

# ATHANASIOS GAGATSI

*Emeritus*



## **CURRICULUM VITAE**

Nicosia, CYPRUS – 2020

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## 1 PROFILE

### 1.1 Studies

- Undergraduate Studies in Mathematics at the Aristotelian University of Thessaloniki, Greece (B.A. Department of Mathematics, Faculty of Sciences, 1973), Greek State IKY Scholarship.
- Graduate studies in Didactic of Mathematics at the University Louis Pasteur of Strasbourg, France (Department of Mathematics): A) DEA Didactics of Mathematics, 1980, B) Ph.D. Didactics of Mathematics, 1982).
- French Government scholarship during Doctoral Studies at the University Louis Pasteur de Strasbourg.
- Postdoctoral research at the University Louis Pasteur of Strasbourg (1982-83), French State Scholarship.

### 1.2 Research Interests

Psychology of Mathematics Education, Epistemological - didactical and ontogenetic obstacles in the learning of mathematics, Formative Assessment in Mathematics, The role of representations in the learning of Mathematics and Sciences, History of Mathematics Education, Statistical Implicative Analysis (SIA).

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## 2 EDUCATION

- Thèse de Doctorat en Didactique des Mathématiques, Louis Pasteur de Strasbourg, France (Department of Mathematics), 1982 (French government scholarship)
- DEA en Didactique des Mathématiques, Université Louis-Pasteur de Strasbourg, France (Department of Mathematics), 1980 (Aristotle University Scholarship)
- Degree in Mathematics, Aristotle University of Thessaloniki, Greece, 1973 (Greek government scholarship) (Class: Excellent)
- Secondary School Leaving Certificate, 1968 (Grade: Excellent)

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## 3 PROFESSIONAL EXPERIENCE

### 3.1 Academic positions held

2019-today	Emeritus Professor, Department of Education, University of Cyprus, Cyprus
2002-2018	Professor of Mathematics Education, Department of Education, University of Cyprus, Cyprus
2011	Visiting Fellow, University Paris 7, Diderot, Paris, France

1999-2001	Associate Fellow, Faculty of Education, Brunel University, Great Britain
1998-2005	Visiting Fellow, Faculty of Education, University of Warwick, Great Britain
1996-2002	Associate Professor, Department of Education, University of Cyprus, Cyprus
1993	Visiting Fellow, Faculty of Education, University of Veliko Tirново, Bulgaria
1992-1996	Visiting Fellow, Faculty of Education, Roehampton Institute, London, Great Britain
1983-1996	Lecturer, Assistant Professor, Department of Mathematics, Aristotle University, Thessaloniki, Greece
1982-1983	Postdoctoral Researcher, Louis Pasteur de Strasbourg, France (French government Scholarship)
1975-1983	Research and Teaching Assistant, Department of Mathematics, Aristotle University, Thessaloniki, Greece

### 3.2 Administration and other positions held

2010-2018	Vice-Rector of Academic Affairs, University of Cyprus
2010-2018	Chairman of the Research Committee of the University of Cyprus
2008-2010	President of the Scientific Council of the Cyprus Pedagogical Institute
2007-2011	Interim Chairman of the Department of Law
2006-2010	Dean of the Faculty of Social Sciences and Sciences of Education, University of Cyprus
2001-today	Vice President of the Cyprus Mathematical Society, Cyprus
2000-2004	Chairman of the Department of Education, University of Cyprus
2000-2004	President of the Cyprus Pedagogical Association
1996-2000	Vice President of the Department of Education, University of Cyprus

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## 4 RESEARCH

### 4.1 Research programs

1. LEBPASS ERASMUS Project: Preparation of the Diploma Supplement concerning 7 Lebanese Academic Institutions- Universities (2019-2022).
2. Mathematical Games in Rainaissance: The book RYTHMOMACHIA of FRANCESCO BAROZZI (1560). LEVENTIS FOUNDATION (2020-2022).
3. The contribution of M. Glyzounis' Logariastiki in Mathematics Education of Modern Greeks (16m-18m century. LEVENTIS FOUNDATION (2015-2018).
4. FAMT&L: Formative Assessment in the teaching and learning of Mathematics. COMENIUS (2014-2017)

5. *Spatial Ability and Geometrical Thinking Development.*  
Medium Size Research Project, University of Cyprus, (Cyprus), Funding: University of Cyprus (Principal Investigator) (2010-2014).
6. Representation: The role of representation in learning functions and geometry in the concept of the shift from the lower secondary education (gymnasium) to the upper second education (lyceum).  
A research project of the IPE (Institute of Research – Cyprus). (Principal Investigator) (2008-2011).
7. *The functioning of representations in mathematics education with respect to the shift from elementary to secondary education.*  
Medium Size Research Project, University of Cyprus, (Cyprus), Funding: University of Cyprus (Principal Investigator) (2007-2009).
8. *The development of students' problem-solving ability and their ability to self-regulate their cognitive performance.*  
Program of Distinguished Scientists: with Erik De Corte, University of Leuven (Belgium), Funding: Research Promotion Foundation of Cyprus (Member of the research team) (2006- 2008).
9. *History of Mathematics Education in Cyprus 1878-1960.* University of Cyprus (Cyprus) Centre of Scientific Research of the Ministry of Education and Culture (Principal Investigator) (2005-2010).
10. *Identification, motivation and support of mathematical talents in European schools (MATEU).*  
Intercollege (Cyprus), Funding: European Commission (Comenius 2.1) (Member of the research team) (2004 -2006).
11. *Reform of mathematics curriculum and evaluation of mathematics textbooks.*  
University of Cyprus, Ministry of Education and Culture (Cyprus), Funding: UNESCO (Principal Investigator) (2003-2004).
12. *Investigation of the role of representations in the first three grades of primary school.*  
University of Cyprus (Cyprus), Funding: Cyprus Research Promotion Foundation (Cyprus) (Principal Investigator) (2002-2004).
13. *The development of a digital portfolio for teachers: Tool for their Self Performance and their evaluation.*  
Intercollege (Cyprus), Funding: Cyprus Research Promotion Foundation, (Cyprus) (Member of the research team) (2001-2003).
14. ERASMUS ICP-91-G-0027/11 GREECE (Coordinator)
15. ERASMUS ICP-92-G-2011/11 GREECE (Coordinator)
16. ERASMUS ICP-93-G-2011/11 GREECE (Coordinator)
17. ERASMUS ICP-94-G-2011/11 GREECE (Coordinator)
18. ERASMUS ICP-95-G-2011/11 GREECE (Coordinator)
19. ERASMUS ICP-96-G-2011/11 GREECE (Coordinator)
20. ERASMUS ICP-97-G-2011/11 GREECE (Coordinator)

21. Intensive Project ERASMUS IP-98 CYPRUS (*Coordinator*)
22. Intensive Project ERASMUS IP - 99 CYPRUS (*Coordinator*)
23. Intensive Project ERASMUS IP - 00 CYPRUS (*Coordinator*)

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## 5 TEACHING

### 5.1 *Teaching at the University of Cyprus*

#### 5.1.1 *Undergraduate*

- 1996-2007
- EDU 171 Basic Concepts in Mathematics I (Undergraduate)
  - EDU 272 Topics from Modern Mathematics (Undergraduate)
  - EDU 331 Mathematics Education
  - EDU 471 Special issues in Mathematics Education
  - EDU 170 Pre-maths concepts
  - EDU 332 Mathematical concepts in the Kindergarten school
  - EDU 671 Cognitive Analysis of Mathematics learning
  - EDU 675 Contemporary trends in research in Mathematics education

#### 5.1.2 *Postgraduate*

- EDU 677 Theories of Representation and Educational Teaching
- EDU 678 Affect and Mathematics Learning
- EDU 684 Space, Visualization and Reasoning in Geometry
- EDU 672 History and Philosophy of Mathematics

### 5.2 *Teaching at other Institutions and Universities*

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|-----------|---|
| 2004-2018 | Representations and Learning in Mathematics<br>Didactics of Geometry<br>Postgraduate Program in Mathematics and Mathematics Education,<br>Department of Mathematics, University of Athens, Greece |
| 2013-2017 | PDE 103 Quantitative Methods in Administration I (Calculus), Open<br>University of Cyprus<br>PDE 153 Quantitative Methods in Administration II (Statistics), Open<br>University of Cyprus         |
| 2000-2007 | Educational Assessment to prospective teachers in the framework of<br>the Cyprus<br>Pedagogical Institute preservice training programme   |

1992-1996	Research on Mathematics Education Faculty of Education, Roehampton Institute, London, Great Britain
1993	Research on Mathematics Education Faculty of Education, University of Veliko Tirnovo, Bulgaria
1983-1996	Mathematics Education and History of Mathematics Teaching Department of Mathematics, Aristotle University of Thessaloniki, Greece  Medical Statistics and Educational Statistics Departments of Medicine and Kindergarten Education, Aristotle University of Thessaloniki, Greece  Mathematics for the Pre-school age Department of Kindergarten Education, Aristotle University of Thessaloniki, Greece  Mathematics Education Centre for in-service education of teachers (in different cities of Greece)
1975-1979	Mathematics Department of Mathematics, Aristotle University of Thessaloniki
1974-1975	Secondary School Mathematics

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## 6 INTERNATIONAL SCIENTIFIC COOPERATION

### 6.1 Organization of seminars and Conferences

Organization of ETM (Espace de Travail Mathématique) conferences, in collaboration to Université Paris 7 – Diderot.

- a. 1st ETM conference – Nicosia, Cyprus, 2009.
- b. 2nd ETM conference – Paris, France, 2010.
- c. 3rd ETM conference – Montreal, Canada, 2012
- d. 4th ETM conference – Madrid, Spain, 2014.
- e. 5th ETM conference – Florina, Greece, 2016.
- f. 6th ETM conference, Chile, 2018.

Collaboration with Cyprus Mathematical Society in the organization of the annual *Cyprus Conferences of Mathematics Education and Symposiums of Astronautics and Space*. (2001, 2002, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016).

Collaboration with professor R. Gras from Ecole Polytechnique de Nantes and Université de Rennes in the organization of the ASI (Analyse Statistique Implicative) seminars and conferences about the implicative statistical analysis.

Organization of the 1<sup>st</sup> Summer School on Mathematics Education at Paris 7 Diderot University in France with the participation of 15 Master and PhD students on Mathematics Education of the University of Cyprus (July, 2015).

Organization of the 1<sup>st</sup> Summer School on Mathematics Education at Tel Aviv University in Israel with the participation of 14 Master and PhD students on Mathematics Education of the University of Cyprus (July, 2014).

Organization of the 2<sup>nd</sup> Summer School on Mathematics Education at Tel Aviv University in Israel with the participation of 14 Master and PhD students of the University of Cyprus (July, 2013).

Organization of the conference *Mathematics Education Research at the University of Cyprus and the University of Cambridge: A Symposium* (Nicosia, 2010).

Organization of the Conference *Chypre et France-Recherche en Didactique des Mathématiques* (Nicosia, 2009).

Organization of the 1<sup>st</sup> Conference of five cities: Nicosia, Rhodes, Bologna, Palermo, Locarno (Nicosia, 2008).

Organization of different *International Seminars and Conferences* at the Department of Mathematics of Aristotle University of Thessaloniki in the context Erasmus Educational Projects (1991-1996).

Organization of different *International Seminars and Conferences* at the Department of Education, of the University of Cyprus in the context Erasmus Educational Projects (1998-2000).

Organization of different *International Seminars and Conferences* in Thessaloniki -Greece in cooperation with the Institut Francais de Thessalonique and Professors from different French Universities: R. Duval, Université du Littoral Côte-d'Opale, Boulogne, et Centre IUFM Nord Pas-de Calais, Lille/F. Pluvinage, Université de Strasbourg/ C. Laborde, Université de Grenoble/ Denis Grenier, Université de Grenoble/ G. Brousseau, Université de Bordeaux/ R. Gras, Ecole Polytechnique de Rennes, Université de Rennes(1988-1996).

## 6.2 Editing

Editor of the bilingual Journal *Cahiers de Didactique des Mathématiques* (in Greek and French), in collaboration with the Institut Francais de Thessalonique and many academic from French Universities.

Founding Editor of the Journal *Mediterranean Journal for Research in Mathematics Education*, Cyprus Mathematical Society (2000-today).

Member of the Editorial Board of different International Research Journals:

- *Mathematics and Informatics*, Bulgarian Journal of Educational Research and Practice (Member of the Editorial Board)
- *Avances de Investigación en Educación Matemática (AIEM)* (Member of the Editorial Board), Spain, Sociedad Española de Investigación en Educación Matemática (SEIEM).
- *Annales de Didactique de Mathématiques* (Member of the Editorial Board), France, IREM de Strasbourg
- *Educational Studies in Mathematics* (Member of the Editorial Board 1990-2016), Netherlands, Springer Publishers



- *Euclides γ* (Member of the Scientific Committee), Greece, Greek Mathematical Society
- *La matematica e la sua didattica* (Member of the Scientific Committee), Italy, Pitagora Editrice Bologna
- *Quaderni di Ricerca in Didattica* (Member of the Scientific Committee), Italy, G.R.I.M. University of Palermo
- *Tecne, Episteme y Didaxis* (Member of the Scientific Committee), Colombia, Facultad Ciencia y Tecnologia-Universidad Pedagogica Nacional
- *Scientia Paedagogica Experimentalis* (Guest Editor, Member of the Editorial Board), Belgium, University of Cent
- *Acta Didactica Universitatis Comenianae* (Member of the Editorial Board)

Editor of *Eight Erasmus books* in English, French, German, Greek and Italian in the context of Erasmus Educational Programs of the Aristotle University of Thessaloniki (1992-1997).

Editor of *Three Erasmus books* in English, French, German, Greek and Italian in the context of Erasmus Educational Programs of the University of Cyprus (1998-2000).

Co-Editor of the *Proceedings Cyprus Conferences of Mathematics Education and Symposiums of Astronautics and Space*. (2001, 2002, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016) of the Cyprus Mathematical Society.

Co-Editor of the *Proceedings of the Mediterranean Conferences of Mathematics Education* in Nicosia, Athens, Palermo, Rhodes, Plovdiv (2000-2009).

### 6.3 *Honoris causa nominations*

Nomination of Professor G. Brousseau from Université of Bordeaux as *Doctor Honoris causa* at the University of Cyprus.

Nomination of Professor Bruno D'Amore from University of Bologna as *Doctor Honoris causa* at the University of Cyprus.

### 6.4 *Varia*

Visiting professor at Université Paris 7 – Diderot (January 2011).

Associate Researcher in Ldar laboratory of research – Université Paris 7, Diderot (2011-today).

Member of the scientific committee of Doctoral Dissertations of the LDR– Université Paris 7, Diderot.

### 7.1 *International Refereed Journals* (English, French, Italian, Bulgarian and German)

1. Gagatsis, A., Panaoura, A., Deliyianni, E., Nicolaou, S., & Elia, I. (2020). Are representations useful in Economic Mathematics? Students' beliefs and self-efficacy beliefs in the case of exponential and logarithmic functions. *La matematica e la sua didattica*, 28 (1), 63-85.
2. Gogou, V., Gagatsis, A., Gridos, P., Elia, I. & Deliyianni, E., (2020). The double nature of geometrical figure: Insights from empirical data. *Mediterranean Journal for Research in Mathematics Education*, Vol. 17, 7-23.
3. Gagatsis, A., Michael-Chrysanthou, P., Christodoulou, Th., Elia, I., Bolondi, G., Vanini, I., Ferretti, F., & Sbaragli, S. (2019). Formative assessment in the teaching and learning of mathematics: teachers' and students' beliefs about mathematical error. *Scientia Paedagogica Experimentalis*, 56(2), 145-180.
4. Panaoura, A., Michael-Chrysanthou, P., Gagatsis, A., Elia, I., & Philippou, A. (2017). A Structural Model Related to the Understanding of the Concept of Function: Definition and Problem Solving. *International Journal of Science and Mathematics Education*, 15(4), 723-740.
5. Gagatsis, A., Deliyianni, E., Elia, I., & Panaoura, A. (2017). Representational flexibility in fractions and decimals: A synthesis of research studies. *Communication and Cognition*, 50(3-4), 93-120.
6. Christodoulou, T., Elia, E. & Gagatsis, A. & Michael – Chrysanthou, P. (2017). Secondary school students' beliefs and attitudes about errors in mathematics and the formation of their MWS. *La matematica e la sua didattica*, 25(1), 29-50.
7. Gérard Vergnaud, Erkki Pehkonen, Theodora Christodoulou, Iliada Elia, Athanasios Gagatsis, Paraskevi Michael-Chrysanthou, Luis Ángel Bohórquez Arenas, Luis Radford (2017). *La matematica e la sua didattica*, 25(1), 7-12.
8. Gagatsis, A., Christodoulou, Th. & Elia, I. (2017). Young students' comprehension of data represented in graphs: The influence of technology and realistic problem solving. *Scientia Paedagogica Experimentalis*, LIV (1-2), 179-222.
9. Michael-Chrysanthou, P., Christodoulou, T., Elia, I., & Gagatsis, A. (2016). Multiple semiotic means in the use of formative assessment in secondary school mathematics. *La matematica e la sua didattica*. 24(1-2), 125-144.
10. Gagatsis, A., Monoyiou, A., & Michael – Chrysanthou, P. (2016). Major aspects of Cypriot and Italian preservice teachers' conceptual understanding of function: an interpretation in the context of the fundamental educational thought. *Communication & Cognition*, 49 (3-4), 85-116.
11. Elia, I., Özel, S., Gagatsis, A., Panaoura, A., Zeynep Ebrar Yetkiner Özel, Z., E., Y. (2016). Students' mathematical work on absolute value: focusing on conceptions, errors and obstacles. *ZDM Mathematics Education*, 48(6), 895-907.
12. Deliyianni, E., Gagatsis, A., Elia, I., & Panaoura, A. (2016). Representational Flexibility and Problem-Solving Ability in Fraction and Decimal Number Addition: A Structural Model. *International Journal of Science and Mathematics Education*, 14, 397-417.

13. Gagatsis, A., Deliyianni, E., Elia, I., Panaoura, A., & Michael-Chrysanthou, P. (2016). Fostering Representational Flexibility in the Mathematical Working Space of Rational Numbers. *Bolema: Boletim de Educação Matemática*, 30 (54), 287-307.
14. Gagatsis, A., Michael – Chrysanthou, P., Deliyianni, E., Panaoura, A. & Papagiannis, C. (2015). An insight to students' geometrical figure apprehension through the context of the fundamental educational thought. *Communication & Cognition*, 48 (3-4), 89-128.
15. Gagatsis, A., Kiliari, E., & Papadaki, I. (2015). The practical arithmetic of Petros Argyros in relation with the Abaci and the first Greek printed book of arithmetic Logariastiki. *International Journal for the History of Mathematics Education*, 10 (2), 83-98.
16. Kiliari, E., Gagatsis, A. & Papadaki, I. (2015). The first Greek printed mathematics book: The famous book of arithmetic Λογαριαστική of Manolis Glyzounis. *International Journal for the History of Mathematics Education*, 10 (1), 25-54.
17. Michael – Chrysanthou, P., Gagatsis, A. (2015). Ambiguity in the way of looking at a geometrical figure. *Revista Latinoamericana de Investigación en Matemática Educativa – Relime*, 17 (4-I), 165-180.
18. Xistouri, X., Pitta-Pantazi, D. & Gagatsis, A. (2015). Primary school students' structure and levels of abilities in transformational geometry. *Revista Latinoamericana de Investigación en Matemática Educativa – Relime*, 17 (4-I), 149-164.
19. Gagatsis, A., & Deliyianni, E. (2015). Mathematical Working Space relations with conversions between representations and problem solving in fraction addition. *Revista Latinoamericana de Investigación en Matemática Educativa – Relime*. 17 (4-II), 249-267.
20. Michael – Chrysanthou, P., Gagatsis, A. & Vannini, I. (2014). Formative assessment in mathematics: a theoretical model. *Acta Didactica Universitatis Comenianae – Mathematics*, 14, 43-70.
21. Michael – Chrysanthou, P., Gagatsis, A. & Papandreou, V. (2014). Solving addition tasks through the use of different modes of representations in primary school. *Acta Didactica Universitatis Comenianae – Mathematics*, 14, 19-42.
22. Gagatsis, A. & Panaoura, A. (2014). A multidimensional approach to explore the understanding of the notion of absolute value. *International Journal of Mathematical Education in Science and Technology*, 45 (2), 159–173.
23. Elia, I., Gagatsis, A. & van den Heuvel-Panhuizen, (2014). The role of gestures in making connections between space and shape aspects and their verbal representations in the early years: Findings from a case study. *Mathematics Education Research Journal*, 26 (4), 735-761.
24. Michael – Chrysanthou, P., Gagatsis, A. (2013). Geometrical figures in task solving: an obstacle or a heuristic tool? *Acta Didactica Universitatis Comenianae – Mathematics*, 13, 17-30.
25. Gagatsis, A., Christodoulou, T. & Elia, I. (2013). How young students deal with recognition and conversion tasks of graphs. *Acta Didactica Universitatis Comenianae – Mathematics*, 13, 1-16.
26. Gagatsis, A., & Monoyiou, A. (2013). Les stratégies des futurs instituteurs dans la résolution de tâches sur les fonctions. Approche ponctuelle ou approche coordonnée ? *Annales de didactique et de sciences cognitives*, 18, 115 – 138.

27. Modestou, M., & Gagatsis, A. (2013). Didactical Situation for the Enhancement of Meta-Analogical Awareness. *Journal of Mathematical Behavior*, 32, 160–172.
28. Deliyianni, E., & Gagatsis, A. (2013). Tracing the development of representational flexibility and problem solving in fraction addition: A longitudinal study. *Educational Psychology: An International Journal of Experimental Educational Psychology*, 33 (4), 427–442.
29. Kalogirou, P. & Gagatsis, A. (2012). The relationship between students' spatial ability and geometrical figure apprehension. *Mediterranean Journal for Research in Mathematics Education*, 11 (1-2), 133-146.
30. Kuzniak, A., Richard, P. & Gagatsis, A. (2012). CERME7 Working Group 4: Geometry teaching and learning. *Research in Mathematics Education*, 14 (2), 191-192.
31. Kalogirou, P. & Gagatsis, A. (2011). A first insight of the relationship between students' spatial ability and geometrical figure apprehension. *Acta Didactica Universitatis Comenianae – Mathematics*, 11, 25 –38.
32. Michael, P., Gagatsis, A, Avgerinos, E. & Kuzniak, A. (2011). Middle and High school students' operative apprehension of geometrical figures. *Acta Didactica Universitatis Comenianae – Mathematics*, 11, 45 –55.
33. Gagatsis, A., Deliyianni, E., Elia, I. & Panaoura, A. (2011). Explorer la flexibilité : le cas du domaine numerique. *Annales de didactique et de sciences cognitives*, 16, 21-38.
34. Monoyiou, A., & Gagatsis, A. (2010). Pre-service teachers' approaches in function problem solving: A comparative study between Cyprus and Italy. *Quaderni di Ricerca in Didattica Matematica*, N.20, Supplemento 1, 245-262.
35. Michael, P., Elia, I., Gagatsis, A. & Kalogirou, P. (2010). Primary school students' operative apprehension of geometrical figures. *Quaderni di Ricerca in Didattica Matematica*, N.20, Supplemento 1, 225-243.
36. Panaoura, A., Gagatsis, A., Deliyianni, E., & Elia, I. (2010). A model on the cognitive and affective factors for the use of representations at the learning of decimals. *Educational Psychology*, 30(6), 713-734.
37. Gagatsis, A., Agathangelou, S., & Papakosta, V. (2010). Conceptualizing the role of pictures in problem solving by using the implicative statistical analysis. *Acta Didactica Universitatis Comenianae – Mathematics*, 10, 19-34.
38. Fernández, C., Llinares, S., Modestou, M., & Gagatsis, A., (2010). Proportional reasoning: How task variables influence the development of students' strategies from primary to secondary school. *Acta Didactica Universitatis Comenianae – Mathematics*, 10, 1-18.
39. Gagatsis, A., Monoyiou, A., Deliyianni, E., Elia, I., Michael, P., Kalogirou, P., Panaoura, A., & Philippou, A. (2010). One way of assessing the understanding of a geometrical figure. *Acta Didactica Universitatis Comenianae – Mathematics*, 10, 35-50.
40. Gagatsis, A., Monoyiou, A., Deliyianni, E., & Philippou, A. (2010). Tracing 10th and 11th graders approaches in function tasks. *Acta Didactica Universitatis Comenianae – Mathematics*, 10, 51-67.
41. Gagatsis, A., Deliyianni, E., Elia, I., & Panaoura, A. (2010). Tracing primary and secondary school students' representational flexibility profiles in decimals. *Mediterranean Journal for Research in Mathematics Education*, 9, 211-222.
42. Modestou, M., & Gagatsis, A. (2010). Cognitive and metacognitive aspects of proportional reasoning. *Mathematical Thinking and Learning*, 12, 36-53.

43. Panaoura, A., Gagatsis, A., Deliyianni E., & Elia, I. (2009). The structure of students' beliefs about the use of representations and their performance on the learning of fractions. *Educational Psychology*, 29(6), 713-728.
44. Elia, I., Gagatsis, A., Panaoura, A., Zachariades, T., & Zoulinaki, F. (2009). Geometric and algebraic approaches in the concept of limit and the impact of the "didactic contract". *International Journal of Science and Mathematics Education*, 7(4), 765-790.
45. Deliyianni, E. & Gagatsis, A. (2009). La comprensione dell'addizione di frazioni nella scuola primaria: Il ruolo delle rappresentazioni multiple. *La Matematica e la sua Didattica*, 23(3), 299-318.
46. Gagatsis, A., Modestou, M., Elia, I., & Spanoudes, G. (2009). Structural modelling of developmental shifts in grasping proportional relations underlying problem solving in area and volume. *Acta Didactica Universitatis Comenianae – Mathematics*, 9, 9-23.
47. Modestou, M., & Gagatsis, A. (2009). Proportional reasoning: The strategies behind the percentages. *Acta Didactica Universitatis Comenianae – Mathematics*, 9, 25-40.
48. Panaoura, A., Gagatsis, A., & Demetriou, A. (2009). An intervention to the metacognitive performance: Self-regulation in mathematics and mathematical modeling. *Acta Didactica Universitatis Comenianae – Mathematics*, 9, 63-79.
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## 7.4 Books

### 7.4.1 Authorship

(In English, French and Italian)

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152. Gagatsis, A. (1994). *Didactics of Mathematics. Theory and Research*. Thessaloniki: Art of text (in Greek).
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#### 7.4.3 Edited Books – Conference Proceedings (In English, French, German and Italian)

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158. Avgerinos, E. & Gagatsis, A. (Eds) (2012). Research on Mathematical Education and Mathematics Applications. Rhodes: University of the Aegean.

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176. Gagatsis, A., & Maier, H. (Eds.) (1996). *Texte zur Didaktik der Mathematik*. Regensburg: ERASMUS.

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180. Gagatsis, A. (Ed.) (1993). *Didactics of Mathematics*. Thessaloniki: Art of text.
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#### 7.4.4 Edited Books – Conference Proceedings (In Greek)

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633. Markou, A., & Gagatsis, A. (2002). Representations and the learning of mathematical concepts: An application in fractions. In M. Tzekaki (Ed.), *Proceedings of the 5<sup>th</sup> Greek Conference on Didactics of Mathematics and Informatics in Education* (pp. 324-329). Thessaloniki: Aristotle University (in Greek).
634. Pitta-Pantazi, D., & Gagatsis, A. (2002). Strategies and mental representations in arithmetic: Two study cases. In M. Tzekaki (Ed.), *Proceedings of the 5<sup>th</sup> Greek Conference on Didactics of Mathematics and Informatics in Education* (pp. 317-323). Thessaloniki: Aristotle University (in Greek).
635. Gagatsis, A., Elia, I., & Makrides, G. (2002). Relations between the History of Mathematics and the Didactics of Mathematics. *Proceedings of the 20<sup>th</sup> Greek Conference of Mathematics Education: Mathematics as a Diachronic Factor of Civilization* (pp. 269-283). Komotini: Greek Mathematical Society (in Greek).
636. Gagatsis, A., Chrisanthou, A., & Christodoulides, M. (2002). The effect of the didactical contract and the implicit intuitive models in the modeling and the solution of arithmetical verbal problems of multiplication and division. In A. Gagatsis & G. Makrides (Eds.), *Proceedings of the 5<sup>th</sup> Cypriot Conference on Mathematics Education and 2<sup>nd</sup> Symposium of Astronautics and Space* (pp. 315-328). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
637. Gagatsis, A., †Dinas, A., & Pieros, G. (2002). Greek students' and teachers' perceptions of the axonic symmetry. In A. Gagatsis & G. Makrides (Eds.), *Proceedings of the 5<sup>th</sup> Cypriot Conference on Mathematics Education and 2<sup>nd</sup> Symposium of Astronautics and Space* (pp. 147-156). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).

638. Gagatsis, A., Giasoumi, N., & Philippou, A. (2002). Application of the concepts and methods of the didactics and history of mathematics in the concept of absolute value. In A. Gagatsis & G. Makrides (Eds.), *Proceedings of the 5<sup>th</sup> Cypriot Conference on Mathematics Education and 2<sup>nd</sup> Symposium of Astronautics and Space* (pp. 135-146). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
639. Gagatsis, A., Palaichorou, Ch., & Charalambous, Ch. (2002). Aiming at the breach of the didactical contract: The results of two interventions. In A. Gagatsis & G. Makrides (Eds.), *Proceedings of the 5<sup>th</sup> Cypriot Conference on Mathematics Education and 2<sup>nd</sup> Symposium of Astronautics and Space* (pp. 383-398). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
640. Gagatsis, A., Pieridou-Shimitra, M., & Magou-Parpetta, P. (2002). Fourth grade students' behavior in solving "routine" and "non-routine" verbal problems. In A. Gagatsis & G. Makrides (Eds.), *Proceedings of the 5<sup>th</sup> Cypriot Conference on Mathematics Education and 2<sup>nd</sup> Symposium of Astronautics and Space* (pp. 421-430). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
641. Antoniadis, M., Gagatsis, A., & Makrides, G. (2002). The ability of students of the University of Cyprus to solve problems of functional type. In A. Gagatsis & G. Makrides (Eds.), *Proceedings of the 5<sup>th</sup> Cypriot Conference on Mathematics Education and 2<sup>nd</sup> Symposium of Astronautics and Space* (pp. 123-133). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
642. Christoforides, M., Savva, A., Gagatsis, A., & Kyriakides, L. (2002). Developmental evaluation of primary school students in recognizing patterns. In A. Gagatsis & G. Makrides (Eds.), *Proceedings of the 5<sup>th</sup> Cypriot Conference on Mathematics Education and 2<sup>nd</sup> Symposium of Astronautics and Space* (pp. 341-353). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
643. Elia, I., & Gagatsis, A. (2002). Choosing among unusual problems according to given answers. In A. Gagatsis & G. Makrides (Eds.), *Proceedings of the 5<sup>th</sup> Cypriot Conference on Mathematics Education and 2<sup>nd</sup> Symposium of Astronautics and Space* (pp. 443-456). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
644. Giasoumi, N., & Gagatsis, A. (2002). Representations and the concept of function in First Grade of Comprehensive Lyceum. In A. Gagatsis & G. Makrides, (Eds.), *Proceedings of the 5<sup>th</sup> Cypriot Conference on Mathematics Education and 2<sup>nd</sup> Symposium of Astronautics and Space* (pp. 109-122). Nicosia: Cyprus Mathematical Society (in Greek).
645. Ioannou, I., Gagatsis, A., & Constantinou, C.P. (2002). A study of the role of representations in the understanding of the concept of vector. In A. Gagatsis & G. Makrides (Eds.), *Proceedings of the 5<sup>th</sup> Cypriot Conference on Mathematics Education and 2<sup>nd</sup> Symposium of Astronautics and Space* (pp. 191-202). Nicosia: Cyprus Mathematical Society, Department of Education-University of Cyprus (in Greek).
646. Markou, A., & Gagatsis, A. (2002). "Didactical Contract" and verbal problems: Effects and breach of the Contract in primary school students. In A. Gagatsis & G. Makrides, (Eds.), *Proceedings of the 5<sup>th</sup> Cypriot Conference on Mathematics Education and 2<sup>nd</sup> Symposium of Astronautics and Space* (pp. 211-226). Nicosia: Cyprus Mathematical Society (in Greek).

647. Markou, A., & Gagatsis, A. (2002). Representations and the learning of mathematical concepts: An application in fractions. In A. Gagatsis & G. Makrides, (Eds.), *Proceedings of the 5<sup>th</sup> Cypriot Conference on Mathematics Education and 2<sup>nd</sup> Symposium of Astronautics and Space* (pp. 329-340). Nicosia: Cyprus Mathematical Society (in Greek).
648. Vourgias, Ch., Vourgia, S., & Gagatsis, A. (2002). Didactics of Mathematics and mathematical problem. In A. Gagatsis & G. Makrides, (Eds.), *Proceedings of the 5<sup>th</sup> Cypriot Conference on Mathematics Education and 2<sup>nd</sup> Symposium of Astronautics and Space* (pp. 399-408). Nicosia: Cyprus Mathematical Society (in Greek).
649. Gagatsis, A., & Demarakis, I. (2001). Some difficulties in understanding the concept of limit. In A. Gagatsis & G. Makrides (Eds.), *Proceedings of the fourth Pancyprian Congress on Mathematics Education and Symposium of Astronautics and Space* (pp. 15-24). Nicosia: Cyprus Mathematical Society (in Greek).
650. Gagatsis, A., Ioannou, I., & Demakos, G. (2001). The role of representations in curriculum in mathematics. In A. Gagatsis & G. Makrides (Eds.), *Proceedings of the fourth Pancyprian Congress on Mathematics Education and Symposium of Astronautics and Space* (pp. 37-48). Nicosia: Cyprus Mathematical Society (in Greek).
651. Gagatsis, A., & Panaoura, A. (2001). A model of redaction projects for students of Grade 10 in mathematics - Examples. In A. Gagatsis & G. Makrides (Eds.), *Proceedings of the fourth Pancyprian Congress on Mathematics Education and Symposium of Astronautics and Space* (pp. 25-36). Nicosia: Cyprus Mathematical Society (in Greek).
652. Gagatsis, A., Philippou, A., Makrides, G., & Demarakis, I. (2001). Concepts and methods of Didactics of Mathematics. In A. Gagatsis & G. Makrides (Eds.), *Proceedings of the fourth Pancyprian Congress on Mathematics Education and Symposium of Astronautics and Space* (pp. 3-14). Nicosia: Cyprus Mathematical Society (in Greek).
653. Markou, A., Kazakou, P., & Gagatsis, A. (2001). Concrete representations and the procedural proportional theory. In A. Gagatsis & G. Makrides (Eds.), *Proceedings of the fourth Pancyprian Congress on Mathematics Education and Symposium of Astronautics and Space* (pp. 189-200). Nicosia: Cyprus Mathematical Society (in Greek).
654. Papadopoulos, G., & Gagatsis, A. (2001). Teaching Euclidean and non-Euclidean geometry in secondary schools. In A. Gagatsis & G. Makrides (Eds.), *Proceedings of the fourth Pancyprian Congress on Mathematics Education and Symposium of Astronautics and Space* (pp. 105-116). Nicosia: Cyprus Mathematical Society (in Greek).
655. Papadopoulos, G., Gagatsis, A., Makrides, G., & Fotiades, P. (2001). Intuitive model of arithmetic operations and multiplication and division problem solving. In A. Gagatsis & G. Makrides (Eds.), *Proceedings of the fourth Pancyprian Congress on Mathematics Education and Symposium of Astronautics and Space* (pp. 299-308). Nicosia: Cyprus Mathematical Society (in Greek).
656. Kyriakides, L., Gagatsis, A., & Antoniou, P. (2001). Exploring language minority - based differential item functioning on primary teachers tests in mathematics: Implications for the development of assessment policy. *Proceedings of the Congress: Education of Language Minorities: Language and Mathematics Teaching*. Thessaloniki: Department of Primary Education, Aristotle University (in Greek).
657. Gagatsis, A., Kyriakides, L., Michaelidou, E., & Shiakalli, M. (2000). The interplay of translation between the different fields of representation of the concept of function to the learning of the concept. In S. Georgiou, C. Christou & L. Kyriakides (Eds.), *Proceedings of the 6<sup>th</sup> Conference of the Cyprus Pedagogical Association: Contemporary Research in Educational Sciences* (pp. 361-368). Nicosia: University of Cyprus (in Greek).

658. Gagatsis, A., & Mougi, A. (2000). Aptitude of primary school students in formulation of algebraic relations in a context of translation tasks. In S. Georgiou, C. Christou & L. Kyriakides (Eds.), *Proceedings of the 6<sup>th</sup> Conference of the Cyprus Pedagogical Association: Contemporary Research in Educational Sciences* (pp. 337-347). Nicosia: University of Cyprus (in Greek).
659. Gagatsis, A., & Panaoura, G. (2000). The interplay of the arithmetic line in the resolution of addition and subtraction tasks. In S. Georgiou, C. Christou & L. Kyriakides (Eds.), *Proceedings of the 6<sup>th</sup> Conference of the Cyprus Pedagogical Association: Contemporary Research in Educational Sciences* (pp. 348-359). Nicosia: University of Cyprus (in Greek).
660. Gagatsis, A., & Michaelidou, E. (2000). The capability of translation of the Cypriot Lyceum students: Application of the implicative statistical analysis method - CHIC. *Proceedings of the 17<sup>th</sup> Panhellenic Conference of Mathematics Education* (pp. 622-632). Athens: Greek Mathematical Society (in Greek).
661. Gagatsis, A., & Mougi, A. (2000). The contribution of the implicative statistical analysis to the elaboration of data in Didactics of Mathematics: Application to the translation between representations. *Proceedings of the 17<sup>th</sup> Panhellenic Conference of Mathematics Education* (pp. 210-221). Athens: Greek Mathematical Society (in Greek).
662. Gagatsis A., & Shiakalli M. (2000). CHIC: A program of statistical analysis for elaboration of data related to Didactics of Mathematics-Application to the representations of functions. *Proceedings of the 17<sup>th</sup> Panhellenic Conference of Mathematics Education* (pp. 602-612). Athens: Greek Mathematical Society (in Greek).
663. Gagatsis, A., Demetriou A., Afantiti, T., Michaelidou, E., Panaoura, R., Shiakalli, M., & Christoforides, M. (1999). The influence of semiotic representations in the solution of addition problems. In A. Kollias, A. Margetousaki & P. Michaelides (Eds.), *Proceedings of the 4<sup>th</sup> Panhellenic Conference on Didactics of Mathematics and Informatics in Education* (pp. 514-521). Rhethymno: University of Crete (in Greek).
664. Gagatsis, A. (1998). Dyslexia and Mathematics. In Gr. Makrides (Ed.), *Proceedings of the Second Cypriot Conference in Mathematics Education* (pp. 14-22). Nicosia: Cyprus Mathematical Society (in Greek).
665. Gagatsis, A., & Demetriadou, E. (1997). The controversy of the Euclidean and vector method in the solving of geometrical problems - an empirical research between third class Lyceum students. *Proceedings of the 14<sup>th</sup> Panhellenic Conference of Mathematics Education* (pp. 389-399). Athens: Greek Mathematical Society (in Greek).
666. Dimarakis, I., & Gagatsis, A. (1997). Some difficulties of understanding of the limit concept. In T. Patronis, & P. Pintelas (Eds.), *Proceedings of the Second Greek Congress on Didactics of Mathematics and Informatics* (pp. 91-101). Athens: Pnevmatikos.
667. Gagatsis, A., & Lambis, S. (1996). Greek pupils' difficulties on additive structure problems. *Proceedings of the First Greek Congress "Mathematics in Education and the Society"* (pp. 277-289). Athens: University of Athens - Centre of Research of the Science of Education (K.E.EP.E.K.) (in Greek).
668. Gagatsis, A., Lambis, S., & Ntziachristos, E. (1996). Greek secondary pupils' resolution methods of proportion problems. *Proceedings of the First Greek Congress "Mathematics in Education and the Society"* (pp. 277-289). Athens: Department of Primary Education, University of Athens (in Greek).

669. Gagatsis, A., & Lambis, S. (1996). Mathematics Curriculum and Dyslexia. *Proceedings of the 13th Congress of the Greek Mathematical Society* (pp. 85- 101). Athens: Greek Mathematical Society (in Greek).
670. Gagatsis, A., & Bora-Senta, E. (1995). Problems of understanding of statistical tests by University students of Mathematics. In G. Philippou & A. Kakas (Eds.), *Proceedings of the Second Greek Congress on Didactics of Mathematics and Informatics* (pp. 365 – 382). Nicosia: University of Cyprus (in Greek).
671. Gagatsis, A., & Demetriadou, H. (1995). Comparison between the conceptions of Greek and Cypriot students related to the concept of vector. In G. Philippou & A. Kakas (Eds.), *Proceedings of the Second Greek Congress on Didactics of Mathematics and Informatics* (pp. 353 – 364). Nicosia: University of Cyprus (in Greek).
672. Asvesta, A., & Gagatsis, A. (1995). Problems of Interpretation related to the concept of function. In G. Philippou & A. Kakas (Eds.), *Proceedings of the Second Greek Congress on Didactics of Mathematics and Informatics* (pp. 323 – 336). Nicosia: University of Cyprus (in Greek).
673. Gagatsis, A., Katsoulou, M., & Marketos, A. (1987). A proposition concerning a Taxonomy of Didactical Exercises in Mathematics. *Proceedings of the 4<sup>th</sup> Panhellenic Conference of the Greek Mathematical Society* (pp. 16-29). Athens: Greek Mathematical Society (in Greek).
674. Gagatsis, A. (1986). Application of cloze test in Greek texts. *Proceedings of the Seventh Congress of the Linguistic Section of the Faculty of Philosophy* (pp. 337-353). Thessaloniki: Aristotle University (in Greek).

## 7.7 Conference Presentations

Selected participations in international, Greek and Cyprus conferences on Mathematics Education:

1. *Invited speaker* at the International Conference: *32th Incontri con la matematica*. Castel San Pietro, Bologna (November, 2018).
2. *Invited speaker* at the International Conference *ISSC: Logics of Image: Visual Learning, Logic and Philosophy of Form in East and West*. Kolymbari, Crete, Greece (August, 2018).
3. *Eleventh Congress of the European Society for Research in Mathematics Education (CERME 11)*. Utrecht, Netherlands: ERME (August, 2018).
4. 1st joint UNICA-Coimbra Group workshop for doctoral candidates, Rome, Italy (December, 2016).
5. Final Conference of the European Research Program LLP Comenius FAMT&L about «Formative Assessment in Mathematics for Teaching and Learning», Bologna, Italy (25 November, 2016).
6. *Invited speaker* at the International Conference *Didáctica de la Matemática-Una mirada internacional, empírica y teórica*. Chia: Universidad de la Sabana, Colombia.
7. Presentation of a number of studies at the 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 15<sup>th</sup>, 16<sup>th</sup>, 17<sup>th</sup>, 18<sup>th</sup> Cyprus Conferences of Mathematics Education and Symposiums of Astronautics and Space, Cyprus Mathematical Society, 2001, 2002, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016.

8. Participation and presentation in the colloquium *La didactique des mathématiques: approches et enjeux – Hommage à Michèle Artigue* (International Colloquium the Didactics of Mathematics: Approaches and Issues. A Hommage to Michèle Artigue), May 31 to June 1, 2012, Paris - <http://www.colloqueartigue2012.fr/>
9. **Invited speaker** at the International Conference *La Matematica e la sua didattica, quarant'anni di impegno* Mathematics and its didactics, forty years of commitment, In occasion of the 65 years of Bruno D'Amore, 8 October 2011, Bologna.
10. **Invited speaker** at the 2nd Conference of five cities in Mathematics Education, May 2011, Rhodes.
11. Participation at the 35<sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education, July 2011, Ankara: Turkey.
12. Participation at the 34<sup>th</sup> Conference of the International Group for the Psychology of Mathematics Education, July 2010, Belo Horizonte, Brazil.
13. **Invited speaker** at 1<sup>st</sup> Conference of the Pedagogical Institute: Educational Research and Educators' Training in Cyprus, 6-7 November 2009, Nicosia.
14. Presentation of a number of studies at the 6<sup>th</sup> Mediterranean Conference on Mathematics Education, 22-26 April 2009, Plovdiv, Bulgaria. Chair of the scientific committee and editor of the proceedings in collaboration.
15. Participation at CERME 6 (The 6<sup>th</sup> Conference of the European Society for Research in Mathematics Education) and presentation of six studies in collaboration with postgraduate students, 28/1/2009-1/2/2009, Lyon, France.
16. Participation and presentation of a number of studies in collaboration with postgraduate students at the 11<sup>th</sup> Cyprus Conference of Mathematics Education and Symposium of Astronautics and Space, Cyprus Mathematical Society. President of the scientific committee and editor of the proceedings in collaboration, 6-8 February, 2009, Cyprus.
17. President of the scientific and organizational committee, editor of the proceedings and presentation of studies in collaboration with postgraduate students at the "1<sup>st</sup> Conference of Five Cities: Nicosia, Rhodes, Bologna, Palermo, Locarno-Research in Mathematics Education", 13-14 September, 2008, Nicosia.
18. Participation and presentation of a number of studies in collaboration with postgraduate students at the 11<sup>th</sup> International Congress of Mathematics Education. Member of the organizational team of the Topic Study Group 20: Visualization in the teaching and learning of mathematics, 6-13 July, 2008, Monterrey, Mexico.
19. Participation and presentation of a number of studies in collaboration with postgraduate students at the 10<sup>th</sup> Cyprus Conference of Mathematics Education and Symposium of Astronautics and Space, Cyprus Mathematical Society. President of the scientific committee and editor of the proceedings in collaboration, February, 2008, Cyprus.
20. Participation and presentation of two studies at the conference for the Statistical Implicative Analysis, 5<sup>th</sup> International Conference A.S.I. - Implicative Statistical Analysis, 18-21 October 2007, at Castelló, Spain.
21. Participation and presentation of two studies at the symposia about "Assessment that feeds the development of potentials for learning", and "The development of children's reasoning on linear and non-linear situations" respectively, at the 12<sup>th</sup> Biennial Conference for Research on Learning and Instruction (EARLI), Budapest, Hungary, August 28-September 1, 2007.

22. *Invited speaker* at the 5<sup>th</sup> Mediterranean Conference on Mathematics Education, Rhodes, April 2007.
23. Participation and presentation of four studies at the 5<sup>th</sup> European Congress in Mathematics Education (CERME, European Society for Research in Mathematics Education), in two working groups, WG1: The role of metaphors and images in the learning and understanding of mathematics and WG7: Geometrical Thinking, Larnaca, Cyprus, 22-26 February 2007.
24. Participation and presentation of a study at the PREMA international workshop "Gender-Sensitivity and Pluralism in Mathematics Education" in Barcelona, Spain, 25-26 January 2007.
25. Presentation of a number of studies at the 2<sup>nd</sup>-5<sup>th</sup> Mediteranean Conference on Mathematics Education, 2000, 2003, 2005, 2007.
26. *Invited speaker* at the international conference "La Matematica e la Sua Didattica, vent'anni di impegno", Castel S. Pietro Terme, Italy, 23 September 2006.
27. Participation and presentation of six studies in collaboration with postgraduate students at the 30<sup>th</sup> International Conference for "Psychology of Mathematics Education", Prague, Czech Republic, 16-21 July 2006.
28. Participation and presentation of a number of studies in collaboration with postgraduate students at MASSE International Congress on Mathematics MICOM 2006, Pafos, Cyprus, 31 May-4 June, 2006.
29. Participation and presentation of 11 studies at the 4<sup>th</sup> Mediterranean Conference on Mathematics Education, 27-30 January 2005, Palermo, Italy.
30. Presentation of a number of studies at the 9<sup>th</sup> Cyprus Conference of the Cyprus Pedagogical Society: Contemporary educational research in Cyprus, Nicosia, Cyprus, June 2006.
31. Participation and presentation of a study at the 4<sup>th</sup> European Congress in Mathematics Education (CERME, European Society for Research in Mathematics Education) in Sant Feliu de Guixols, Spain, 17-21 February 2005.
32. *Invited speaker* at the Greek Conference of Pantio University "Psychology and Society", May, 2005.
33. Presentation of two studies at the Mathematics Education symposium on "Routine versus adaptive use of representations and models in mathematical problem solving", at the 11<sup>th</sup> Biennial Conference for Research on Learning and Instruction (EARLI), University of Cyprus, Nicosia, Cyprus, 22-27 August 2005.
34. *Invited speaker* (presentation of two studies) at the International Conference on Mathematics Education, Svishtov, Bulgaria, 3-5 June 2005.
35. Participation and presentation of three studies at the Third International Conference A.S.I. - Implicative Statistical Analysis, 6-8 October 2005, Palermo, Italy.
36. Presentation of two studies in collaboration with postgraduate students at the 21<sup>st</sup> Greek Conference of Mathematics Education: The curriculum and the teaching approaches of mathematics in primary and secondary education, Greek Mathematical Society, Trikala, 19-21 November 2004.
37. Participation and presentation of six studies in collaboration with postgraduate students at the 28<sup>th</sup> International Conference for "Psychology of Mathematics Education", Bergen, Norway, 14-19 July 2004.



38. Presentation of two studies at the working group on “New Developments and Trends in Secondary Mathematics Education” at the 10th International Congress on Mathematical Education (ICME-10), in collaboration with D. De Bock, M. Isoda, J. A. Garcia Cruz και E. Simmt, Copenhagen, 3-11 July 2004.
39. *Invited speaker* at the conference for the 20 years of the Pedagogical Department of Elementary Education, University of Athens, May 2004.
40. *Invited speaker* at the International and CASTME Europe Conference: Linking Science, Mathematics and Technology Education and their Social Relevance, Nicosia, 15-18 April 2004.
41. Presentation of three studies at the 8<sup>th</sup> Cyprus Conference of the Cyprus Pedagogical Society: Contemporary trends in educational research and practice, Nicosia, Cyprus, May 2004.
42. *Invited speaker* at the 17<sup>th</sup> Conference of Mathematics Education: “La didattica della matematica in aula”, Bologna, Italy, November 2003.
43. Participation and presentation of two studies in collaboration with postgraduate students at the 6<sup>th</sup> Greek Conference of the Didactics of Mathematics and Informatics in Education, University of Thessaly, Volos, October 2003.
44. Participation and presentation of two studies at the 27<sup>th</sup> International Conference for “Psychology of Mathematics Education”, Honolulu, Hawai'i, 13-18 July 2003.
45. *Invited speaker* at the 2<sup>nd</sup> Conference on Mathematics of Secondary Education, University of Athens-Department of Education, Athens, Greece, April 2003.
46. *Invited speaker* at the international conference “V Simposio de Educacion Matematica”, Buenos Aires, Argentina, 10-17 May 2003.
47. *Invited speaker* at the 3<sup>rd</sup> Mediterranean Conference on Mathematics Education, Athens, 3-5 January 2003. Co-editor of the conference proceedings in English.
48. Participation and presentation of two studies at the 7<sup>th</sup> Cyprus Conference of the Cyprus Pedagogical Society: Educational research in the period of globalization. Nicosia, Cyprus, 2002.
49. *Invited speaker* at the Congresso Nazionale Mathesis: La matematica fra tradizione e innovazione –Un confronto Europeo”, Bergamo, Italy, 2002.
50. Presentation of two studies at the International conference: The Humanistic Renaissance in Mathematics Education “The Mathematics Education into the 21<sup>st</sup> Century Project”, Palermo, Italy, 2002.
51. Presentation of a study at Argomentum, 2002, Strasbourg, France.
52. *Invited speaker* at the 3<sup>rd</sup> Conference of the Greek Pedagogical Society, Athens, Greece, 2002.
53. *Invited speaker* at the First Congress on the Perspectives of the Departments of Education, Aegean University, Rhodes, Greece, 2001.
54. Presentation of three Research Papers at the Fifth Panhellenic Conference on Didactics of Mathematics and Informatics in Education, Aristotle University of Thessaloniki, Thessaloniki, 2001.
55. *Invited speaker* at the 11th Conference “Didattica della Matematica e realta scolastica, Incontri con la Matematica”, Castel San Pietro, 1997.

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## 8 EDITORIAL AND REVIEW BOARDS

1. Co-editor of the proceedings at the 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> Cyprus Conferences of Mathematics Education and Symposiums of Astronautics and Space, Cyprus Mathematical Society, 2001, 2002, 2004, 2005, 2006, 2007, 2008, 2009, 2010.
2. Co-editor of the proceedings of the 2nd, 3rd, 4th, 5th Mediterranean Conference on Mathematics Education, 2000, 2003, 2005 and 2007.
3. Co-editor of the proceedings of the 7th, 8th, and 9th Conference of the Cyprus Pedagogical Society, 2002, 2004 and 2006.
4. Mathematics and Informatics, Bulgarian Journal of Educational Research and Practice (Member of the Editorial Board)
5. Avances de Investigación en Educación Matemática (AIEM) (Member of the Editorial Board), Spain, Sociedad Española de Investigación en Educación Matemática (SEIEM).
6. Annales de Didactique de Mathématiques (Member of the Editorial Board), France, IREM de Strasbourg
7. Cahiers de Didactique de Mathématiques (Editor), Greece, Institut Français de Thessalonique
8. Educational Studies in Mathematics (Member of the Editorial Board 1990-2016), Netherlands, Springer Publishers
9. Euclides  $\gamma$  (Member of the Scientific Committee), Greece, Greek Mathematical Society
10. La matematica e la sua didattica (Member of the Scientific Committee), Italy, Pitagora Editrice Bologna
11. Mediterranean Journal for Research in Mathematics Education (Chief Editor, 2000-2016), Cyprus, Cyprus Mathematical Society
12. Quaderni di Ricerca in Didattica (Member of the Scientific Committee), Italy, G.R.I.M. University of Palermo
13. Tecne, Episteme y Didaxis (Member of the Scientific Committee), Colombia, Facultad Ciencia y Tecnologia-Universidad Pedagógica Nacional
14. Scientia Paedagogica Experimentalis (Guest Editor), Belgium, University of Cent
15. Acta Didactica Universitatis Comenianae (Member of the Editorial Board)
16. Journal of Research of Mathematics Teaching (Reviewer)
17. Educational Psychology (Reviewer)
18. Co-editor of the proceedings of the working group on “New Developments and Trends in Secondary Mathematics Education” at the 10th International Congress on Mathematical Education, in collaboration with D. De Bock, M. Isoda, J. A. Garcia Cruz και E. Simmt, Copenhagen, 3-11 July 2004.
19. Co-editor of the proceedings of the CASTME International and CASTME Europe Conference: Linking Science, Mathematics and Technology Education and their social relevance, Nicosia 2004.

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## 9 PROFESSIONAL MEMBERSHIPS

Greek Mathematical Society, Greece

ARDM Association de Recherche en Didactique de Mathématiques, France

MATHEISIS, Italy (Member)

International Group for the Psychology of Mathematics Education (PME)

European Association for Research on Learning and Instruction (EARLI)

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## 10 SUPERVISION OF STUDENT RESEARCH

### *10.1 Undergraduate*

Supervision of the undergraduate research study by Constantinos Constantinou and Georgia Tanou of the Department of Education, University of Cyprus, which has received an award by the Cyprus Research Promotion Foundation (2005)

### *10.2 Graduate*

Supervisor of Doctoral Dissertations on Mathematics Education at the Department of Education, University of Cyprus.

Coordinator or member of scientific committees of numerous doctoral dissertations and master theses at Universities in Greece (Athens, Thessaloniki, Crete, Patra).

#### *10.2.1 Main Supervisor of Doctoral Dissertations*

1. Styliana Nikolaou, 2019-2020, Department of Education, University of Cyprus. ("Affective and cognitive domain aspects of students studying Economics and Management, in Mathematics: The case of Functions and their Representations" – in Greek).
2. Theodora Christodoulou, 2017-2018. Department of Education, University of Cyprus. ("Promoting Formative Assessment in Teaching of Mathematics in Secondary Education: Teachers and Students Beliefs and Teaching Interventions" – in Greek).
3. Eleni Kiliari, 2016-2017, Department of Education, University of Cyprus. ("The contribution of the book of Manolis Glyzounis in the Greek Mathematics Education – 16th-18th century" – in Greek).
4. Konstantinos Papagiannis, 2016-2017, Department of Education, University of Cyprus. ("A multifaced examination of the geometrical figure apprehension" – in Greek).
5. Andreas Philippou, 2014-2015, Department of Education, University of Cyprus. ("The concept of function – Transition from lower to upper secondary school – A theoretical model" – in Greek).

6. Panagiota Kalogirou, 2013-2014, Department of Education, University of Cyprus. ("Spatial ability and geometrical figure apprehension of students 10-13 years old" – in Greek).
7. Paraskevi Michael, 2012-2013, Department of Education, University of Cyprus. ("Geometrical figure apprehension: Cognitive processes and structure" – in English).
8. Annita Monoyiou, 2009-2010, Department of Education, University of Cyprus. ("Conceptual and Representational understanding related to the concept of function: A comparative study between Cyprus and Italy" – in English).
9. Vassiliki Alexandrou – Leonidou, 2009-2010, Department of Education, University of Cyprus. ("Introduction in the Primary school's Algebra: The concept of equity and the treatment of tasks with a different type of representation, syntax and structure" – in Greek).
10. Eleni Deliyianni, 2008-2009, Department of Education, University of Cyprus. ("The change of the primary and secondary school students' representational abilities in fractions" – in Greek).
11. Modestina Modestou, 2006-2007, Department of Education, University of Cyprus. ("Mathematical analogical thinking: A multidimensional cognitive and metacognitive model" – in Greek).
12. Georgia Panaoura, 2006-2007, Department of Education, University of Cyprus. ("The geometrical knowledge and abilities of the students at the end of primary education: comparing the geometrical thinking of primary and secondary school students" – in Greek).
13. Iliada Elia, 2005-2006, Department of Education, University of Cyprus. ("Multiple representations and Mathematical Problem Solving" – in Greek).
14. Eleni Michaelidou, 2003-2004, Department of Education, University of Cyprus. ("The use of the geometrical model of number line for representing the equity and the addition of fractions: an examination with the 5th graders" – in Greek).
15. Myria Shiakalli, 2003-2004, Department of Education, University of Cyprus. ("The number line as a geometrical model for the teaching of addition and subtraction of integers: an examination with the 1st and 2nd graders" – in Greek).
16. Ioannis Thomaides, 1994, Department of Mathematics, Aristotle University of Thessaloniki. ("The historical survey and the didactical transposition of the concept of absolute value" – in Greek).

### **10.3 Membership of Doctoral Examination Panels**

#### *10.3.1 Greek Universities*

17. Chara Bouta, 2013, University of Piraeus ("Design, Development, Implementation and Assessment of a 3D iconic environment of cooperative learning for the teaching of Mathematics in Primary Education").

#### *10.3.2 Other European Universities*

18. Raquel Barrera, 2012, Université Paris 7 Diderot, France ("Etude des significations de la multiplication pour différents ensembles de nombres dans un contexte de géométrisation").

19. Aggeliki Kolovou, 2011, Freudenthal Institute for Science and Mathematics Education, Utrecht University, Holland (“Mathematical Problem Solving in Primary School”).
20. Ceneida Fernández, 2010, University Alicante, Spain (“Características Del Desarrollo Del Razonamiento Proporcional. Estrategias Y Mecanismos Costructivos”).
21. Andri Marcou, 2007, SouthBank University of London, U.K (“Teaching mathematical word-problem solving: Can primary school students become self-regulated problem solvers?”).
22. Sylvia Sbaragli, 2006, Comenius University, Bratislava, Slovakia.

#### ***10.4 Supervisor of Master Thesis (National University of Athens)***

23. V. Gogou, 2019, “Object-image: two different nature of the geometrical figure.
24. P. Gridos, 2018, “Exploring mathematical creativity using multiple solution tasks in geometry”.
25. A. Aggeli, 2017, “The role of geometrical figure apprehension in geometrical reasoning and proof”.
26. I. Mixelarakis, 2012, “The conceptual understanding of geometrical figures”
27. C. Kalatha, 2012, “A multidimensional study of the learning of the concept of proportionality: the phenomenon of pseudo-proportionality”.
28. F. Zoulinaki, 2009, University of Athens, Greece (“Geometric and algebraic approaches in the concept of limit and the impact of the "didactic contract" in Greek”).
29. K. Gravvani, 2008, University of Athens, Greece (“Exploring different aspects of the understanding of function: Toward a four-facet model” – in Greek”).

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## **11 PARTICIPATION IN EDUCATION POLICY-MAKING COMMITTEES**

### ***11.1 Ministry of Education and Culture, Cyprus***

Committee of Reform of the Ministry of Education and Culture, Cyprus. Proposal for educational reform in Cyprus.

### ***11.2 Ministry of Education and Culture, Greece***

Committee of the Ministry of Education of Greece for the establishment of the new curricula of Mathematics in Greece, 1987-1989.

### ***11.3 Scientific Committees***

Committee for the establishment of national standards in mathematics education, Cyprus, Vice-chairman of the Group of Secondary Mathematics Education for establishing the national standards in mathematics. Pedagogical Institute and University of Cyprus.

Chair of the scientific Committees of Conferences of the Mathematical Society, the Pedagogical Society in Cyprus and of the Mediterranean Conferences on Mathematics Education.

#### *11.4 University of Cyprus Committees*

International Relations Committee.

Research Committee (2010-2018).

Students' Affairs Committee (2010-2018).

Staff and Finance Committee (2010-2018).

Library Committee (2010-2018).

UCY Cultural Center Committee (2013-2018).

Director of the UCY Voice Radio Committee (2010-2018).

#### *11.5 Departmental Committees*

Committee for the organization of seminars, Department of Education.

Chair of the Committee for the teaching practice program (practicum).

Chair of the Committee for Postgraduate Studies, 2000-2002.

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## **12 OTHER PROFESSIONAL ACTIVITIES**

1. Member of the organizing committee of CERME 5, 2007 in Cyprus.
2. Co-organisation of the Working Group 7: Geometrical thinking at the 5<sup>th</sup> European Congress in Mathematics Education (CERME5, European Society for Research in Mathematics Education, 2007)
3. Organization of the symposium "The role of representations and modelling in the learning of mathematics and problem solving" in the MASSEE International Congress on Mathematics (MICOM 2006)
4. Participation in the International Mathematics Competition at Bali, Indonesia, 2006, in Philippines, 2005 (PEMIC: Philippine Elementary Mathematics International Contest 2005) and Hong-Kong, 2001, as a leader of the Cypriot Olympic Team of 12-13-year-old pupils.
5. Co-organization of the Mediterranean Conference on Mathematics Education in Palermo, 2005, Athens, 2003 and Cyprus 2001.
6. Co-organization of the symposium "Routine versus adaptive use of representations and models in mathematical problem solving" in the International Conference for Research on Learning and Instruction (EARLI), 2005.
7. Co-organization of the Topic Study Group 2: "New Developments and Trends in Secondary Mathematics Education" in the International Congress on Mathematical Education (ICME 10), 2004.
8. Organization of seminars on the Didactics of Mathematics at the Mathematics Department of the Kristiansand University, Norway, November 2004.

9. Collaboration with the Mathematics Department, University of Athens in the framework of the postgraduate programme of Didactics and Methodology of Mathematics (2003-2005, 2006-2007).
10. Collaboration with the Mathematics Department, University of Patra in the framework of the postgraduate programme of Didactics of Mathematics.
11. Collaboration with the Mathematics Department, University of Palermo, Italy in the framework of the International Group of Language and Mathematics.
12. Collaboration with the Mathematics Department, University of Palermo, Italy and participation in the International Committee of the PhD Programme on the Didactics and History of Mathematics and Sciences.
13. Co-organization of the Working Group 7: “Language and communication in the mathematics classroom” in the International Congress on Mathematical Education (ICME 7, 1992).

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## 13 HONORS – DISTINCTIONS

### *13.1 State Decorations*

Chevalier dans l’Ordre des Palmes Académiques (French Republic, 2017)

Onorificenza di Commendatore (Italian Republic, 2013)

### *13.2 International Academic Distinctions*

UNESCO title of Expert on the Didactics of Mathematics (2003).

### *13.3 National Academic Distinctions*

#### *13.3.1 Cyprus*

Honorary president of the Cyprus Mathematical Society (2019).

Research distinction “ZENON” by the Cyprus Mathematical Society. (2018).

#### *13.3.2 Austria*

Member of the European Academy of Sciences and Arts. (Austria, Salzburg, 2018).

#### *13.3.3 Italy*

Decoration by the mathematics group of the University of Bologna for my contribution to the research of Mathematics Education. On the occasion of the 32th Incontri con la matematica, Castel San Pietro. (2018).

Honorary member of the Italian Pedagogical Society MATHESIS.

#### *13.3.4 Argentina*

Award by the Senate of the University of Lujan of Buenos Aires at the conference “V Simposio de Educacion Matematica”, 10-17 May, 2003, Argentina. Granted the title of Distinguished Visiting Fellow according to a Senate decree.

#### *13.4 Honorary Distinctions at the University of Cyprus*

Honorary distinction by the Dean of the School of Finance and Administration for my Academic Contribution to the University of Cyprus as the Vice Rector of the University. (2018).

Honorary distinction by the Department of Law of the University of Cyprus for my Academic Contribution to the Department as the Chairman of it for three years. (2018).

Honorary distinction by the Committee of the Library of the University of Cyprus for my contribution as the Chairman of the Committee. (2018).

Honorary distinction by the Council of the Radio Station UCY voice for my contribution as the Director of UCY voice for 8 years. (2018).



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## 14 CONTACT

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