



CURRICULUM VITAE

NIKOLAOS A. KAMPANIS

Birthdate: September 18, 1963.
Birthplace: Iraklion, Crete, Hellas
Citizenship: Hellenic
E-mail: kampanis@iacm.forth.gr
Languages: English, French, Italian.

Education

1986, BS Mathematics, University of Crete, Greece.
1988, MS Applied Mathematics, University of Crete, Greece.
1992, PhD Numerical Analysis, University of Crete, Greece.

Principal Professional Appointments

Assistant Researcher, Institute of Applied and Computational Mathematics, FORTH, Greece, 1995-1998.
Associate Researcher, Institute of Applied and Computational Mathematics, FORTH, Greece, 1998-2004.
Senior Researcher, Institute of Applied and Computational Mathematics, FORTH, Greece, 2004-.

Other Professional Appointments

Visitor, Project Menuhin, INRIA, Rocquencourt, France, 1989.
Summer Research Assistant, Applied Acoustics Group, SACLANT URC, La Spezia, Italy, 1991.
Postdoctoral Researcher, Institute of Applied and Computational Mathematics, FORTH, Heraklion, Greece, 1992-94.
Visiting Lecturer, Mathematics Department, Technical University of Crete, Chania, Greece, 1993-94.
Visiting Associate Professor, Applied Mathematics Department, University of Crete, Heraklion, Greece, Fall Semester 2001.
Visiting Associate Professor, Department of Science, Technical University of Crete, Chania, Greece, 2005.

Research Interests

Computational fluid dynamics, applications in the simulation of incompressible flows (biomedical, environmental, low speed engineering flows, coastal hydrodynamics).
Computational wave propagation, applications in underwater and atmospheric sound propagation.
Numerical solution of PDE's, Numerical linear algebra, Large scale scientific computations.

Scientific activities

Member of the organizing committee of the 3rd European Conference on Underwater Acoustics, Heraklion, Greece, 1996.
Organizer of the 4th ERCIM Environmental Modeling Group Workshop on Environmental Models and Computational Methods, Heraklion, Greece, 1998.

Guest editor, special issue on Environmental Models and Computational Methods, Vol. 39, No. 1, 2000, of the journal Systems Analysis Modelling Simulation (Gordon and Breach Sci. Publ.).

Session Chairman, 9th ERCIM Working Group Environmental Modelling, Workshop, International Environmental Modelling and Software Society (iEMSs) 2002 Conference, University of Lugano, Switzerland, 2002.

Organizer of the 12th ERCIM Environmental Modeling Group Workshop on Environmental Modelling: Current trends and developments, Hersonissos, Crete, Greece, May 2004.

Publications

A. Scientific journals (with review), Books

- A1. G. D. Akrivis, V. A. Dougalis, N. A. Kampanis, *On Galerkin methods for the wide-angle parabolic equation*, J. Comp. Acoustics 2 (1994), 99-112.
- A2. G. D. Akrivis, V. A. Dougalis, N. A. Kampanis, *Error estimates for finite element methods for the wide-angle parabolic equation*, Applied Numerical Mathematics 16 (1994), 81-100.
- A3. V. A. Dougalis, N. A. Kampanis, *Finite element methods for the parabolic equation with interfaces*, J. Comp. Acoustics 4 (1996), 55-88.
- A4. J. S. Papadakis, V. A. Dougalis, N. A. Kampanis, E. T. Flouri, B. Pelloni, L. Bjorno, Z. Dong, A. Plaisant, E. Noutary, *Ocean acoustic models for low frequency propagation in 2D and 3D environments*, ACUSTICA-acta acustica 84 (1998), 1031--1041.
- A5. N. A. Kampanis, E. T. Flouri, *On an energy-conserving treatment of variable interfaces in a finite difference PE code*, ACUSTICA-acta acustica 85 (1999), 18--23.
- A6. N. A. Kampanis, V. A. Dougalis, *A finite element code for the numerical solution of the Helmholtz equation in axially symmetric waveguides with interfaces*, J. Comp. Acoustics 7 (1999), 83-110.
- A7. J. A. Ekaterinaris, N. A. Kampanis, *A numerical prediction of acoustic fields generated by wind turbines*, Systems Analysis Modelling Simulation 39 (2000), 49-74.
- A8. N. A. Kampanis, J. A. Ekaterinaris, *Numerical prediction of far-field wind turbine noise over terrain of moderate complexity*, Systems Analysis Modelling Simulation 41 (2001), 107-122.
- A9. N. A. Kampanis, *Numerical simulation of low-frequency aeroacoustics over irregular terrain using a finite element discretization of the parabolic equation*, J. Comp. Acoustics 10, No 1, (2002), 97-112.
- A10. N. A. Kampanis, E. T. Flouri, *A GIS interfaced numerical model for the simulation of sound propagation in the atmosphere over irregular terrain*, Systems Analysis Modelling Simulation 43, No 9, (2003), 1199-1212.
- A11. N. A. Kampanis, *A finite element method for the parabolic equation in aeroacoustics coupled with a nonlocal boundary condition for an inhomogeneous atmosphere*, J. Comp. Acoustics 13, No 4, 569-584, 2005.
- A12. E. T. Flouri, J. A. Ekaterinaris, N. A. Kampanis, *High-order accurate numerical schemes for the parabolic equation*, J. Comp. Acoustics 13, No 4, 613-639, 2005.
- A13. N. A. Kampanis, J. A. Ekaterinaris, *A staggered grid, high-order accurate method for the incompressible Navier-Stokes equations*, J. Comp. Physics 215, 589-613, 2006.
- A14. N. A. Kampanis, D. A. Mitsoudis, M. C. Drakopoulos, *Benchmarking two simulation models for underwater and atmospheric sound propagation*, Environmental Modelling & Software 22, 308-314, 2007.
- A15. G. A. Athanasoulis, K. A. Belibasakis, D. A. Mitsoudis, N. A. Kampanis, V. A. Dougalis, *Coupled mode and finite element approximations of underwater sound propagation problems in general stratified environments*, J. Comp. Acoustics 16, No 1, 83-116, 2008.
- A16. F. Sturm, N. A. Kampanis, *Accurate treatment of a general sloping interface in a finite-element 3-D narrow-angle PE model*, J. Comp. Acoustics 15, No 3, (2007), 285-318.
- A17. A. I. Delis, M. Kazolea, N. A. Kampanis, *A robust high resolution finite volume scheme for the simulation of long waves over complex domains*, Int. J. Num. Meth. In Fluids 56, 419-452, 2008.
- A18. V. A. Dougalis, N. A. Kampanis, F. Sturm, G. E. Zouraris, *Numerical solution of the parabolic equation in range-dependent waveguides*, in Effective Computational Methods in Wave Propagation, N. A. Kampanis, V. A. Dougalis, J. A. Ekaterinaris (Eds.), Numerical Insights Series, CRC Press/ Taylor & Francis, 175-208, February 2008.
- A19. 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. Kampanis, V. A. Dougalis, J. A. Ekaterinaris (Eds.), Numerical Insights Series, CRC Press/ Taylor & Francis, 113-134, February 2008.

- A20. N. A. Kampanis, V. A. Dougalis, J. A. Ekaterinaris (Eds.), *Effective Computational Methods in Wave Propagation*, Numerical Insights Series, CRC Press/ Taylor & Francis, February 2008.
- A21. Th. V. Karambas, N. A. Kampanis, A. Pantazis, *Application of numerical models in the region of Kokkinos Pirgos and their sensitivity to sea-bed level data*, in *Beach Erosion Monitoring*, E. Pranzini, L. Wetzel (Eds), Nuova Grafica Fiorentina, Florence, May 2008, 195-205.
- A22. M. Papadakis, P. Katonis, K. Stergiopoulos, N. Kampanis, D. Christakis, C. Condaxakis, *The curvature of lumbar part of spinal column related to osteoporosis and osteoarthritis*, *The Biomechanics of Spinal Column*, G. Sapak (Ed.), Kafkas Publishing Co., Athens, in press (in Greek).
- A23. M. Papadakis, G. Papadokostakis, K. Stergiopoulos, N. Kampanis, P. Katonis, *Lumbar lordosis in osteoporosis and osteoarthritis*, *European Spine Journal*, accepted.
- A24. N. A. Kampanis, D. C. Antonopoulou, A. I. Delis, *Simulation of atmospheric sound propagation using finite element solutions of the parabolic equation in curvilinear coordinates*, *Acta Acustica*, under revision.
- A25. G. Alexandrakis, G. Ghionis, N. A. Kampanis, A. Karditsa, S. Poulos, *An assessment of the vulnerability to erosion of the coastal zone to a potential rise of sea level: The case of the Aegean Greek Coast*, in A. Sydow (Ed.), *Encyclopedia of Life Support Systems*, 4.20 Environmental Systems, 4.20.5 Computational Sustainability Analysis, Developed under the Auspices of the UNESCO, EOLSS Publishers Co Ltd, Oxford, U.K., to appear.
- A26. A. I. Delis, N. A. Kampanis, *Numerical flood simulation using depth averaged free surface flow models*, in *The Encyclopedia of Life Support Systems*, Theme 4.20 Environmental Systems, Topic 4.20.5 Computational Sustainability Analysis Developed under the Auspices of the UNESCO, EOLSS Publishers Co Ltd, Oxford, U.K., to appear.
- A27. N. C. Papadakis, G. N. Tzagarakis, D. G. Christakis, N. A. Kampanis, K. N. Stergiopoulos, P. G. Katonis, *Differential entropy as a measure for the gait acceleration analysis – A spinal stenosis detection parameter*, *J. Appl. Biomechanics*, submitted.
- A28. M. Papadakis, G. Papadokostakis, K. Stergiopoulos, N. Kampanis, P. Katonis, *Differential Entropy as a Measure for the Gait Acceleration Analysis – A Postoperative Estimation Parameter*, *International Journal of Clinical Monitoring and Computing*, submitted.
- A29. S. Tsvigoulis, N. Papadakis, K. Kontaksakis, N. Kampanis, D. Christakis, P. Katonis, *Evaluation of gait pattern in healthy soccer athletes with the use of accelerometry*, *Human Movement Science*, submitted.
- A30. Th. V. Karambas, E. V. Koutandos, N. A. Kampanis, *Integrated numerical simulation of linear wave propagation, wave induced circulation, sediment transport and beach evolution*, *Proceedings of the ICE-Maritime Engr.*, submitted.

B. Proceedings (with review), other journals

- B1. G. D. Akrivis, V. A. Dougalis, N. A. Kampanis, *Finite element methods for parabolic and wide-angle equations in Underwater Acoustics*, *Proceedings of the ERCIM Workshop on numerical methods for linear and nonlinear problems in wave propagation*, V. A. Dougalis (Ed.), FORTH, Heraklion, 1992, 112-122.
- B2. G. D. Akrivis, V. A. Dougalis, N. A. Kampanis, *On finite element methods for interface problems in underwater acoustics*, *Proceedings, First National Congress on Congress on Computational Mechanics*, D. E. Beskos (Ed.), University of Patras Press, 1992, vol. 2, 863-870.
- B3. G. D. Akrivis, V. A. Dougalis, N. A. Kampanis, *On finite element approximations of the wide-angle parabolic equation*, *Advances in computer methods for partial differential equations VII*, R. Vichnevetsky, D. Knight, G. Richter (Eds.), IMACS, 1992, 8-14.
- B4. D. D. Ellis, N. A. Kampanis, R. A. Stephen, *Calculations of ocean bottom and sub-bottom backscattering using a time-domain finite-difference code*, *Ocean Reverberation*, D. D. Ellis, J. R. Preston, H. G. Urban (Eds.), Kluwer Academic Publishers, 1993, 125-130.
- B5. V. A. Dougalis, N. A. Kampanis, E. A. Vavalis, *An efficient finite element method for the PE*, *Proceedings of the 2nd European Conference on Underwater Acoustics*, L. Bjorno (Ed.), European Commission 1994, vol. I, 363-368.
- B6. N. A. Kampanis, *Fast and accurate finite element methods for the numerical prediction of the acoustic field*, *Full Field Inversion Methods in Ocean and Seismo-Acoustics*, O. Diachok, A. Caiti, P. Gerstoft, H. Schmidt (Eds.), Kluwer Academic Publishers, 1995, 21-26.
- B7. V. A. Dougalis, N. A. Kampanis, *Parabolic approximations in computational underwater acoustics*, *ERCIM NEWS* 22, July 1995, 18-19.
- B8. V. A. Dougalis, E. T. Flouri, N. A. Kampanis, J. S. Papadakis, *A 3D parabolic equation model with an impedance bottom boundary condition*, *Proceedings of the 3rd European Conference on Underwater Acoustics*, J. S. Papadakis (Ed.), FORTH-IACM, 1996, Vol. I, 231--236.

- B9. V. A. Dougalis, N. A. Kampanis, P. E. Tsompanopoulou, E. A. Vavalis, *Linear system solvers for finite element discretizations of the Helmholtz equation*, Proceedings of the 3rd European Conference on Underwater Acoustics, J. S. Papadakis (Ed.), FORTH-IACM, 1996, Vol. I, 279—28.
- B10. V. A. Dougalis, N. A. Kampanis, *Finite element methods coupled with nonlocal boundary conditions in computational underwater acoustics*, Proceedings of the Conference “1^{er} Colloque sur la Modélisation Mathématique et Numérique dans les Sciences de l'Ingénieur”, Beirut, April 1997, Lebanese Scientific Research Reports 3 (1998), 293-306.
- B11. V. A. Dougalis, E. T. Flouri, N. A. Kampanis, *A Finite Element Method for the Helmholtz Equation in Underwater Acoustics*, Mathematical and Numerical Aspects of Wave Propagation, J. DeSanto (Ed.), SIAM, 1998, 585-587.
- B12. N. A. Kampanis, V. A. Dougalis, *On Finite Element Approximations the Helmholtz Equation in Axisymmetric Unbounded Waveguides with Interfaces*, Proceedings of the 5th National Congress on Mechanics, P. S. Theocaris, D. I. Fotiadis, C. V. Massalas (Eds.), University of Ioannina Press, 1998, Vol. II, 1009-1015.
- B13. V. A. Dougalis, N. A. Kampanis, M. I. Taroudakis, *Comparison of finite element and coupled mode solutions of the Helmholtz equation in underwater acoustics*, Proceedings of the 4th European Conference on Underwater Acoustics, A. Alippi, G. B. Cannelli (Eds.), CNR-IDAC, 1998, Vol. II, 649-654.
- B14. N. A. Kampanis, *Environmental modelling at IACM-FORTH: Aiming at future*, ERCIM NEWS 34, July 1998, 15-16.
- B15. V. A. Dougalis, N. A. Kampanis, *Finite Element Solution of the Helmholtz Equation in Axially Symmetric Layered Fluid Waveguides*, Theoretical and Computational Acoustics '97, Y.-C. Teng, E.-C. Shang, Y.-H. Pao, M. H. Schultz, A. D. Pierce (Eds.), World Scientific Publishing Co., 1999, 405-417.
- B16. 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*, Proceedings of the Fifth Hellenic-European Conference on Computer Mathematics and its Applications, September 20-22, 2001 – Athens, Hellas, E. A. Lipitakis (Ed.), 2002, 530-533.
- B17. 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*, FORUM ACOUSTICUM SEVILLA 2002, Sevilla, Spain, 16-20 September 2002, UNW-01-001-IP.
- B18. V. A. Dougalis, N. A. Kampanis, D. A. Mitsoudis, *A finite element method for the approximate solution of acoustic wave propagation problems in a stratified sea environment*, Proceedings of the “AKOYETIKH 2002” Conference of the Hellenic Institute of Acoustics, Patras University, Greece, 2003, 75-80 (in greek).
- B19. N. A. Kampanis, J. A. Ekaterinaris, *A staggered grid, high-order accurate method for incompressible viscous flow*, AIAA Paper 2004-432, 42nd AIAA Aerospace Science Meeting and Exhibit, Reno, Nevada, USA, 5-8 January 2004.
- B20. N. A. Kampanis, J. A. Ekaterinaris, *A high accuracy staggered grid method for incompressible flow*, Proceedings of the 5th GRACM International Congress on Computational Mechanics, G. Georgiou, P. Papanastasiou, M. Papadrakakis (Eds.), Limassol, Cyprus, 2005, Vol. 1, 745-752.
- B21. E. V. Koutandos, P. E. Prinos, N. A. Kampanis, *An experimental study of the wave induced pressures acting on a fixed semi-immersed structure of orthogonal cross section*, 10th National Congress of the Hellenic Hydrotechnological Association, Vol. B, 979-986, Xanthi 2006 (in Greek).
- B22. E. Koutandos, M. Kazolea, K. Barsos, N. A. Kampanis, *Managerial strategy for the coastal zone aiming to the sustainable development of coastal areas: The European project BEACHMED-e*, Integrated Water Resources Management, Hellenic Association for Water Resources Management, 143-150, Chania, Crete, Greece, June 2007 (in Greek).
- B23. Th. V. Karambas, E. V. Koutandos, N. A. Kampanis, *ALS-A coastal engineering model for wave propagation, wave structure interaction and bed morphology evolution*, Proceedings of the 32nd IAHR (International Association of Hydraulic Engineering and Research) Congress, Venice, Italy, 1-6 July 2007 (full paper available in CD-ROM).
- B24. E. V. Koutandos, P. E. Prinos, N. A. Kampanis, *A semi-empirical model for the interaction of regular waves with a fixed double floating breakwater*, Proceedings of Coastal Structures 2007, Venice, Italy, July 2-4 2007 (full paper available in CD-ROM).
- B25. B. Alonso, R. Duran, G. Ercilla, D. Casas, A. Bernabeu, F. Estrada, M. Ferran, M. Nuez, J. Serra, X. Valois, A. Lamberti, L. Martinelli, D. Merli, M. Piemontese, P.-L. Aminti, G. Barbieri, A. Battistini, L. Cappietti, C. D'Eliso, E. Mori, M.-G. Tecchi, A. Petaccia, A. Greco, A. Maistri, P. Sammarco, S. Camilletti, R. Certain, N. Kotsovinos, Ch. Koutitas, V. Hrissanthou, P. Angelidis, M. Andreadaki, A. Georgoulas, A. Samaras, A. Valsamidis, E. Koutandos, Th. Karambas, N. Kampanis, *Management of sand deposits intercepted by coastal and fluvial*

- infrastructures in the Mediterranean areas*, 11^e Congres Français de Sédimentologie, Caen 2007, Livre des résumés, Publ. ASF, n. 57, p. 358.
- B26. A. Pantazis, N. A. Kampanis, Th. V. Karambas, *Coastal erosion and environmental friendly protection methods: acts of the European program BEACHMEDe for the characterisation of the erosion in the Mediterranean*, 3rd Macedonian Environmental Congress, Thessalonica, 14-17 March 2008, to appear.
- B27. S. Tsigoulis, N. Papadakis, C. Contaxakis, N. Kampanis, D. Christakis, P. Katonis, *Study of the musculoskeletal system of athletes with accelerometer*, 9th International Congress of Sports Medicine Association of Greece – 7th – Cypriot Congress of Sports Medicine, Athens, 27-30 March 2008/ Αθλητιατρική, Vol. 3, Suppl. 1, March 2008, p.18, (in Greek).
- B28. A. I. Delis, S. Poulos, N. A. Kampanis, C. E. Synolakis, *Mathematics makes waves*, ERCIM News 73, p22, April 2008.
- B29. P. T. Nastos, N. A. Kampanis, G. Kochiadakis, P. Vardas, K. I. Strataridakis, *Maths improves quality of life: an early warning system for environmental effects on public health*, ERCIM News 73, p26, April 2008.
- B30. G. Ghionis, S. Poulos, N. Kampanis, E. Verikiou, A. Karditsa, G. Alexandrakis, P. Andris, *The effects of a severe storm event on the NW coast of Lefkada island, Ionian sea (Greece)*, Geophysical Research Abstracts, Vol. 10, EGU2008-A-00617, 2008 (presented at EGU General Assembly, Vienna, Austria, 13-18 April 2008).
- B31. N. Papadakis, G. Tzagkarakis, D. Christakis, N. Kampanis, K. Savakis, P. Katonis, K. Stergiopoulos, *Velocity effect on the Gait evaluation differential entropy measure*, MobiHealthInf Workshop, BIOSTEC 2009, Porto, Portugal, 14-17 January 2009, full paper accepted.

C. Others

- C1. N. A. Kampanis, D. D. Ellis, R. A. Stephen, *Bottom backscattering calculations using a time-domain finite difference code for the elastic wave equation*, Internal Report, SACLANT Undersea Research Center, Italy, 1991.
- C2. G. D. Akrivis, V. A. Dougalis, N. A. Kampanis, *Efficient finite element methods for problems with interfaces in underwater acoustics*, 13th IMACS World Congress on Computational and Applied Mathematics, Dublin, Ireland, 1991; also Technical Report No 91-8, IACM-FORTH, Greece, 1991.
- C3. N. A. Kampanis, *Galerkin-Finite Element Methods for Interface Problems in Underwater Acoustics*, PhD Thesis, University of Crete, 1992.
- C4. V. A. Dougalis, N. A. Kampanis, E. A. Vavalis, *Efficient finite element schemes for the parabolic equation*, Proceedings of the 14th IMACS World Congress at Georgia Tech. on Computational and Applied Mathematics, 1994, 666-667.
- C5. J. S. Papadakis, V. A. Dougalis, M. Taroudakis, N. Kampanis, L. Bjorno, P. Nielsen, A. Plaisant, E. Noutary, K. Kremer, U. Sandkuhler, *Ocean acoustic propagation models*, Second Mast Days and Euromar Market, European Commission, 1995, Vol. 2, 1133-1146.
- C6. V. Dougalis, N. Kampanis, P. Tsompanopoulou, E. Vavalis, *Block iterative methods for solving Helmholtz PDE models in underwater acoustics*, FORTH-IACM Technical Report 1996-4, 1996.
- C7. E. T. Flouri, L. B. Karamitros, N. A. Kampanis, *Supplying a mesh generator with topographic data retrieved from a GIS*, FORTH-IACM Technical Report 1999-20, 1999 (in Greek).
- C8. N. A. Kampanis, M. E. Lapidakis, E. T. Flouri, *A model for blood flow in the arteries based on the numerical simulation of steady-state incompressible flows*, FORTH-IACM Technical Report 2000-2, June 2000 (in Greek).
- C9. E. V. Koutantos, E. T. Flouri, N. A. Kampanis, *River flow simulation and flood forecasting using HEC-RAS*, FORTH-IACM Technical Report 2000-4, August 2000 (in Greek).
- C10. N. A. Kampanis, E. T. Flouri, *A brief description of the FENL program*, <http://oalib.hlsresearch.com/Other/fenl/fenl.html>, 2000.
- C11. E. V. Koutantos, E. T. Flouri, N. A. Kampanis, *Runoff process simulation using HEC-HMS*, FORTH-IACM Technical Report 2001-2, September 2001 (in Greek).
- C12. F. Sturm, N. A. Kampanis, J. A. Fawcett, *Ambient noise prediction in a 3D variable sea environment using paraxial approximations of the reduced wave equation*, 12th ERCIM Working Group Environmental Modelling Workshop, Hersonissos, Crete, Greece, 24-27 May 2004.
- C13. D. Christakis, C. Stergiopoulos, P. Katonis, N. Kampanis, C. Condaxakis, N. Papadakis, H. Vavouranakis, S. Tsigoulis, *Entropic Kinisiometry: A new diagnostic method of the condition of the musculoskeletal system of athletes*, Pancretan Medical Congress, Heraklion, 9-12 November 2006 (in Greek).
- C14. E. T. Flouri, N. A. Kampanis, *Simulation of atmospheric sound propagation using parabolic equation computational models*, 1st Greek French Workshop on Computational Aspects of Acoustic Wave Propagation, Heraklion, Crete, 20-21 September 2006.

- C15. M. Papadakis, P. Katonis, K. Stergiopoulos, N. Kampanis, D. Christakis, K. Kondaxakis, *The curvature of lumbar part of spinal column related to osteoporosis and osteoarthritis*, 12th Seminar on Biomechanics of Spinal Column and Biotechnology, A' Orthopedics Clinic of Athens University in association with Hellenic College of Orthopedics Surgery, 2-12-2006 Athens.
- C16. M. Papadakis, P. Katonis, K. Stergiopoulos, N. Kampanis, D. Christakis, K. Kondaxakis, *Lumbar lordosis in osteoporosis and osteoarthritis*, 33rd Annual Spinal Conference "N. Giannestras-P. Smirnis", Mykonos, 24-27 May 2007, (abstract in Greek).
- C17. A.I. Delis, N. Kampanis and M. Kazolea, *Numerical modeling of the generation and propagation of long waves over complex domains*, 14th ERCIM ENV Modelling Working Group, Thessalonica, 3-4/9/07.
- C18. G.Tzangarakis, N. Papadakis, D. Christakis, N. Kampanis, P. Katonis, *Differential Entropy as a Measure for the Gait Acceleration Analysis - A Spinal Stenosis Detection Parameter*, Neurosurgical Symposium, Heraklion 3-4 October 2008.
- C19. M. Papadakis, G. Papadokostakis, G. Sapkas, N. Kampanis, P. Katonis, *Lumbar lordosis in association with osteoporosis and osteoarthritis*, 2nd Pan-Hellenic Spine Congress, Thessalonica, 25-27 October 2008/ 6th Annual Congress Orthopedic Research, Piraeus, 28-30 November 2008.
- C20. M. Papadakis, G. Papadokostakis, G. Sapkas, N. Kampanis, P. Katonis, *The impact of bone mineral density on the degree of curvature of the spine*, 2nd Pan-Hellenic Spine Congress, Thessalonica, 25-27 October 2008/ 6th Annual Congress Orthopedic Research, Piraeus, 28-30 November 2008.
- C21. M. Papadakis, G. Papadokostakis, G. Sapkas, N. Kampanis, P. Katonis, *The correlation of lumbar lordosis with spinal osteoarthritis*, 2nd Pan-Hellenic Spine Congress, Thessalonica, 25-27 October 2008/ 6th Annual Congress Orthopedic Research, Piraeus, 28-30 November 2008.
- C22. G. Tzagarakis, N. Papadakis, D. Christakis, N. Kampanis, G. Chlouverakis, H. Papoutsopoulou, P. Katonis, *Differential Entropy as a Measure for the Gait Acceleration Analysis – A Postoperative Estimation Parameter*, 6th Annual Congress Orthopedic Research, Piraeus, 28-30 November 2008.
- C23. G. Tzagarakis, M. Papadakis, S. Tsivgoulis, N. Papadakis, D. Christakis, N. Kampanis, P. Katonis, *Introduction of new non invasive methods for diagnose spine diseases. Applications in orthopedics, sport medicine and traumatology*, 6th Annual Congress Orthopedic Research, Piraeus, 28-30 November 2008.

Teaching Experience

Functional Analysis (Fall 1986), Calculus (Fall 1987, Fall 1990), Mathematical Models of Classical Physics (Spring 1990), Numerical Analysis (Spring 1991), as Teaching assistant, at the Mathematics Department, University of Crete. An introduction to UNIX and FORTRAN (Fall 2001), Applied Mathematics Department, University of Crete. Numerical Analysis (Graduate course, Fall 1993), Computational Mathematics (Spring 1994), Numerical Analysis (Spring 2005), Introduction to Programming (Fall 2005), Department of Science, Technical University of Crete.

Students training

- P. Stoupas, *Mesh generation in 2D: the modules APNOXX, TRNOXX of the MODULEF library*, 1997 (in Greek).
- Stratakis, *Mesh generation in 3D using the MODULEF library*, Spring 1998 (in Greek).
- M. Lapidakis, *Iterative solution of complex symmetric linear systems*, Spring 1999, (in Greek).
- K. Fisarakis, *Use of the GMRES iterative method for solution of indefinite linear systems*, Fall 2004 (in Greek).

Diploma Theses

M. Lapidakis, *Application of the numerical simulation of incompressible flows to the study of blood flow in the arteries*, Diploma Thesis, Mathematics Department, University of Crete, June 2000 (in Greek).

Master Theses

- L. Karamitros, *Construction of spatial data for a mesh generator using a GIS*, Master Thesis, Mathematics Department, University of Athens, September 2000 (in Greek).
- I. Touloupoulos, *Discretization of reaction-diffusion equations using the finite element method. Application to ground water pollution models*, Master Thesis, Mathematics Department, University of Athens, June 2002 (in Greek).
- M. Kazolea, *Numerical simulation of generation and propagation of long waves*, Master Thesis, Mathematics Dept., Technical University of Crete, September 2006 (in Greek).

PhD Thesis committees

- E. Koutantos, *Numerical and experimental study of the hydrodynamics of floating breakwater structures*, PhD Thesis, Civil Engineering Dept., Aristotle's University of Thessalonica, October 2003 (in Greek), (examination committee).
- I. Touloupoulos, *Numerical solution of hyperbolic differential equations using DGM*, Mathematics Dept., University of Athens, in preparation, (advisory committee).
- M. Papadakis, *Lumbar curvature with respect to osteoporosis and osteoarthritis*, Medical School, University of Crete, in preparation, (advisory committee).
- S. Tsigoulis, *Measurements and analysis of kinisiometric characteristics for the evaluation of the musculoskeletal system of athletes*, Medical School, University of Crete, in preparation, (advisory committee).
- G. Tzagarakis, *Development and evaluation of a diagnostic method in orthopedics based on measurements of body movement parameters*, Medical School, University of Crete, in preparation, (advisory committee).
- G. Kozirakis, *Numerical simulation in 3D of sea waves and sediment transport*, Maritime Sciences Dept., Aegean University, in preparation, (advisory committee).
- Th. Psomas, *Influence of coastal constructions to the coastal zone morphology*, Joint graduate studies program: Management of Coastal Areas, Aegean University, in preparation, (advisory committee).

Funded Projects

- PROMODE Ocean acoustic propagation models, European Union, MAST-2 program, 1993-96.
- Wave propagation models in underwater acoustics-forward and inverse problem, GSRT-Hellas, Cooperations-89 program, 1992-97.
- Finite element solution of the Helmholtz equation-applications in underwater acoustics, GSRT-Hellas, PENED-94, 1996-97.
- NUSE Numerical methods and information systems for preventing eutrophication in water, French-Greek Integrated Actions PLATON 1998, 1998-99.
- CruCID Modélisation Numérique des Crues via le Calcul Intensif Distribue, EU DGIII ESPRIT/INCO-DC, 1998-2000.
- SIMO An Information system for the numerical simulation and forecasting of floods, French-Greek Integrated Actions PLATON 1999, 2000-01 (PI).
- Environmental friendly treatment of the coasts using floating barriers, GSRT-Hellas, PENED-01, 2003-2005.
- PREVENT-EUTROPHICATION Prevention of eutrophication via aeration, French-Greek Integrated Actions PLATON 2002, 2003-04, 13,860 E (PI).
- Parabolic models for 3D acoustic propagation in the sea, French-Greek Integrated Actions PLATON 2002, 2003-04.
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- BEACHMED-e La gestion stratégique de la défense des littoraux pour un développement soutenable des zones côtières de la Méditerranée, INTERREG IIIC Zone Sud, 2006-2008, 245 kE (PI).
- Development of new non-invasive methods for estimation of musculoskeletal diseases. Application in orthopaedic, sports and rehabilitation, GSRT-Hellas, PENED-03, 2006-2008, 207 kE, (PI).

Conferences

- ERCIM Workshop, Iraklion, Greece, September 1992, [B1].
- Colloquium, University of Algarve, Portugal, November 1993, [C3].
- Conference on Full Field Inversion Methods in Ocean and Seismic Acoustics, SACLANT, La Spezia, Italy, June 1994, [B6].
- 2nd European Conference on Underwater Acoustics, Copenhagen, Denmark, July 1994, [B5].
- HERMIS-96, Athens, Greece, September 1996, [C6, B11].
- 1^{er} Colloque sur la Modélisation Mathématique et Numérique dans les Sciences de l'Ingénieur, Beyrouth, Lebanon, April 1997, [B10].
- 3rd ERCIM Environmental Modelling Group Workshop on Air Pollution Modelling and Measuring Processes, Madrid, Spain, 20-21 April 1998, [B14].

- 4th ERCIM Environmental Modelling Group Workshop on Environmental Models and Computational Methods, Heraklion, Greece. 16-17 November 1998, (organizer, chairman).
- ERCIM Environmental Modelling and Database Research Group Workshop, Las Palmas, Spain, 27-29 September 2000, [A10].
- Postgraduate program of the Vein Surgery Clinic, University Hospital of Crete, November 2000, [C8].
- Educational Seminar on Wind Energy, University Network for the Promotion and Diffusion of Knowhow on Systems and Applications of Renewable Energy Sources, Technological Educational College of Heraklion, March 2001, [A10].
- iEMSs 2002 Conference, 9th ERCIM Environmental Modelling Group Workshop, University of Lugano, Switzerland, 26-27 June 2002 [A14].