Ministry of Education, North district, Israel.
- 2001–2002 Member of the leadership team of mathematics teacher educators in the "Tomorrow 98" project, Upper Galilee, Israel.

## **PUBLICATIONS**

### **A. Ph.D. Dissertation**

Segal, R. (2013). *Characterizing the knowledge and teaching of mathematics teacher educators*. [Unpublished doctoral dissertation]. The Technion – Israel Institute of Technology.

Supervisor: Prof. Boris Koichu and Prof. Orit Zaslavsky

### **B. Scientific Books (Refereed)**

#### **Authored Books – Published**

None

#### **Authored Books - Accepted for Publication**

1. **Segal, R.**, Boaz, S., Shriki, A., Movshovitz-Hadar, N. (In preparation). *"Teaching Mathematics Beyond the Textbook: Insights from the News Snapshot Project,"*. Medera book series, Springer Publishing. The book proposal has been accepted and is in preparation.

### **Edited Books and Special Journal Issues – Published**

None

### **Edited Books and Special Journal Issues - Accepted for Publication**

1. Biton, Y., & Segal, R. (Eds.). (In preparation). Integrating artificial intelligence in mathematical education. *Journal of Research and Review in Mathematical Education* (Special issue). [Hebrew].

### **C. Other Scientific Publications:**

None

### **D. Articles in Refereed Journals**

(Ranked Impact Factor by Web of Science, and Q level by Scimago (SJR))

1. Segal, R., & Movshovitz-Hadar, N. (2026). The potential of a school mathematics programme to support the development of twenty-first-century competencies. *International Journal of Mathematical Education in Science and Technology*, 1–17. <https://doi.org/10.1080/0020739X.2026.2642820> (IF=0.8, Sjr: Q1)
2. Segal, R. (2026). Anonymous WhatsApp-based high school mathematics learning: Comparing teachers' and students' perspectives on social-emotional support. *Eurasia Journal of Mathematics, Science and Technology Education*. Volume 22, Issue 3, Article No: em2789. ISSN:1305-8223 (online). <https://doi.org/10.29333/ejmste/17974> (IF=0.55, sjr: Q2).
3. Segal, R., Stupel, M., & Sigler, A. (2026). Surprising Geometric Constructions: Ancient Tools and Modern Technology. *Resonance Journal of Science Education, Vol. 31, No.2*, 287–301. <https://doi.org/10.1007/s12045-026-1945-z>. Springer (IF=0.157, sjr: Q3). <https://rdcu.be/e5yOd>
4. Segal, R. (2026). Mathematics Teachers Convert Textbook Tasks to Dynamic Ones: How Changing the Problem Architecture Enhances Teachers' TPACK. *The International Journal of Science and Mathematics Education*, 24, 15. DOI <https://doi.org/10.1007/s10763-025-10641-z> (IF=1.108, sjr: Q1). <https://rdcu.be/e13S6>
5. Segal, R., & Biton, Y. (2025). Posing mathematical problems with generative artificial intelligence as a lever for developing pre-service secondary mathematics teachers' technological, pedagogical, and content knowledge. *Devarim, a*

*multidisciplinary academic journal* (Special Issue), *Vol. 18*, p. 93-115, Oranim Academic College of Education. [Hebrew] [Link](#)

6. **Segal, R.**, & Klemer, A. (2025). Dialogic Interactions between mathematics teachers and GenAI: Multi-environment task design and its contribution to TPACK. *The International Journal of Mathematical Education in Science and Technology*. <https://doi.org/10.1080/0020739X.2025.2551363> (IF=0.8,sjr: Q1).
7. **Segal, R.**, & Biton, Y. (2025). Opportunities and challenges reflected in the teaching and learning of mathematics with the WhatsApp social network within 'Bagroup', a national project. *Journal of Research and Review in Mathematical Education*, Vol. 11, pp. 58-74, Shannan Publishing. [Hebrew]. [Link to the paper](#)
8. **Segal, R.**, Miedijensky, S., Klemer, A., Raveh, I., Lavie, I., & Wagner-Gershgoren, I. (2025). The relationship between mathematics and science teacher emotions toward the integration of computer technologies and TPACK. *The International Journal of Mathematical Education in Science and Technology*. <https://doi.org/10.1080/0020739X.2025.2543816> (IF=0.8, Q1)
9. Biton, Y., **Segal, R.**, & Alush, K. (2025). How utilizing generative AI when addressing pedagogical and mathematical events contributes to mathematics teacher educators' TPACK (Technological Pedagogical Content Knowledge). *International Journal of Education in Mathematics, Science, and Technology (IJEMST)*, 13 (4), 895-912. <https://doi.org/10.46328/ijemst.4928>. (IF=1.3, Q2)
10. Fellus, O., **Segal, R.**, Silberman, B., Shriki, A., & Movshovitz-Hadar, N. (2025). Change in mathematics education during a time of crisis: Reflections through the lens of complexity constructs. *European Educational Research Journal*. Vol. 25, Issue 2, March 2026, Pages 253-270. <https://doi.org/10.1177/14749041251330408> (IF=2.4; Q1)
11. **Segal, R.** (2025). The contribution of mentoring and a collaborative platform for documenting and sharing lesson plans to mentees' professional knowledge for teaching mathematics – Mentees' perspective. *Eurasia Journal of Mathematics, Science and Technology Education*, 21 (3), em2599. ISSN:1305-8223. doi: <https://doi.org/10.29333/ejmste/16047> , URL: <https://www.ejmste.com/article/mentoring-and-online-lesson-plan-sharing-platform-contribute-to-mathematics-teachers-growth-teachers-16047>. (IF=0.55, Q2) (views: 713; download: 389)

12. Biton, Y., & Segal, R. (2025). Learning to craft and critically evaluate prompts: The role of generative AI (ChatGPT) in enhancing pre-service mathematics teachers' TPACK and problem-posing skills. *International Journal of Education in Mathematics, Science, and Technology (IJEMST)*, 13(1), 202-223. <https://doi.org/10.46328/ijemst.4654> (IF=1.3, Q2). <file:///C:/Users/Ruti/Downloads/4654-10230-2-PB.pdf>
13. Raveh, I., Lavie, I., Wagner-Gershgoren, I., Miedijensky, S., Segal, R., & Klemer, A. (2025). Mathematics and science teachers: How their perceptions of their TPACK and use of technology interrelate. *EURASIA Journal of Mathematics, Science and Technology Education*, 21 (1), em2565. DOI: <https://doi.org/10.29333/ejmste/15803> (online) URL: <https://www.ejmste.com/article/mathematics-and-science-teachers-how-their-perceptions-of-their-tpack-and-use-of-technology-15803> (IF=0.55, Q2) (views: 1428; download: 666)
14. Segal, R., & Biton, Y. (2024). The contribution that utilizing generative AI for problem posing makes to pre-service high school mathematics teachers' TPACK. *Special Issue on ChatGPT in Education, International Journal of Education in Mathematics, Science, and Technology (IJEMST)*, 12 (6), 1556-1579. <https://doi.org/10.46328/ijemst.4591>. [file:///C:/Users/Owner/Downloads/4591-9892-3-PB%20\(1\).pdf](file:///C:/Users/Owner/Downloads/4591-9892-3-PB%20(1).pdf) (IF=1.3, Q2)
15. Segal, R., & Biton, Y. (2024). Teaching and learning high-school mathematics via WhatsApp: Teachers' perspectives. *Learning Environment Research*, 1-29. <https://doi.org/10.1007/s10984-024-09508-x> or as a PDF here <https://link.springer.com/content/pdf/10.1007/s10984-024-09508-x.pdf>. (IF=1.22, Q1) (2039 Accesses)
16. Biton, Y., & Segal, R. (2024). Learning mathematics via the WhatsApp social network in the Bagroup national project: Students' perceptions. *Eurasia Journal of Mathematics, Science and Technology Education*, 20 (8), em2484. <https://doi.org/10.29333/ejmste/14876>. <https://www.ejmste.com/article/learning-mathematics-via-whatsapp-social-network-in-bagroup-national-project-students-perceptions-14876>. (IF=0.55, Q2) (views: 1831; download: 752)
17. Segal, R., Lehavi, Y., & Merzel, A. (2023). Improving the professional awareness of mathematics teachers and teacher instructors using video-based curiosity-

- driven discourse - A case study. *International Journal of Science and Mathematics Education*, 22, 1083–1106. DOI 10.1007/s10763-023-10418-2. (IF=1.9, Q1)
18. Klemer, A., **Segal, R.**, Miedijensky, S., Herscu-Kluska, R., & Kouropatov, A. (2023). Changes in the attitudes of mathematics and science teachers toward the integration and use of computerized technological tools as a result of the COVID-19 pandemic. *Eurasia Journal of Mathematics, Science and Technology Education*, 19 (7), em2295. <https://doi.org/10.29333/ejmste/13306> (IF=0.55, Q2)
  19. **Segal, R.**, & Stupel, M. (2023). Pre-service mathematics teachers investigating the attributes of inscribed circles by technological and theoretical scaffolding. *International Electronic Journal of Mathematics Education*, 18 (1), em0726. <https://doi.org/10.29333/iejme/1280> (IF=0.5, Q4)
  20. **Segal, R.**, & Stupel, M. (2021). Dynamic research into forms obtained from Van Aubel's theorem when the quadrilateral degenerates to a line segment. *Resonance Journal of Science Education*, 27 (9), 1629-1643. DOI: 10.1007/s12045-022-1454-7. [View and download PDF, https://rdcu.be/cWgW7](https://rdcu.be/cWgW7) (Q3)
  21. Jahangiri, J., **Segal, R.**, & Stupel, M. (2021). Angle-side properties of polygons inscribable in an ellipse. *International Journal of Mathematical Education in Science and Technology*, 53 (7), 1973-1982. DOI: [10.1080/0020739X.2021.1919769](https://doi.org/10.1080/0020739X.2021.1919769). <https://www.tandfonline.com/eprint/5GJI8YTEIVNRK2MUSAXA/full?target=10.1080/0020739X.2021.1919769>. <https://doi.org/10.1080/0020739X.2021.1919769> (IF=0.7, Q2)
  22. **Segal, R.**, Oxman, V., & Stupel, M. (2021). Using dynamic geometry software to enhance specialized content knowledge: Pre-service mathematics teachers' perceptions. *International Electronic Journal of Mathematics Education*, 16 (3), em0647. <https://doi.org/10.29333/iejme/11065>. <https://www.iejme.com/download/using-dynamic-geometry-software-to-enhance-specialized-content-knowledge-pre-service-mathematics-11065.pdf> (IF=0.5, Q4)
  23. **Segal, R.**, & Stupel, M. (2021). On an inequality between the side lengths of a triangle. *North American GeoGebra Journal*, 9 (1), 22-24. ISSN 2162-3856.

24. Stupel, M., & Segal, R. (2021). A proof without words for a challenging problem, all with the help of auxiliary constructions. *International Journal for Technology in Mathematics Education (IJTME)*, 28 (4). (IF=0.225, Q3)
25. Stupel, M., & Segal, R. (2021). Two Proofs without Words to the same task in geometry. *Learning and Teaching Mathematics (LTM)*, 31, 42.
26. Oxman, V., Segal, R., Stupel, M. (2019). A dynamic exploration of the preservation and modification of features that occur when applying a reflection on a point that is inside, above, and outside of different geometric shapes, Including general case inclusion. *Shannan college journal*, 26, 114-120. [Hebrew].
27. Segal, R., Stupel, M., Sigler, A., & Jahangiri, J. (2018). The effectiveness of the ‘what if not’ strategy coupled with dynamic geometry software in an inquiry-based geometry classroom. *International Journal of Mathematical Education in Science and Technology*, 4 (7), 1099-1109. DOI: 10.1080/0020739X.2018.1452302.  
<https://www.tandfonline.com/eprint/T5wNAX32MShUmsnZaNkr/full>  
<https://www.tandfonline.com/eprint/T5wNAX32MShUmsnZaNkr/full?target=10.1080/0020739X.2018.1452302> (IF=0.7, Q2)
28. Sigler, A., Segal, R., & Stupel, M. (2018). Surprising geometric feature obtained by transformation of any grid square. *Shannan college journal*, 23, 147-160. [Hebrew].
29. Segal, R., Sigler, A., & Stupel, M. (2017). A collection of interesting geometric features accompanied by proof that enables investigation while presenting conservation. *Research and Study in Mathematics Education*, 5, 100-117. [Hebrew].
30. Segal, R., Stupel, M., & Sigler, A. (2017). Hidden features of an equilateral triangle - discovery by integrating technological tools. *Shannan College Journal*, 22, 251-277. [Hebrew].
31. Segal, R., Sigler, A., & Stupel, M. (2017). Some more surprising properties of the “king” of triangles. *Journal for Geometry and Graphics, the journal of ISGG, the International Society for Geometry and Graphics*, 21 (1), 79-88. (Q4)
32. Segal, R., Stupel, M., & Sigler, A. (2017). Surprising geometrical properties that are obtained by transformation any quadrilateral into lattice. *The Electronic Journal of Mathematics and Technology*, 11 (1), 58-66.

33. **Segal, R.**, Stupel, M., & Oxman, V. (2016). Dynamic investigation of loci with surprising outcomes and their mathematical explanations. *International Journal of Mathematical Education in Science and Technology*, 47 (3), 443-462. <http://www.tandfonline.com/eprint/WPMwrksiAtkgw7JqdYwV/full> (IF=0.7, Q2)
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#### **E. Articles or Chapters in Scientific Books (Which are not Conference Proceedings)**

##### **Published**

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Educator Expertise. pp 73–99, *Research in Mathematics Education*. Springer, Cham. [https://doi.org/10.1007/978-3-032-08175-9\\_5](https://doi.org/10.1007/978-3-032-08175-9_5)

2. **Segal, R.,** & Biton, Y. (2025). Teachers' points of view on teaching high-school mathematics via the WhatsApp social network. In J. Engelbrecht, G. Oates & M. Borba (Eds.), *social media in the changing mathematics classroom* (pp. 173-196). Springer Series Advances in Mathematics Education. Cham: Springer Nature Switzerland. DOI: 10.1007/978-3-031-82837-9.
3. Biton, Y., & **Segal, R.** (2025). "When I saw others responding, I wanted to be part of it...": Student insights on learning mathematics via the WhatsApp social network. In J. Engelbrecht, G. Oates & M. Borba (Eds.), *social media in the changing mathematics classroom* (pp. 153-172). Springer Series Advances in Mathematics Education. Cham: Springer Nature Switzerland. DOI: 10.1007/978-3-031-82837-9.
4. Movshovitz-Hadar N., Shriki, A., **Segal, R.,** & Silverman, B. (2024). Narrowing the gap between school mathematics and contemporary mathematics - Lessons learned from a four-phase curriculum research and development study. In D. R. Thompson, M. A. Huntley, & C. Suurtamm (Eds.), *Lessons Learned from Research on Mathematics Curriculum - A volume in the series Research in Mathematics Education* (pp. 291-319). Information Age Publishing.
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8. Perll, H., Neria, D., **Segal, R.,** & Sion, N. (2018). Supervision of mathematics

teaching by the Ministry of Education. In N. Movshovitz-Hadar (ed.), *K-12 Mathematics Education in Israel* (pp. 37-50). Israel Mathematics Education K-12. Series on Mathematics Education. <http://www.worldscientific.com/worldscibooks/10.1142/10741>

9. Segal, R., & Biton, Y. (2015). Integrating technology in geometry instruction. In M. Stupel & K. Ziskin (Eds.), *Geometry constructions: Classic, challenging & computerized problems* (Chapter 8, pp. 211-233). Shannan College Publishing. [Hebrew].

## **F. Articles in Conference Proceedings**

### **Articles - Published**

1. Segal, R., Biton, Y., & Fellus, O. (2026). Students' and teachers' perspectives on social-emotional support when learning mathematics via anonymous WhatsApp posts. Accepted for presentation as a Research Report and will be published in the proceedings of the 49th Conference of the International Group for the Psychology of Mathematics Education: PME, Helsinki, Finland, to be held from July 27 to August 1, 2026
2. Biton, Y., Segal, R. (2026). The Contribution of Generative AI (ChatGPT) to Pre-Service Mathematics Teachers' Problem Posing Skills and TPACK. Accepted for presentation as an Oral Communication and will be published in the proceedings of the 49th Conference of the International Group for the Psychology of Mathematics Education: PME, Helsinki, Finland, to be held from July 27 to August 1, 2026
3. Segal, R. & Biton, Y. (2026). Bagroup project from the teachers' perspective: opportunities and challenges in integrating WhatsApp, a social network, into teaching mathematics in upper secondary school. Presented as a Poster Presentation. In N. Ehrenfeld, N. Ben-Dor, R. Barkai, R. Harel, Z. Cohen, S. Sabah, & G. Schwartz (Eds.), Proceedings of the 14th Jerusalem Conference on Research in Mathematics Education (14 JCRME) (p. 158). Jerusalem.
4. Klemer, A., & Segal, R. (2026). An instrumental approach to designing geometric inquiry tasks and its contribution to the development of mathematics teachers' TPACK. Presented as a Short Research Report. In N. Ehrenfeld, N. Ben-Dor, R. Barkai, R. Harel, Z. Cohen, S. Sabah, & G. Schwartz (Eds.), Proceedings of the 14th Jerusalem Conference on Research in Mathematics Education (14 JCRME) (p. 115). Jerusalem.

5. **Segal, R.**, & Biton, Y. (2025). Mathematical problem-posing according to defined educational needs, utilizing generative AI as a lever to enhance pre-service mathematics teachers' TPACK. Proceedings of the Fourteenth Congress of the European Society for Research in Mathematics Education (CERME14), Free University of Bozen-Bolzano; ERME, Feb 2025, Bozen-Bolzano, Italy. hal-05282505. HAL Id: hal-05282505 <https://hal.science/hal-05282505v1>
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10. Movshovitz-Hadar, N. **Segal, R.**, Shir, K., Shriki, A., & Fell, M. (2023). Communicating 21<sup>st</sup>-century competencies while bridging between contemporary and school mathematics. In M. Ayalon, B. Koichu, R. Leikin, L. Rubel & M. Tabach (Eds.), *Proceedings of the 46<sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education* (Vol. 1, pp. 296). Haifa, Israel: PME.
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### **Abstracts**

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2. Fellus, O., & **Segal, R.** (Dec. 2025). Visualizing Understanding: The Role of Dynamic Technology in Addressing Persistent Geometry Misconceptions. *Incorporating Technologies in Teaching Mathematics: Conference Honoring Ada Lovelace's Birthday* (online). Canada. <http://www.fields.utoronto.ca/activities/25-26/ada-lovelace-conference>
3. **Segal, R.**, & Klemer, A. (2025). Dialogues between mathematics teachers and GenAI during the design of geometry tasks that combine two dynamic technological environments and their contribution to teachers' TPACK. [Abstract] In the *Proceedings of the Annual International Conference on Creativity in Teaching*. Oranim Academic College of Education. [Hebrew]
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8. **Segal, R.**, & Klemer, A. (2025). Dialogue between mathematics teachers and artificial intelligence during the planning of inquiry tasks in geometry and its contribution to the development of teachers' 21st-century skills. [Abstract]. In the proceedings of the Annual International Conference on Creativity in Teaching. Oranim Academic College of Education. [Hebrew]
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10. **Segal, R.** (2024). Things I saw there - About teaching and research in the context of integrating technologies and education in a STEM approach, the experience of meeting the educational act in universities in Europe and the USA. [Abstract] In the proceedings of the Research Study and Creativity Conference. Oranim College, Kiryat Tivon, Israel. [Hebrew]
11. Fler, E., & **Segal, R.** (2024). Characterization of the pedagogical-technological knowledge that mathematics teachers acquired and transferred from distance teaching during the Corona to face-to-face teaching. [Abstract] In the proceedings of the Research Study and Creativity Conference. Oranim College, Kiryat Tivon, Israel. [Hebrew].
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15. Klemer, A., **Segal, R.**, Miedijensky, S., Herscu-Kluska, R., & Kouropatov, A. (2023). Teachers' attitudes about the computerized technology tools they incorporate in their teaching. [Abstract]. In the proceedings of the Passion and Professionalism in Teacher Education International conference. The MOFET Institute, Tel Aviv. <https://virtual.oxfordabstracts.com/event/2334/submission/304>
16. Fellus, O., **Segal, R.**, Shriki, A., Silberman, B., & Movshovitz-Hadar, N. (2023). Grassroots level trends in mathematics education in a time of crisis. [Abstract]. In the proceedings of the Passion and Professionalism in Teacher Education International conference. P. 302. The MOFET Institute, Tel Aviv. <https://virtual.oxfordabstracts.com/event/2334/submission/302>
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20. Nachshon, M., **Segal, R.**, Rom, A., & Eldar, O. (2023). Implementing education in a STEM approach combined with SEL processes and professional development of science and math teachers. [Abstract]. In the proceedings of the Annual Conference on Creativity in Teaching. Oranim Academic College of Education. [Hebrew]
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- and creativity. Oranim College, Kiryat Tivon, Israel. [Hebrew].  
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  30. **Segal, R.**, Shriki, A., Movshovitz-Hadar, N., & Zigerson. V. (2018). Developing a community of teachers as a lever to empower inexperienced teachers to teach 5 units of mathematics - The case of "Ramzor Latzafon". [abstract]. *Creativity in Teaching - International conference*. Oranim – Academic College of Education. [Hebrew].
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  32. Saaida, H., & **Segal. R.** (2019). Mathematical discourse as a lever for understanding the concepts of "Area" and "Perimeter" among fifth graders. [abstract]. *The 7th International Conference on Teacher Education: The Story of Innovation in Teacher Education*. Mofet Institute, Israel.
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36. Stupel, M., & **Segal, R.** (2015). Loci with preservation properties using dynamic software. *The proceedings of the Annual meeting of high school mathematics teachers* [abstract]. (p. 20). Shfayim, Israel, March 30, 2015. [Hebrew].
37. **Segal, R.** (2014). Characterizing the knowledge and teaching of mathematics teacher educators. [abstract]. *The 15th science conference of research, study, and creativity*. Oranim College, Kiryat Tivon, Israel. [Hebrew]
38. **Segal, R.** (2014). Finding a locus with a conserved property through a combination of mathematical tools and dynamic geometric software. [abstract]. *The Study conference*. Gordon College of Education, Israel. [Hebrew].

### **Professional reports**

1. **Segal, R.**, Shriki, A., & Movshovitz-Hadar, N. (2020). *Technology environment that accelerates sharing and professional development for mathematics teachers the case of RAMZOR*. Samuel Neaman Institute, for National Policy Studies Technion - Israel Institute of Technology, Haifa, Israel. <https://www.neaman.org.il/EN/Technology-environment-that-accelerates-sharing-and-professional-development-for-mathematics-teachers-The-case-of-RAMZOR>
2. Movshovitz-Hadar, N., Shriki, A., **Segal, R.**, & Zigerson, V. (2017). *Project "Ramzor to the north" activity summary report years 2014-2017*. Samuel Neamann Institute for National Policy Studies Technion - Israel Institute of Technology, Haifa, Israel. [Hebrew]. <https://www.neaman.org.il/Ramzor-to-the-North-publication>

### **I. Other Publications**

**Segal, R.** (2025). What about an archaeological museum and math, geometry, and science?. *News in Antiquities and Heritage Conservation* (April issue, pp. 3-7). Israel Nature and Parks Authority.

**Segal, R.** (2014). *Professional study tour of 5 schools in London for excellent mathematics and physics teachers.* (Summarizing report). Invited by the Trump Foundation, Israel, [Hebrew].

**Segal, R.** (2005). As part of participation in an advanced mathematics course on "mathematical risk financing process" in the Mathematics Department at the Technion, my work on "Absolute priority for retirement savings through pensions over executive insurance" was selected by the lecturer, Prof. Abraham Zaks, and published in the Israeli economic newspaper. Globes. [Hebrew].

#### **J. Other Works Connected with my Scholarly Field**

2026           Invited by Prof. David Harel, President of the Israel National Academy of Sciences, to serve as a member of an academic group of experts from the Israeli National Academy of Sciences, focused on the mental factors that influence persistence in excellence tracks.

2024-2025           Building a study program for a master's degree in three semesters, Faculty of Advanced Studies, Oranim College.

2024           Member of the team authored a book titled: Calculus book for high school students learning at a 4-unit level. Yavneh Publishing Ltd. [Hebrew]

2021-2023           Building a curriculum for the five-year course for a bachelor's degree, a master's degree, and a teaching certificate, the Faculty of Education, the Faculty of Advanced Studies, Oranim College.

2020-2025           Leads an intercollegiate research group at Oranim College that deals with the integration of technologies in teaching mathematics and science

2020           Member of team authored titled: Pathways to Mathematics for Grade 9 – Five textbooks, culturally and pedagogically adapted for the Haredi community. Center for Educational Technology (CET). [Hebrew]

2017-2020           Member of the team project of the Professional development of middle school mathematics coordinators, the Weizmann Institute of Science, Israel.

2013-2020 Pedagogic instructor in the practical training of pre-service mathematics teachers

1989-2014 Teaching high school mathematics.