CURRICULUM VITAE
Dimitrios A. Mitsoudis

Born on 19 January 1966 in Athens, Greece.
Citizen of Greece.
Married, with one child.

Current address

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Education

- B. Sc. in Mathematics,
  Department of Mathematics, University of Athens, 1990.

- M. Sc. in the Mathematics of Nonlinear Models,
  Heriot–Watt University, Edinburgh, U.K., 1993.

- Ph. D. in the Numerical Solution of Partial Differential Equations,
  Department of Mathematics, University of Athens, 2003.
  Advisor: Prof. V.A. Dougalis.

Research interests

Modeling and numerical analysis for wave propagation phenomena, Numerical methods for the Helmholtz equation, Numerical methods for problems in unbounded domains, Finite element methods for problems in underwater acoustics, Quasicontinuum methods, Numerical modelling of shallow water equations and applications in coastal engineering, tsunami generation, propagation and runup.

Academic and Work experience

- Postdoctoral Associate, Institute of Applied and Computational Mathematics (IACM), FORTH. (Oct. 2013 – present.)

- Postdoctoral Associate, Archimedes Center for Modeling, Analysis and Computation (ACMAC), Department of Applied Mathematics, University of Crete. (Sept. 2011 – Sept. 2013.)

– Visiting Assistant Professor, Department of Applied Mathematics, University of Crete. (Sept. 2008 – Aug. 2011.)

– Adjunct Assistant Professor, Department of Applied Mathematics, University of Crete. (Oct. 2006 – Aug. 2008.)

– Visiting Lecturer, Department of Applied Mathematics, University of Crete. (Sept. 2003 – Aug. 2006.)

– Collaborating researcher in the Institute of Applied and Computational Mathematics (IACM) of FORTH in the projects SUME and ADAPTIVES (2010).

– Collaborating researcher in the Institute of Applied and Computational Mathematics (IACM) of FORTH in the project "TRANSFER": Tsunami Risk ANd Strategies For the European Region. (FP6). (Nov. 2006 – Sept. 2009.)

– Collaborating researcher in the Dept. of Mathematics, Univ. of Athens in the project "Pythagoras I": "Numerical solution of p.d.e's and mathematical models in science and technology", (2004 – 2006.)

Papers

– Ch. Makridakis, D. Mitsoudis, P. Rosakis, On atomistic-to-continuum couplings without ghost forces in three dimensions, *Applied Mathematics Research eXpress*, **Vol. 2014, No. 1** (2014), 87–113.

– C. Tsogka, D.A. Mitsoudis and S. Papadimitropoulos, Selective imaging of extended reflectors in two-dimensional waveguides, *SIAM Journal on Imaging Sciences*, **6** (2013), 2714–2739.

– C. Tsogka, D.A. Mitsoudis and S. Papadimitropoulos, Imaging extended reflectors in a two-dimensional waveguide, Proceedings of the 11th International Conference on Mathematical and Numerical Aspects of Wave Propagation (WAVES 2013), Tunis, Tunisia, June 3-7, 2013.

– D.A. Mitsoudis, Ch. Makridakis, M. Plexousakis, Helmholtz equation with artificial boundary conditions in a two-dimensional waveguide, *SIAM J. Math. Anal.*, **44** (2012), 4320–4344.

– E.T. Flouri, D.A. Mitsoudis, N. Chrysoulakis, C.E. Synolakis, Tsunami risk and vulnerability analysis for the city of Rhodes, Proceedings of the International Offshore and Polar Engineering Conference , Rhodes, 2012, pp. 257-264.

– D.A. Mitsoudis, E. T. Flouri, N. Chrysoulakis, Y. Kamarianakis, E. Okal , C. E. Synolakis, "Tsunami Hazard in the South-East Aegean Sea", *Coastal Engineering*, **60** (2012), 136–148.

– D.A. Mitsoudis, M. Plexousakis, A finite element method with nonlocal boundary conditions for the Helmholtz equation with complex wavenumber in stratified waveguides, *Acta Acustica united with Acustica*, **95** (2009), 753–756.

– G.A. Athanassoulis, K.A. Belibassakis, D.A. Mitsoudis, N.A. Kampanis, V.A. Dougalis, Coupled mode and finite element solutions of underwater sound propagation problems in stratified environments, *J. Comp. Acoustics*, **16** (2008), 83–116.

– D.A. Mitsoudis, N.A. Kampanis, V.A. Dougalis, Finite element discretization of the Helmholtz equation in an underwater acoustic waveguide, in *Effective Computational Methods in Wave Propagation*, N.A. Campanis, V.A. Dougalis and J.A. Ekaterinaris (eds.), Chapman & Hall/CRC, 2008, 113-134.

– D.A. Mitsoudis, Near- and far-field boundary conditions for a finite element method for the Helmholtz equation in axisymmetric problems of underwater acoustics, *Acta Acustica united with Acustica*, **93** (2007), 888–898.

– N.A. Kampanis, D.A. Mitsoudis, M. Dracopoulos, Benchmarking two simulation models for underwater and atmospheric sound propagation. *Environmental Modelling and Software*, **22** (2007), 308–314.

– V.A. Dougalis, N.A. Kampanis, D.A. Mitsoudis, A finite element method for simulating underwater sound propagation in general stratified environments, in Acoustics Conference "Acoustiki 2002", Patra, 2003, 75-80.

– D.A. Mitsoudis, N.A. Kampanis, V.A. Dougalis, A finite element method for the Helmholtz equation in axially symmetric problems of underwater acoustics: error estimates and numerical experiments, in HERCMA 2001, Proceedings of the 5th Hellenic–European Conference on Computer Mathematics and its Applications, ed. by E. Lipitakis, Athens 2002, vol. 2, pp. 530-533.

– G.A. Athanassoulis, K.A. Belibassakis, V.A. Dougalis, N.A. Kampanis, D.A. Mitsoudis, Simulation of underwater sound propagation in a general stratified environment by a coupled mode and a finite element method, in the Proceedings of the Forum Acusticum Sevilla 2002 Conference, ed. by A. Calvo–Manzano et al., special issue of Revista de Acustica, vol. 33 (2002).

– (with V.A. Dougalis and I. Stratis) Translation in Greek of "Applied Mathematics", by J. D. Logan (2nd ed. John Wiley, 1996), University of Crete Press, Heraklion, 2002.

Theses

– *Mathematical Modelling of Induction Heating*, M. Sc. Thesis, Heriot–Watt University, Edinburgh, U.K., 1992.

– *Finite element methods for axisymmetric indefinite boundary value problems and applications in underwater acoustics*, Ph. D. Thesis, University of Athens, 2003.

Other publications and Lecture Notes

– E. Flouri, D. Mitsoudis, N. Chrysoulakis, E. Diamandakis, V.A. Dougalis, and C.E. Synolakis, Mathematical Modelling of Tsunami Waves. ERCIM News Special Theme: Computational Science/Scientific Computing Simulation & Modelling for Research and Industry, ERCIM (The European Research Consortium for Informatics and Mathematics), 2010.

– (with M. Dracopoulos and Ch. Sfyrakis) "A short Introduction in Fortran 77" , (Lecture notes in greek for the Computer Lab of the course "Numerical Analysis"), Department of Mathematics, University of Athens, 2001–02.

– "Approximation Theory and Computations" (Lecture notes in greek), Department of Applied Mathematics, University of Crete, Spring 2006.

Teaching experience

– *Calculus I.* Dept. of Applied Mathematics, University of Crete.
(Fall 2003.)

– *Introduction to Numerical Algorithms.* Dept. of Applied Mathematics, University of Crete.
(Spring 2004 & 2005.)

– *Numerical Analysis.* Dept. of Applied Mathematics, University of Crete.
(Fall 2004, 2005, 2006, 2007 & 2009.)

– *Approximation Theory.* Dept. of Applied Mathematics, University of Crete.
(Spring 2006.)

– *Introduction to Applied Mathematics II.* Dept. of Applied Mathematics, University of Crete.
(Spring 2007.)

– *Numerical Solution of Ordinary Differential Equations.* Dept. of Applied Mathematics, University of Crete.
(Spring 2008.)

– *Numerical Solution of Partial Differential Equations.* Dept. of Applied Mathematics, University of Crete.
(Fall 2008 & 2010.)

– *Linear Algebra II.* Dept. of Applied Mathematics, University of Crete.
(Spring 2009, 2010 & 2011.)

Technical Skills

Linux and Windows operating systems. Programming in Fortran and Matlab. LaTeX and Office.

Conferences

- Applied Mathematics in Science and Modern Technology, Metsovo, 30/6–1/7/1997.

- 5th Hellenic–European Research on Computer Mathematics and its Applications, HERCMA 2001, Athens, 20–22/9/2001.

- Akoustiki 2002, Patra, 30/9–1/10/2002.

- Modelling and Numerical Methods for Multiscale Problems, IACM – FORTH, Heraklion, Crete, 2–7/6/2003.

- Second Workshop on Numerical Methods for Evolution Equations, Heraklion, Crete, 24–25/9/2004.

- Conference on Applied Mathematics (in honour of Prof. John S. Papadakis), FORTH, Heraklion, Crete, 4–6/11/2004.

- International Conference on Modern Mathematical Methods in Science and Technology ($M^3ST'06$), Paros, 7–9/9/2006.

- First Greek-French Workshop on Computational Aspects of Acoustic Wave Propagation, Heraklion, Crete, 20–21/9/2006.

- Third Workshop on Numerical Solution of Evolution Problems, Heraklion, Crete, 22–23/9/2006.

- Mathematical and Computational Methods for Accelerated Molecular, Stochastic and Hybrid Simulation, Heraklion, Crete, 25–27/6/2007.

- Fourth Workshop on Numerical Methods for Evolution Equations, Heraklion, Crete, September 26–27, 2008.

- International Conference on Modern Mathematical Methods in Science and Technology ($M^3ST'09$), Poros, 3–5/9/2009.

- Fifth Workshop on Numerical Methods for Evolution Equations, Heraklion, Crete, September 24–25, 2010.

- Workshop on "Continuum and kinetic methods in the theory of shocks, fronts, dislocations and interfaces", Heraklion, Crete, June 20–24, 2011.

- Workshop on "Coarse-graining of many-body systems: analysis, computations and applications", Heraklion, Crete, June 27–July 1, 2011.

- Workshop on "Modern Techniques in the Numerical Solution of Partial Differential Equations", Heraklion, Crete, September 19–23, 2011.

- Workshop on "Discontinuous Galerkin Methods for Partial Differential Equations", Heraklion, Crete, September 26–28, 2011.

- Workshop on "Wave propagation in complex media and applications", Heraklion, Crete, May 7–11, 2012.

- Workshop on "Semiclassical and multiscale aspects of wave propagation", Heraklion, Crete, May 28–June 1, 2012.

- Workshop on "Waves and imaging in complex media", Heraklion, Crete, June 7–8 and 11–15, 2012.

- International Conference on Modern Mathematical Methods in Science and Technology (M^{3}ST'12), Kalamata, 26–28/8/2012.

- Sixth Workshop on Numerical Methods for Evolution Equations, Heraklion, Crete, September 21–22, 2012.

- Workshop on "Software Frameworks for Challenging Computational Problems", Heraklion, Crete, January 14–18, 2013.

- The 11th European Finite Element Fair, Heraklion, Crete May 31–June 1, 2013.

- 11th International Conference on Mathematical and Numerical Aspects of Waves (Waves 2013), Tunisia, 3–7/6/2013.

- International Conference on Applied Mathematics, September 16–20, 2013, Heraklion, Crete.

Advanced Courses – Summer Schools

- "Advanced Course on Acoustical Oceanography", IACM – FORTH, Heraklion, Crete, 7–19/6/1993.

- Summer School in Applied Mathematics: Patterns and Waves, Department of Mathematics, University of Athens, Athens 9–20/6/2003.

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