CURRICULUM VITAE

MARILENA MITROULI

1 PERSONAL INFORMATION

Place of Birth: Athens, Greece
Citizenship: Greek.
Present Position: Professor

Office Address: Department of Mathematics,
National and Kapodistrian University of Athens,
Panepistimiopolis, 15784 , Athens, Greece

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2 EDUCATION

B.Sc. in Mathematics, Department of Mathematics, University of Athens, Greece, 1983.
M. Sc. in Computer Science and Operational Research, University of Athens, 1985.
Ph. D. in Numerical Issues and Computational problems in Algebraic Control Theory, Department of Electrical Electronic and Information Engineering, City University, London, 1991, (Supervisor: Professor Nicos Karcanias).

3 EXPERIENCE

October 1985 - October 1991: Postgraduate Scholar, Department of Mathematics, University of Athens.
February 1992 - February 1995: Research Associate, Department of Mathematics, University of Athens.

3.1 ACADEMIC POSITIONS

1995-2001:	Lecturer, Department of Mathematics, University of Athens, Athens, Greece.
2001-2011 :	Assistant Professor, Department of Mathematics, University of Athens, Athens, Greece.
2012-2017 :	Associate Professor, Department of Mathematics, University of Athens, Athens, Greece.
2018-present :	Professor, Department of Mathematics, University of Athens, Athens, Greece.

3.2 UNIVERSITY TEACHING EXPERIENCE

Lectures to undergraduate students in the following subjects:

Numerical Analysis
Numerical Linear Algebra
Computer Graphics
Matrix theory with applications
Informatics

Lectures to postgraduate students in the following subjects:

Numerical Linear Algebra
Computational Mathematics
Applied Linear Algebra
Linear and Nonlinear Control Theory

4 STUDENTS SUPERVISION

4.1 PhD Students

1. C. Kravvaritis, *A computational methodolodgy of determinants of weighing matrices with applications to the growth problem*, July 2008. (C. Kravvaritis awarded the Humbolt fellowship for Numerical Analysis.)

2. D. Triantafyllou, *Numerical Algorithms computing rank and null space of Sylvester, Toeplitz matrices and applications*, January 2009.

3. D. Christou *ERES methodology and approximate algebraic computations*, City University London, October 2011 (joint supervision with Professor N. Karcanias).

4. P. Fika, *Numerical methods for estimating functions of matrices*, January 2017.

5. P. Roupa *Computational methodologies of bilinear forms and applications*, July 2020.

4.2 MSc Students

1. S. Pasoulas, *Numerical methods for the nonsymmetirc eigenvalue problem*, 1993.

2. S. Georgiou, *Orthogonal designs with applications*, 1999.

3. Sp. Georgiou, *Study of the growth factor and the pivot structure of weighing matrices*, 2002.

4. D. Triantafyllou, *Statistical study of the stability of the Gaussian elimination method*, 2003.

5. C. Kravvaritis, *Weighing matrices and their contribution to the growth problem*, 2004.

6. A. Zaganas, *Optical cryptography with applications*, 2004.

7. D. Christou, *Numerical determination of the GCD of polynomials with the ERES method through a hybrid nature*, 2004.

8. P. Kontzinou, *The Weierstrass canonical form of matrix pencils*, 2006.

9. M. Kourniotis, *Parallel processing of QR factorisation with applications*, 2008.

10. D. Papagiannoulis, *QR-factorization and applications to matrices of special forms*, 2010.

11. D. Afouksenidis, "Design and creation of a web page for the management of Numerical Linear Algebra issues", 2011.

12. A. Karapiperi, "Computation of subdeterminants of weighing matrices $W(n, n-1)$ with zeros in the diagonal", 2011.

13. V. Noutsis, "Study of the normalized problem of least squares with conditional solution and its application in the gravitational method", 2011.

14. K. Rammou, "Numerical methods in ill-conditioned linear systems", 2012.

15. P. Kampageorgiou, "Error estimates in the numerical solution of linear systems", 2013.

16. P. Roupa, "Numerical methods for estimating bilinear forms and applications in network analysis", 2014.

17. P. Fika, "Numerical computation of the trace of the inverse matrix and relative inequalities", 2014.

18. S. Bikopoulou, "Generalized eigenvalue problem", 2015.

19. T. Antonellou, "Projection methods for the numerical solution of linear systems", 2016.

20. P. Gryparis, "Bezout matrices and applications", 2016.

21. S. Sotiriou, "Numerical methods for computing the Greater Common Divisor of polynomials and applications", 2017.

22. M. Papadimitraki, "Study of the normalized least squares problem", 2018.

23. N. Cheilakos, "Numerical methods for computer graphics", 2021.

24. M. Boufi, "On the growth problem for Hadamard matrices", 2021.

5 RESEARCH GRANTS

- *EPIC*: Collaboration with City University, London, (1990).
- *Group Theory and Distribution Theory in Combinatorial Designs with Applications in Control Theory and Statistics*: No. 70/4/2235, Research Secretariat, University of Athens, (1995-1996).
- *ESPRIT project SESDIP*: Collaboration with City University, London (1995-1996).
- *Mathematical Software in Matrix Analysis with Applications in Control Theory and Statistics*: No. 70/4/2548, Research Secretariat, University of Athens, (1996-1997).
- *Probabilistic Bounds in Error Analysis*: No. 70/4/3416, Research Secretariat, University of Athens, (1997-1998).
- *Optimization Methods and Applications in Control Theory and Statistics*: No. 70/4/3414, Research Secretariat, University of Athens, (1997-1998).
- *Mathematical Models in Control Theory and Industrial Systems*: No. 95ED1226, Greek General Secretariat of Research and Technology, (1997-1998).
- *Mathematical Models and issus of Control Theory in industry systems*: No. A/A:771, Greek General Secretariat of Research and Technology, (1997-1998).
- *Mathematical Models and Optimization Methods in Discrete Systems and Information Theory*: No. 70/4/3414, Research Secretariat, University of Athens, (1998-1999).
- *Numerical Linear Algebra Issues and Applications in Control Theory and Cryptography*: No. 70/4/3416, Research Secretariat, University of Athens, (1998-1999).
- *Mathematical Models and Applications in Information Theory*: No. 70/4/3414, Research Secretariat, University of Athens, (1999-2000).
- *Numerical Linear Algebra Issues: Algorithms and Applications*: No. 70/4/3416, Research Secretariat, University of Athens, (1999-2000).
- *Combinatorial Designs, Sequences with Zero Autocorrelation, Polynomial Matrices, and Cryptography*: No. 70/4/5760, Research Secretariat, University of Athens, (2001-2002).

- *Discrete Mathematics: Combinatorial Designs, Sequences with Zero Autocorrelation, Error-Correcting Codes and Cryptography*: No. 70/4/5760, Research Secretariat, University of Athens, (2003-2004).
- *Methods analysing, composing and computing orthogonal systems of boolean functions in security information systems*: ENTER, No. 03ER 43, Greek General Secretariat of Research and Technology, (2003-2004).
- *Efficient Algorithms, Error-Correcting Codes and Cryptography*: No. 70/4/3416, Research Secretariat, University of Athens, (2005-2006).
- *Discrete Mathematics*: No. 70/4/5760, Research Secretariat, University of Athens, (2007-2008).
- *Efficient Algorithms for High Performance Cryptographic Systems and Data Coding with Applications in Information Security*: No. 03ED740, Greek General Secretariat of Research and Technology, (2004-2008).

6 CONFERENCES

1. First European Control Conference, Grenoble, France, *Grenoble, France* - July 1991.
2. 11th IASTED International Conference, Modelling, Identification and Control, *Innsbruck, Austria* - February 1992.
3. IMA International Conference on Control: Modelling, Computation, Information, *Manchester, England* - September 1992.
4. First Hellenic Conference on Mathematics and Informatics, *Athens, Greece* - September 1992.
5. 12th IASTED International Conference, Modelling, Identification and Control, *Innsbruck, Austria* - February 1993.
6. Summer Workshop on Computer Aided University Mathematics Instruction, *Athens, Greece* - August 1993.
7. 13th IASTED International Conference, Modelling, Identification and Control, *Innsbruck, Austria* - February 1994.

8. Second Hellenic Conference on Mathematics and Informatics, *Athens, Greece* - September 1994.

9. Spring School on Digital Media Communications: From Computer Graphics to Virtual Reality, *Athens, Greece* - March 1994.

10. Circuits, Systems and Computers Conference, *Athens, Greece* - July 1996.

11. Third Hellenic European Conference on Mathematics and Informatics, *Athens, Greece* - September 1996.

12. Twenty-third Australasian Conference on Combinatorial Mathematics and Combinatorial Computing, The Univirsity of Queensland, *Brisbane, Australia* - July 1998.

13. Fourth Hellenic-European Conference on Mathematics and Informatics, *Athens, Greece* - September 1998.

14. IFAC Symposium on System Structure and Control (SSSC),*Prague, Chech Rep.* - June 2001.

15. Fifth Hellenic European Conference on Mathematics and Informatics, *Athens, Greece* - September 2001.

16. The 15th National Statistical Conference, *Ioannina, Greece* - May 2002.

17. The 8th International Conference on Applications of Computer Algebra, *Volos, Greece* - June 2002.

18. 11th Mediterranean Conference on Control and Automation (MED'03), *Rhodes, Greece* - June 2003.

19. Recent Advances in Statistical Designs and Related Combinatorics, *Athens, Greece* - July 2003.

20. European Control Conference, *Cambridge, England* - September 2003.

21. Sixth Hellenic European Conference on Mathematics and Informatics, *Athens, Greece* - September 2003.

22. Third Conference on Numerical Analysis and Applications, *Rousse, Bulgaria* - July 2004.

23. 13th Mediterranean Conference on Control and Automation, *Limassol, Cyprus*- June 2005.

24. The 8th International Workshop, Computer Algebra in Scientific Computing, CASC 2005, *Kalamata, Greece* - September 2005.

25. International Conference on computational science, *Reading, U.K.* - May 2006.

26. Third international conference of applied mathematics, *Plovdiv, Bulgaria* - August 2006.

27. International Conference on Modern Mathematical Methods in Science and Technolodgy (M3ST06), *Paros, Greece* - September 2006.

28. European Control Conference (ECC07), *Kos, Greece* - July 2007.

29. Computational Methods with Applications, *Harrachov, Czech Republic* - August 2007.

30. Conference in Numerical Analysis, Recent Approaches to Numerical Analysis: Theory, Methods and Applications (NumAn 2007), *Kalamata, Greece* - September 2007.

31. Householder Symposium XVII, *Zenthen, Germany* - June 2008.

32. Fourth Conference on Numerical Analysis and Applications, *Lozenetz, Bulgaria* - June 2008.

33. Conference in Numerical Analysis, Recent Approaches to Numerical Analysis: Theory, Methods and Applications (NumAn 2008), *Kalamata, Greece* - September 2008.

34. Numerical Analysis and Scientific Computation with Applications (NASCA 2009), *Agadir, Morocco* - May 2009.

35. 16th Conference of the International Linear Algebra Society (ILAS 10), *Pisa, Italy* - June 21-25 2010.

36. Conference in Numerical Analysis, Recent Approaches to Numerical Analysis: Theory, Methods and Applications (NumAn 2010), *Chania, Greece* - September 2010.

37. International Conference on Numerical Algebra and Scientific Computing (NASC10), *Beijing, China* - October 2010.

38. International Conference on Scientific Computing (SC2011), *Cagliari, Italy* - October 2011.

39. Structured Numerical Linear and Multilinear Algebra Problems:Analysis, Algorithms, and Applications (SLA 2012), *Leuven, Belgium* - September 2012.

40. Numerical Analysis and Scientific Computation with Applications (NASCA 2013), *Calais, France* - June 2013.

41. Structured Numerical Linear and Multilinear Algebra Problems:Analysis, Algorithms, and Applications (SLA 2014), *Kalamata, Greece* - September 2014.

42. International Conference on Modern Mathematical Methods in Science and Technolodgy (M3ST15), *Kalamata, Greece* - September 2015.

43. Matrix Scientific Computing (MSC), *Calais, France* - May 2016.

44. 5emes Journees Approximation (ja2016), *Lille, France* - May 2016.

45. 20th Conference of the International Linear Algebra Society (ILAS16), *Leuven, Belgium* - July 2016.

46. Numerical Linear Algebra with Applications (NLA2A), *Marseille, France* - October 2016.

47. International Conference on Operational Planning, Technological Innovations and Mathematical Applications (OPTIMA), *Hellenic Military Academy, Greece* - May 2017.

48. Rencontre en Algebre Lineaire Numerique Amiens-Calais (RENALNACA), *Amiens, France* - May 2017.

49. Structured Numerical Linear and Multilinear Algebra Problems: Analysis, Algorithms, and Applications (SLA 2017), *Cortona, Italy* - September 2017.

50. Numerical Analysis of Partial Differential Equations, A conference in honor of Vassilios Dougalis, *Athens, Greece* - May 2018.

51. Numerical Analysis and Scientific Computation with Applications (NASCA 2018), *Kalamata, Greece* - July 2018.

52. International Conference on Modern Mathematical Methods in Science and Technolodgy (M3ST18), *Kalamata, Greece* - September 2018.

53. The International Conference Mathematical Modelling with Applications (M2A19), *Rabat, Morocco* - April 2019.

54. Recent Advances in Scientific Computation (ETNA25), *S. Margherita di Pula, Cagliari, Italy* - May 2019.

55. Numerical Methods for Large Scale Problems (NMLSP2022), *Belgrade, Serbia* - June 2022.

7 ACADEMIC ACTIVITIES

7.1 EDITORIAL WORK

- Linear Algebra and its Applications, Guest Editor, Special Issue on Structured matrices and their applications, Vol. 502, (2016).
- Journal of Computational and Applied Mathematics, Guest Editor, Special Issue on Numerical Analysis and Scientific Computation with Applications, Vol. 373, (2020).
- Mathematics, Guest Editor, Special Issue on Numerical Linear Algebra and the Applications, Vol. 9, (2021).
- Special Matrices, Member of the Editorial Advisory Board.

7.2 ORGANIZATION OF INTERNATIONAL CONFERENCES

- I was a co-organizer of the international conference

  Structured Numerical Linear and Multilinear Algebra SLA2014): Analysis, Algorithms and Applications, 8-12 September 2014, Kalamata, Greece.

  http://noether.math.uoa.gr/conferences/sla2014/

- I was a co-organizer of the international conference

  Numerical Analysis Scientific Computing and Applications (NASCA18), 2-6 July 2018, Kalamata, Greece.

  http://nasca18.math.uoa.gr

I organized the following colloquiums at the Department of Mathematics of the University of Athens

- Colloquium on Numerical Linear Algebra in November 2005, June 2007, November 2011 and July 2013 with international participation.
- ERASMUS DAY 2015, ERASMUS DAY 2016, ERASMUS DAY 2018

  http://noether.math.uoa.gr/erasmus-day/ in cooperation with the Department of European and International Relations of the University of Athens with international participation. (May 2015, May 2016, February 2018.)

7.3 OTHER ACTIVITIES

- I am the ERASMUS coordinator of the Department of Mathematics of National and Kapodistrian University of Athens.

- I have written referee's reports for papers which were submitted for publication in the journals: Mathematics of Computation, Linear Algebra and its Applications, Numerical Algorithms, Journal of Computational and Applied Mathematics, Calcolo, Special matrices, IEEE Transactions on Automatic Control, International Journal of Control, Kybernetika, Journal of Applied Statistics and in the conferences: ISSAC'97, American Control Conference 1998, 2000, Conference on Decision and Control (CDC) 2000-2004, 2nd IFAC Symposium on System Structure and Control (SSSC) 2004, 12th Mediterranean Conference on Control and Automation (MED'04),2006 CCA/CASD/ISIC, ECC07, CDC07, CDC08.

- I was member of the scientific committee of the conferences Conference in Numerical Analysis NumAn10, Chania, September 2010, Conference in Numerical Analysis NumAn08, Kalamata, September 2008 and Conference in Numerical Analysis NumAn07, Kalamata, September 2007.

8 RESEARCH INTERESTS

- *Numerical Linear Algebra and Learning from the Data techniques in Statistics*: Condition estimation for regression and feature selection. Estimation of the GCV function via several numerical approaches. Study and analyze the way that the data of the problem can lead us to the selection of the appropriate method for their manipulation.

- *Estimates for bilinear forms $y^* f(A)x$ for an appropriate selection of the function f, the matrices A and the vectors x, y*: Study and generation of families of estimates via extrapolation by using the singular value decomposition and the moments of the matrix A. Application of the families of estimates in the approximation of the whole diagonal of the inverse matrix and for other matrix quantities useful in Statistics and Network Theory.

- *Estimation of the trace of matrices:* Study of the extrapolation procedures for the derivation of estimates for the trace of powers of matrices.

- *Study of the growth factor in the Gauss elimination with complete pivoting:* Study and computation of the pivots in Hadamard, Weighing matrices and in D-optimal designs.

- *Numerical methods for finding the greatest common divisor and the least common multiple of polynomials:* Development of numerical algorithms based on numerical linear algebra methods for calculating the GCD and the MCF. Creation of appropriate software (numerical and symbolic). Application of these algorithms to the study of the problem of blind image deconvolution.

- *Computations of the rank and the null space of matrices of specific form:* Study of numerical methods for the computation of the rank and the null space of matrices Sylvester, Generalized Sylvester, block Toeplitz. Specifically, the complexity and the error analysis of all the developed methods are studied as well as the comparison with other existing methods.

- *Matrix Pencil Theory*: Development of numerical methods for determining the canonical forms Weierstrass and Kronecker for regular and singular bundles of matrices.

- *Rounding Error Analysis:* Study of the stability of the algorithms which are based on techniques of Numerical Linear Algebra.

- *Numeical algorithms for computing canonical forms of matrices:* It has been emphasised the optimal designs and the polynomial matrices.

AMS Codes

65F05 (Direct methods for linear systems and matrix inversion), 65F30 (Other matrix algorithms), 65F40 (Determinants), 65G50 (Roundoff error), 65Y20 (Complexity and performance of numerical algorithms), 15A15 (Determinants, permanents,other special matrix functions), 15A21 (Canonical forms, reductions, classification), 15A23 (Factorization of matrices), 05B20 (Matrices (incidence, Hadamard)).

CITATIONS

According to Google Scholar (4/11/2021):

- Total citations: 865

- h-index: 15

- i10-index: 28

They are recorded **324** citations from which **216** from authors referring to a paper into which they are not coauthors and **108** from authors referring to a paper into which they are coauthors.

9 BOOKS

- *Numerical Linear Algebra and Scientific Computing*, National and Kapodistrian University of Athens, 2022 (in Greek).
- *Laboratory of Scientific computing*, University of Athens, 2001 (in Greek).
- *A guide to pc's and DOS*, Symmetria, Athens, 1995 (in Greek).

10 PUBLICATIONS

PhD Thesis

1. M. Mitrouli, Numerical Issues and Computational Problems in Algebraic Control Theory, *The City University, London*, (1991).

Papers in Refereed Journals

2. G. Kalogeropoulos and M. Mitrouli, On the computation of the Weierstrass canonical form of a regular matrix pencil, *Control and Computers* , Vol. 20, (1992), No. 3, pp. 61-68.
3. M. Mitrouli and N. Karcanias, Computation of the G.C.D. of polynomials using Gaussian transformations and shifting, *International Journal of Control*, Vol. 58, (1993), No. 1, pp. 211 - 228.
4. G. Kalogeropoulos and M. Mitrouli, On the computation of row and column minimal indices of a singular matrix pencil, *J. Instit. Math. Comput. Science*, Vol. 7, (1994), No. 1, pp. 59-72.
5. N. Karcanias and M. Mitrouli, A matrix pencil based numerical method for the computation of the GCD of polynomials, *IEEE Transactions on Automatic Control*, Vol. 39, (1994), No. 5, pp. 977 - 981.

6. M. Mitrouli and G. Kalogeropoulos, A compound matrix algorithm for the computation of the Smith form of a polynomial matrix, *Numerical Algorithms*, Vol. 7, (1994), pp. 145-159.

7. G. Kalogeropoulos and M. Mitrouli, On the computation of the Weiersrass canonical form of a regular pencil: Part II, *Control and Computers*, Vol. 22, (1994), No 1, pp.18-22.

8. M. Mitrouli and C. Koukouvinos, Statistical error bounds for basic floating point operations, *J. Instit. Math. Comput. Science*, Vol. 8, (1995), No. 2, pp. 71-79.

9. C. Koukouvinos, M. Mitrouli and J. Seberry, On the Smith normal form of D-optimal designs, *Linear Algebra and its Appl.*, Vol. 247, (1996), pp. 277-295.

10. M. Mitrouli, N. Karcanias and C. Koukouvinos, Further numerical aspects of the ERES algorithm for the computation of the greatest common divisor of polynomials and comparison with other existing methodologies, *Utilitas Mathematica*, Vol. 50, (1996), pp. 65-84.

11. M. Mitrouli, N. Karcanias and C. Koukouvinos, Numerical performance of the matrix pencil algorithm computing the greatest common divisor of polynomials and comparison with other matrix based methodologies, *J. Comp. Appl. Math.*, Vol. 76, (1996), pp. 89-112.

12. M. Mitrouli, G. Kalogeropoulos and C. Koukouvinos, On the computation of the elementary divisors and the Smith normal form of homogeneous matrix pencils, *Utilitas Mathematica*, Vol. 49, (1996), pp. 161-172.

13. C. Koukouvinos, M. Mitrouli, J. Seberry and P. Karabelas, On sufficient conditions for some orthogonal designs and sequences with zero autocorrelation function, *Australas. J. Combin.*, Vol. 13, (1996), pp. 197-216.

14. M. Mitrouli, N. Karcanias and C. Koukouvinos, Canonical forms of some special matrices useful in Statistics, *Korean J. Comp. and Appl. Math.*, Vol. 4, (1997), pp. 63-82.

15. G. Kalogeropoulos and M. Mitrouli, Generalised linear discrete-time systems and matrix pencils algebraic duality, *J. Instit. Math. Comput. Science*, Vol. 10, (1997), No. 2, pp. 81-90.

16. C. Koukouvinos, M. Mitrouli and J. Seberry, On the Smith normal form of weighing matrices, *Bull. Inst. Combin. Appl.*, Vol. 19, (1997), pp. 57-69.

17. M. Mitrouli and C. Koukouvinos, The behaviour of probabilistic error bounds in floating point algebraic processes, *Korean J. Comp. and Appl. Math.*, Vol. 4, (1997), No. 1, pp. 211-222.

18. M. Mitrouli, N. Karcanias and C. Koukouvinos, Numerical aspects for nongeneric computations in control problems and related applications, *Congressus Numerantium*, Vol. 126, (1997), pp. 5-19.

19. M. Mitrouli and C. Koukouvinos, On the computation of the Smith normal form of compound matrices, *Numerical Algorithms*, Vol. 16, (1997), pp.95-105.

20. M. Mitrouli and G. Kalogeropoulos, A matrix pencil approach computing the elementary divisors of a matrix, *Korean J. Comp. and Appl. Math.*, Vol 5, (1998), No. 3, pp.627-644.

21. C. Koukouvinos, M. Mitrouli, and J. Seberry, Necessary and sufficient conditions for some two variable orthogonal designs in order 44, *J. Combin. Math. Combin. Comput.*, Vol. 28, (1998), pp.267-287.

22. C. Koukouvinos, M. Mitrouli, and J. Seberry, Numerical algorithms for the computation of the Smith normal form of integral matrices, *Congressus Numerantium*, Vol. 133, (1998), pp.127-162.

23. M. Mitrouli, Numerical linear algebra techniques in control problems, *Int. J. Appl. Math.*, Vol. 1, (1999), No. 1, pp.91-102.

24. P. Yalamov and M. Mitrouli, A fast algorithm for index of annihilation computations, *J. Comp. Appl. Math.*, Vol. 108, (1999), pp. 99-111.

25. C. Koukouvinos, M. Mitrouli, and J. Seberry, Growth in Gaussian elimination for weighing matrices, W(n,n-1), *Linear Algebra and its Appl.*, Vol. 36, (2000), pp.189-202.

26. C. Koukouvinos, M. Mitrouli, and J. Seberry, Bounds on the maximum determinant for $(1,-1)$ matrices, *Bull. Inst. Combin. Appl.*, Vol. 29, (2000), pp. 39-48.

27. N. Karcanias and M. Mitrouli, Numerical computation of the least common multiple of a set of polynomials, *Reliable Computing*, Vol. 6, Issue 4, (2000) pp. 439-457.

28. S. Georgiou, C. Koukouvinos, M. Mitrouli, and J. Seberry, Necessary and sufficient conditions for two variable orthogonal designs in order 44: Addendum, *J. Combin. Math. Combin. Comput.*, Vol. 34, (2000), pp. 59-64.

29. S. Georgiou, C. Koukouvinos, M. Mitrouli, and J. Seberry, A new algorithm for computer searches for orthogonal designs, *J. Combin. Math. Combin. Comput.*, Vol. 39, (2001), pp. 49-63.

30. S. Georgiou, C. Koukouvinos, M. Mitrouli, and J. Seberry, Necessary and sufficient conditions for three and four variable orthogonal designs in order 36, *J. Statist. Plann. Inference*, Vol. 106, (2002), pp. 329-352.

31. C. Koukouvinos, M. Mitrouli, and J. Seberry, Values of minors of $(1, -1)$ incidence matrices of $SBIBDs$ and their application to the growth problem, *Designs, Codes and Cryptography*, Vol. 23, (2001), pp. 267-281.

32. C. Koukouvinos, M. Mitrouli, and J. Seberry, An algorithm to find formulae and values of minors of Hadamard matrices, *Linear Algebra and its Appl.*, Vol. 330, (2001), pp. 129-147.

33. C. Koukouvinos, M. Mitrouli, and J. Seberry, Values of minors of an infinite family of D-optimal designs and their application to the growth problem, *SIAM Jour. Matrix Anal. and its Appl.*, Vol. 23, (2001), pp. 1-14.

34. C. Koukouvinos, E. Lappas, M. Mitrouli, and J. Seberry, On the complete pivoting conjecture for Hadamard matrices of small orders, *Journal of Research and Practice in Information Technology*, Vol. 33, (2001), pp. 298-302.

35. C. Koukouvinos, M. Mitrouli, and J. Seberry, An infinite family of Hadamard matrices with fourth last pivot $\frac{n}{2}$, *Linear and Multilinear Algebra*, Vol. 50, (2002), 167-173.

36. M. Mitrouli, Numerical-Symbolical software computing the least common multiple of several polynomials, *Int. J. of Comp. Research*, Vol. 11, No 2, (2002), pp.221-229.

37. N. Karcanias and M. Mitrouli, Minimal bases of matrix pencils and coprime matrix fraction descriptions, *IMA Journal of Control and Information*, Vol. 19, (2002), pp.245-278.

38. N. Karcanias and M. Mitrouli, Normal factorisation of polynomials and computational issues, *Computers and Mathematics with Applications*, Vol. 45, (2003), pp. 229-245.

39. C. Koukouvinos, M. Mitrouli, and J. Seberry, Values of minors of an infinite family of D-optimal designs and their application to the growth problem: II, *SIAM Jour. Matrix Anal. and its Appl.*, Vol. 24, (2003), pp. 715-727.

40. C. Koukouvinos, E. Lappas, M. Mitrouli, and J. Seberry, An algorithm to find formulae and values of minors of Hadamard matrices: II, *Linear Algebra and its Appl.*, Vol. 371, (2003), 111-124.

41. J. Seberry, T. Xia, C. Koukouvinos, and M. Mitrouli, The maximal determinant and subdeterminants of $\pm$ 1 matrices, *Linear Algebra and its Appl.*, Vol. 373, (2003), 297-310.

42. N. Bardis, A. Polymenopoulos, A. Markovski and M. Mitrouli, Methods for design of balanced boolean functions satisfying struck avalance criterion (SAC), *International Jour. of Computer Research*, Vol. 12, No. 3, (2003), 425-436.

43. C. Koukouvinos, E. Lappas, and M. Mitrouli, On the unique pivot structure for a Hadamard matrix of order 12, *International Jour. of Applied Math.*, Vol. 14, No. 1, (2003), 19-39.

44. M. Mitrouli, D. Triantafyllou and C. Koukouvinos, Average-case stability of the Gaussian elimination for Hadamard matrices, *International Journal of Computer Research*, Vol. 12, No 4, (2003), 529-537.

45. N. Karcanias and M. Mitrouli, System theoretic based characterisation and computation of the least common multiple of a set of polynomials, *Linear Algebra and its Appl.*, Vol. 381, (2004), 1-23.

46. C. Koukouvinos, E. Lappas, and M. Mitrouli, On the computation of maximum minors of Hadamard matrices, *Mathematics and Computers in Simulation*, Vol. 67, (2004), 33-44.

47. C. Kravvaritis, M. Mitrouli, and J. Seberry, On the growth problem for skew and symmetric conference matrices,*Linear Algebra and its Appl.*, Vol. 403, (2005), 183-206.

48. C. Koukouvinos, M. Mitrouli, and J. Seberry, Values of minors of some infinite families of matrices constructed from supplementary difference sets and their application to the growth problem, *Linear Algebra and its Appl.*, Vol. 406, (2005), 218-234.

49. D. Christou and M. Mitrouli, Estimation of the Greatest Common Divisor of many polynomials using hybrid computations performed by the ERES method, *Appl. Num. Anal. and Comp. Math.*, Vol. 2, No 3, (2005), 293-305.

50. N. Karcanias, S. Fatouros, M. Mitrouli, and G. Halikias, Approximate greatest common divisor of many polynomials, generalised resultants and strength of approximation, *Computers & Mathematics with appl.*, Vol. 51, (2006), 1817-1830.

51. N. Karcanias, M. Mitrouli, and D. Triantafyllou, Matrix pencil methodologies for computing the greatest common divisor of polynomials: hybrid algorithms and their performance, *Inter. Jour. of Control*, Vol. 79 , No 11, (2006), 1447-1461.

52. C. Kravvaritis, and M. Mitrouli, Determinant evaluations for weighing matrices ,*Int. J. Pure Appl. Math.*, Vol. 34, (2007), 163-176.

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