Name: Marita Barabash Date: 13/11/2019

CURRICULUM VITAE

1. <u>Personal Details</u>

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2. <u>Higher Education</u>

A. <u>Undergraduate and Graduate Studies</u>

Period of	Name of Institution and Department	Degree	Year of Approval
Study			of Degree
1976-78	Tel Aviv University, Faculty of	B. Sc.	1978
	Mathematics		
1978-80	Weizmann Institute of Science, Faculty of	M. Sc.	1980
	Mathematics		
1981-1985	Weizmann Institute of Science, Faculty of	Ph. D.	1986
	Mathematics and the Polymers Department		

B. Post-Doctoral Studies

Period of Study	Name of Institution, Department and Host	Year of Completion
1990-1992	The Technion, Department of Applied Mathematics,	
	Prof. Nadav Liron	

3. Academic Ranks and Tenure in Institutes of Higher Education

Dates	Name of Institution and Department	Rank/position
1999	Achva Academic College of Education, Department of Mathematics Teaching	Senior Lecturer
2006	Achva Academic College of Education, Department of Mathematics Teaching	Senior Lecturer-A
2018	Achva Academic College of Education, Department of Mathematics Teaching	Associate Professor

4. Offices in Academic Administration

Years	Institution and department	Offices
1995-1997	Achva Academic College of Education	Head
	Department of In-service teachers' education	
1997-1995	Achva Academic College of Education	Academic Head
1995-2006	Achva Academic College of Education, Department	Head
	of Mathematics Teaching	
2007-2012	Achva Academic College of Education, Research Unit	Head
2008-2012	Achva Academic College of Education	Vice President and
		Academic Head
2012-	Achva Academic College, Department of	Head
	Mathematics Teaching	
2016-	Achva Academic College, M. Ed. Program in	Head
	Primary Mathematics Teaching	

My academic-administrative activities, in particular, as Head of the Research Unit, combined with a heavy teaching workload slowed down my personal academic activity. This combined office as the Head of the Research Unit and as the Academic Head of the College lasted for four years.

During this period, it was the matter both of my responsibility and of my initiative to promote the academic activities and the academic status of the College. In particular:

- I was responsible for the planning and submission to the Council for Higher Education of all the academic teachers' education programs of the College following the Ariav Commission guidelines (*Mitvei Ariav*);
- I led the College, together with the corresponding Departments Heads, through the Ministry of Education tender for the teaching certificate programs for high-tech specialists (the "500" program) in Mathematics and in Sciences, which we successfully won with a budget allocation of ILS 2.5 million:
- I initiated and completed the inclusion of the Bedouin teachers' education track into the academic structure of the College, so that the relevant college academic units assumed direct responsibility for all disciplinary aspects of the Bedouin teachers' education.
- I reformed the academic structure of the pedagogic and general education departments, forming the united academic Department of Pedagogy and General Education (*HaHug le Hinuch veHoraa*).
- I initiated and directed the project of academic promotion and support for the leading academic staff. The purpose of the project was to build up the internal academic reserve for the ongoing independent academic development of the College.
- Alongside the then College President, Prof. Eli Zamski, I worked on behalf of the Achva College of Education, on the project of merging it with the Achva branch of the Ben Gurion University. The project resulted in the establishment of the Achva Academic College, as it exists today.
- In addition to my active participation as a staff member in the work on the M.Ed. program for primary mathematics education, as an Academic Head, I took an active part in the work on the

College M. Teach. program, along with a number of other academic programs for B. Ed. and M. Ed. degrees.

Over and above the abovementioned activities, I was invited by the Israeli Primary Mathematics Teaching Center to write entries on key mathematical notions for its website, which I did in years 2008-2011 (11 entries).

Years	Commissions or Councils	Participation
1997 -	Achva Academic College of Education	Member;
	(since 2012 - Achva Academic College of Education,	2008-2012 -
	School of Education), Board of Academic	Head ex officio
	Management	
2005 - 2008	Achva Academic College of Education, Academic	Member
	Appointments Council	
2008 - 2012	Achva Academic College of Education, The Superior	Member ex officio
	Academic Council	
2018 -	Achva Academic College, School of Education,	Head
	Academic Teaching Committee	
2018 -	Achva Academic College of Education, The Superior	Member
	Academic Council	

5. Scholarly positions and activities outside the institution

2008	The 2 nd International Conference on	Reviewer
	Knowledge Generation, Communication and	
	Management (KGCM)	
2012	Teaching and Teacher Education	Reviewer
2014	ISF (Israel Science Foundation)	Reviewer
2014	Research and Studies in Education – Journal, Shaanan	Reviewer
	College	
2015-	International Journal of Science and Mathematics	Reviewer
	Education	
2014-2015	The Third Jerusalem Conference on Research in Math	Reviewer
	Education	
2015-2016	The Fourth Jerusalem Conference on Research in	Reviewer
	Math Education	
2016-17	The Fifth Jerusalem Conference on Research in Math	Reviewer
	Education	
2017	The Sixth Jerusalem Conference on Research in Math	Reviewer
	Education	

2017	"Dapim" - academic journal in education, Mofet	Reviewer
	Institute, Israel	
2017 -	Editorial Board of "Aleh" – academic journal for high	Member
	school mathematics teachers	
2013 -	Ministry of Education, Committee for the new High	Member
	School Curriculum in Mathematics	
2018 -	Ministry of Education, Committee for Primary School	Head
	Mathematics Education	

6. Participation in Scholarly Conferences

a. <u>Organization of Conferences or Sessions</u>

Date	Name of	Place of	Subject of Conference/	Role
	Conference	Conference	Role at Conference/	
			Comments	
2004	Continuity in	Achva Academic	Continuity and consistency	Initiator and
	Mathematics	College	in mathematics teaching at	Organizer (jointly
	Teaching		school at different levels	with R. Guberman)
2005	5 th Annual	Kay Academic	Mathematics teaching	Member of the
	Conference of	College of		Scientific Committee
	Mathematics	Education, Beer		
	Teachers	Sheva		
2006	6 th Annual	David Yellin	Mathematics teaching	Member of the
	Conference of	Academic College		Scientific Committee
	Mathematics	of Education,		
	Teachers	Jerusalem		
2008	The 5 th	Rethymnon, Crete,	Mathematics teaching	Member of the
	International	Greece		Scientific Committee
	Colloquium on the			
	Didactics of			
	Mathematics			
2009	Mathematics as a	Achva Academic	Mathematics teaching and	Initiator and
	way of thinking,	College	learning	Organizer (jointly
	thinking as a way			with R. Guberman)
	towards mathematics			
July	International	Oxford, UK	Task Design in	Invited Participant
2013	Conference for ICMI		Mathematics Education	
	Study 22			
Nove	The First Achva	Achva Conference	The role and meaning of	Initiator, Organizer
mber	Conference in	in Mathematics	mathematics education in	and the Chair of the
2017	Mathematics	Teaching	view of technological	

Education: From	revolution in learn	ning, Conference	
Mathematics	teaching and labo	r market Committee	
Teaching to High-			
Tech and Backwards.			

b. Active Participation

Date	Name of	Place of	Subject of Lecture/Discussion	Role
	Conference	Conference		
1982	International	Rehovot,	Muco-Ciliary Transport (with Liron N.	Presenting
	Symposium in	Israel		author
	honour of Aharon			(the
	Katzir – Katchalsky			presented
				material is a
				part of my
				PhD thesis)
1987	ICIAM - First	Paris, France	A non-Newtonian Approach to Muco-	Co-author
	International		Ciliary Transport (with Liron N.)	(the
	Conference on			presented
	Industrial and			material is a
	Applied Mathematics			part of my
				PhD thesis)
1999	Almost 2000 - The	Achva	Self-Instruction as an Integral Part of	Presenting
	Third International	Academic	Pre-Service Training of Math Teachers	author
	Conference on	College, Israel	(with Glebov R., Teplizky T., Wallach	
	Teacher Education		T.)	
2002	4 th International	Israel	Intercultural Interaction during the	Presenting
	Conference on		Seminar in Mathematics – Extra	author
	Teacher Training		Achievement of its Own Value (with	
			Guberman-Glebov)	
2001	SEMT 01 -	Prague, Czech	Inter - Disciplinary Seminar and	Presenting
	International	Republic	Graduate Project in Mathematics	author
	Symposium -		Teaching for Future Primary School	
	Elementary		Math Teachers, Based on Self –	
	Mathematics		Instruction Abilities (with R.	
	Teaching		Guberman-Glebov)	
2002	International	Badajoz,	Combining Classroom – Based and	Presenting
	Conference on	Spain	Computer - Based Learning and	author
	Information and		Teaching Strategies in Math Teachers	
	Communication		Training	
	Technology in			
	Education			
July	TSG21, ICME-10	Copenhagen,	An Inter – Disciplinary Approach to	Presenting
2004		Denmark	Math Teaching: Mathematical Ideas	author

			in Sciences Taught By Future School Math Teachers (with Guberman R.)	
July 2004	DG6, ICME-10,	Copenhagen, Denmark	Synthetic Euclidean geometry as a didactic basis for primary and secondary school geometry	Presenting author
July 2004	TSG17, ICME-10,	Copenhagen, Denmark	Seminar and Graduate Project in the History of Mathematics in the Academic Teacher Education Program (with Guberman R.)	Presenting author
July 2004	TSG3, ICME-10	Copenhagen, Denmark	How is the Efficiency of the Computer Usage in Geometry Related to the Levels of Students' Learning Abilities? (with Gorev D., Gurevich I.)	Co-author
July 2004	TSG19, ICME-10	Copenhagen, Denmark	Improving Reasoning Abilities of 5 th -6 th Grade Pupils Using a Specially Designed Teaching Unit in Pre-Formal Logic (with Guberman R.)	Co-author
July 2004	PME28	Bergen, Norway	Development of Insight of Future Math Teachers as a Result of Follow- up after Development of Mathematical Concepts (with Guberman R.)	Presenting author
July 2004	PME28	Bergen, Norway	Will "The way they teach" be "The way they have learned"? Pre-service teachers' beliefs concerning computer embedding in math teaching (with Gorev D., Gurevich I.)	Co-author
April 2005	4 th Colloquium on the Didactics of Mathematics	Crete, Greece	Didactics of geometry teaching at school based on teachers' systematic knowledge of a relevant geometrical theory	Presenting author
July 2006	3 rd International Conference on the Teaching of Mathematics	Istanbul, Turkey	Order on line vs. order of numbers: are the teachers aware of the fact this is the same order (with Guberman R.)	Presenting author
July 2006	3 rd International Conference on the Teaching of Mathematics	Istanbul, Turkey	Turning Non-Routine Geometrical Problems into Routine Ones: How the DGE Can Help? (with Gorev D., Gurevich I.)	Co-author
2008	TSG26, ICME-11	Mexico	Characterization of Mathematical- Cognitive Development Using Two Dimensional Model of Insight (with Guberman R.)	Co-author

2008	The 5 th International Conference on Creativity in Mathematics and the Education of Gifted Students	Haifa, Israel	Creativity in Math-Education (with Guberman R.)	Presenting author
2012	TSG 31 , ICME-12	Seoul, Korea	Multiple informal classifications of geometrical objects as an ongoing process of developing young students' geometric insight. (with Guberman R.)	Presenting author
2012	The 7 th International Conference on Creativity in Mathematics and the Education of Gifted Students	Busan, Korea	Using multiple representations to deepen the gifted students' insight. Workshop (with Guberman R.)	Workshop organizer
July 2014	PME-38	Vancouver, Canada	Primary school teachers learn modeling: how deep should their mathematics knowledge be? (with Guberman, R., Mandler D.)	Presenting author
2016	TSG21, ICME13	Hamburg, Germany	Elementary school math teachers learn to teach models: daring to let go or guiding? (with Guberman R., Mandler D.)	Co-author
2016	TSG21, ICME13	Hamburg, Germany	Didactic models lead to big ideas: an example of fractions (with Guberman R.)	Presenting author
2017	CERME-10	Dublin, Ireland	The double nature of didactic models in conceptualizing the evolution of number systems: A mathematical model and a learning tool (with Guberman R.)	Presenting author
2018	CADGME-7	Coimbra, Portugal	Dragging as a Geometric Construction Tool: Continuity Considerations Inspired by Students' Attempts	Single author
2018	ICMI-24	Tzukuba, Japan	The Intended Intermediate-Level Geometry Curriculum for Israeli High Schools	Single author
2020	TSG24, ICME14	Shanghai, China	The Seminar in History of Mathematics Education for Postgraduate Primary Mathematics Student Teachers (with R. Guberman)	Presenting author

7. Research and educational grants

A. Research grants

Role in	Co-	Topic	Funded by/ Amount/	Year(s)
Research	Researchers			
PI		The non-Newtonian Approach to the Muco-Ciliary Transport – First-Order Approximation Accounting for Wavy Boundaries	Israel Academy of Sciences Two-years post-doctoral scholarship	1991-1992
PI		Mathematics: inner and outer connections	Mofet Institute Budget equivalent to 3/16 annual salary during two academic years	1999-2000
CO-PI	Gurevich I., Gorev D.	The contribution of Geometric Tool Software for Geometry Teaching – Selective Use upon the Student Level	Mofet Institute 45 000 NIS	2003-2004
PI	Gurevich I., Gorev D.	The Development of Insight in Construction Problems of Plane Geometry with or without Computer Usage	Mofet Institute 45 000 NIS	2005-2006
CO-PI	Guberman R.	The development of a tool for evaluation of geometrical insight of students of different level of geometrical thinking	Mofet Institute 30 000 NIS	2006-2007
PI	Guberman R., Mandler D.	Relevant mathematics: primary- school mathematics lessons combined with sustainability studies	Mofet Institute 35 000 NIS	2012-2013
CO-PI	Guberman R., Kass E.	Interrelations between the components of professional self-efficacy of mathematics teachers and the quality of their mathematical knowledge	The Chief Scientist Office, Ministry of Education 180 000 NIS	2014-2016
CO-PI	Naftaliev E.	Experimental mathematics at school: Professional development of teachers towards the change	ISF (Israel Science Foundations) 840 000 NIS	2018-2021

B. Educational grants

Role	Co-Participants	Grant	Funded by/ Amount/	Years

PI	R. Guberman M. Shimanovich S. Millet	Mathematics in service of Geography – writing and assessing teaching materials for primary school	The Israel Center for Science and Technology Education, Ministry of Education (MALAM) 100,000 NIS	2001-2002
PI	R. Guberman J. Shamash M. Shimanovich	Learning with Alice to think and to reason – writing and assessing teaching materials on elementary logic for primary school	The Israel Center for Science and Technology Education, Ministry of Education (MALAM) 100,000 NIS	2001-2002
Program organizer (ex officio)	R. Guberman - Program organizer (ex officio)	The "500" Program – High School Mathematics Teaching Certificate program for High Tech Specialists	Ministry of Education, 2,500,000 NIS	2010
Program organizer (ex officio)	R. Guberman - Program organizer (ex officio)	"Aplha" – High School Mathematics Teaching Certificate program for High Tech Specialists	Trump Foundation 1,700,000 NIS (Budget for years 2015-2019)	2015

Scientific Publications: books, chapters in books, school textbooks, scientific papers in peer-reviewed academic journals, publications in peer-reviewed conference proceedings - 33

Invited mathematics education materials for primary school mathematics teachers – 11.

My personal academic and professional interests encompass issues related to mathematics teaching based on mathematics knowledge as a primary didactic factor; to mathematics teachers pre-service and in-service education and development; to educated usage of technology in mathematics teaching and learning.