

AIKATERINI I. ARETAKI

CURRICULUM VITAE

Department of Mathematics,
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RESEARCH INTERESTS

- Matrix Analysis
- Linear Algebra and Numerical Linear Algebra
- Operator Theory
- Quantum Information Theory

EDUCATION

National Technical University of Athens, Athens, Greece

- Ph.D. in Mathematics, March 2011. Dissertation “*Higher rank numerical ranges of nonnegative matrices and matrix polynomials*”, Advisor: Professor John Maroulas.
- M.Sc. in Applied Mathematical Sciences , February 2007, Grade 9.01/10.
Dissertation “*L and P properties of matrices*”, Advisor: Professor John Maroulas.
- B.Sc. in Applied Mathematical and Physical Sciences, November 2004, Grade 7.79/10.
Dissertation “*Functions of compact operators with applications to differential and integral equations*”, Advisor: Professor Sotirios Karanasios.

PROFESSIONAL APPOINTMENTS

Research Associate, Department of Mathematics, National Technical University of Athens, Greece, April 2011,–

AWARDS & FELLOWSHIPS

I.K.Y. Doctoral Dissertation Fellowship: November 2006 – July 2010.

Awarded by the State Scholarships Foundation (I.K.Y.), after competing at the courses of Real Analysis and Ordinary Differential Equations, Abstract and Linear Algebra and Differential Geometry.

Financial support: Provided by the Department of Mathematics of Pisa University to participate at the 16th ILAS conference in Pisa, June 2010.

LIST OF PUBLICATIONS

Articles submitted for Peer Review

- P1.** Aik. Aretaki and J. Maroulas, The k -rank numerical radii.
Preprint available at <http://arxiv.org/1104.1338v1> [math.FA], 2011.
- P2.** Aik. Aretaki and J. Maroulas, The higher rank numerical range of nonnegative matrices. Preprint available at <http://arxiv.org/1104.1328v1> [math.RA], 2011.
- P3.** Aik. Aretaki and J. Maroulas, The higher rank numerical range of matrix polynomials. Preprint available at <http://arxiv.org/1104.1341v1> [math.RA], 2011.

Articles published in Refereed International Scientific Journals

- J1.** Aik. Aretaki and J. Maroulas, Investigating the numerical range and q -numerical range of non square matrices, *Opuscula Mathematica*, **31**(3), 303–315, 2011.

CONFERENCES & SEMINARS

1. 17th Conference of the International Linear Algebra Society on Pure and Applied Linear Algebra: The New Generation (ILAS),
Braunschweig, Germany, 22–26 August 2011.
Presentation: *The higher rank numerical range of nonnegative matrices.*
2. Mat-Triad Workshop, Tomar, Portugal, 12–16 July 2011.
Presentation: *Generalizations of numerical range of matrix polynomials.*
3. Workshop on Directions in Matrix Theory, Department of Mathematics, University of Coimbra, Portugal, 9–10 July 2011.
4. 22nd International Workshop on Operator Theory and Analysis (IWOTA), Sevilla, Spain, 3–9 July 2011.
Presentation: *The k -rank numerical radii.*
5. 10th Workshop on Numerical Ranges and Numerical Radii (WONRA),
Krakow, Poland, 27–29 June 2010.
Presentation: *The higher rank numerical range of matrix polynomials.*
6. 16th Conference of the International Linear Algebra Society (ILAS),
Pisa, Italy, 21–25 June 2010.
Presentation: *Investigating the numerical range and q -numerical range of non square matrices.*
7. Linear Algebra Seminar, National Technical University of Athens, Greece, April 2010.
Presentation: *The k -rank numerical ranges* (part of my Ph.D. Thesis).
8. Linear Algebra Seminar, National Technical University of Athens, Greece, April 2010.
Presentation: *The numerical ranges of non square matrices* (part of my Ph.D. Thesis).
9. Mat-Triad Workshop, Bedlewo, Poland, 22–25 March 2009.
Presentation: *Investigating the numerical range of non square matrices.*

CITATIONS

- C1.** Ch. Chorianopoulos and P. Psarrakos, Birkhoff-James approximate orthogonality sets and numerical ranges, *Linear Algebra and its Applications*, **434**, 2089-2108, 2011. Citation on the article **J1**.

TEACHING EXPERIENCE

Laboratory Assistant: Duties included teaching undergraduate Laboratory courses of the School of Applied Mathematical and Physical Sciences at the National Technical University of Athens in Greece. Also writing and grading Lab exercises and exams.

- *Numerical Analysis I and Laboratory*,
Academic Years: 2006-2007, 2007-2008 and 2009-2010 (10 hours per week).
- *Numerical Analysis II and Laboratory*,
Academic Years: 2006-2007 (8 hours per week), 2007-2008, 2008-2009, 2009-2010 (10 hours per week) and 2010-2011 (4 hours per week).

Teaching Assistant: Duties included correcting and grading undergraduate exercises and exams of Schools at the National Technical University of Athens.

- *Linear Algebra*,
School of Applied Mathematical and Physical Sciences, 2006–2010.
- *Linear Algebra*,
School of Mechanical Engineering, 2006–2010.

Remedial Teaching in Secondary Education: Duties included teaching math courses for 6 hours per week after compulsory courses at school. Recruited during the State Program of the Greek Government for Additional Teaching Support in Secondary Education.

- *Linear Algebra* (2 hours per week), 12th Lyceum of Athens, Greece, 2008-2009.
- *Euclidean Geometry* (4 hours per week), 54th Lyceum of Athens, Greece, 2008-2009.

COMPUTATIONAL SKILLS

Computer Software: Matlab, Mathematica, SPSS, Microsoft Office

Computer Languages: \LaTeX , HTML

SKILLS

Languages: English, Greek

PROFESSIONAL MEMBERSHIPS

International Linear Algebra Society, Member, 2010-present

REFERENCE SCIENTISTS

1. Professor John Maroulas,

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Department of Mathematics,
National Technical University of Athens, Greece,
9 Iroon Polytechniou, Zografou Campus,
15780 Athens, Greece

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2. Professor Sotiris Karanasios,

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15780 Athens, Greece

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3. Assistant Professor Konstantinos Chrysafinos (Teaching),

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