

IOANNIS E. SARRIS

Date of birth: 17 May 1972 in Volos, Greece

Personal record: Married, 4 kids

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Academic record: Ph.D., Department of Mechanical Engineering, University of Thessaly, Volos, Greece, 2001

Dipl. Ing (5-year degree), Department of Mechanical Engineering, University of Patras, Patras, Greece, 1995

Employment record:

- 2020- **Professor** of «Fluid mechanics and magnetohydrodynamics», Department of Mechanical Engineering, University of West Attica, Athens, Greece.
- 2018- 2020 **Associate Professor** of «Fluid mechanics and magnetohydrodynamics», Department of Mechanical Engineering, University of West Attica, Athens, Greece.
- 2016- 2018 **Associate Professor** in «Fluid mechanics with the emphasis in magnetohydrodynamics, hydraulic machines», Department of Energy Technology, Technological Educational Institute of Athens.
- 2011- 2016 **Assistant Professor** in «Fluid mechanics and hydraulic machines», Department of Energy Technology, Technological Educational Institute of Athens.
- 2007- 2011 **Visiting Lecturer** in the Computational Fluid Dynamics (Master Course) Department of Civil Engineering, University of Thessaly, Greece.
- 2004, 2008- 2011 **Visiting Lecturer** (teaching position under contract 407/86, Departments of Civil and Mechanical Engineering, University of Thessaly, Greece
- 09/2007- present **Research Fellow**, Euratom–Hellenic Republic Association Fellowship, University of Thessaly.
- 10/2005- 08/2007 **Research Fellow**, Marie-Curie Fellowship (Euratom), Physique Statistique et Plasmas, Université Libre de Bruxelles, Belgium
- 11/2001- 9/2005 **Postdoctoral Researcher**, Laboratory of Fluid Mechanics and Turbomachines, Department of Mechanical & Industrial Engineering, University of Thessaly
- 11/2002-02/2004 **Army** service

02/1996-10/2001 **Research Assistant**, Laboratory of Fluid Mechanics and Turbomachines,
Department of Mechanical & Industrial Engineering, Univ. of Thessaly

Scholarships-awards:

1. Member of the International Advisory Committee of the Conference "Particles in turbulence", Potsdam, Germany, 16-18 March 2011.
2. National Action Management Committee of COST, MP0806 "Particles in turbulence" European Union, 2009- 13.
3. Member of the International Organizing Committee of the Conference "MHD turbulence, Dynamo, and convective turbulence", IIT Kanpur, India, 21-23 December 2009.
4. Postdoctoral research fellowship Marie-Curie (Euratom, Intra-European postdoctoral fellowships), Université Libre de Bruxelles (ULB), 2005-7.
5. Participation at the Center of Turbulence Research Summer program as the main scientist at the project: 'LES simulations of the turbulent Hartmann flows close to the transitional regime', Stanford University, California, USA, 2006.
6. Merit research fellowship of the Greek State Institution of Fellowships (IKY), 2005.
7. Postdoctoral research fellowship "Pythagoras", Greek Ministry of Education and Religion, 2004-5.
8. Merit research scholarship during Ph.D., University of Thessaly, 2000.

Professional Affiliations:

1. Member of the Greek Technical Chamber (1996-),
2. Member of the EURATOM – Hellenic Republic Association (1999-) and the Association EURATOM - Belgian State (2005-),
3. Member of the Society of Glass Technology (2000-),
4. AIAA - Educator Associate (2005-).

Research Activities-projects:

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| 2018-2019 | Simulation of Magnetic Nanoparticles for Cancer Therapy (MagnetoNanoTherapy), 5th Call for Production Projects Accessing HPC ARIS. |
| 2012-2016 | 'Buildings energy efficiency inspectors education', Hellenic Republic. Tasks: EU and national laws, Thermal analysis of Buildings. Project No. 80102, TEI of Athens |
| 2013-2015 | <i>Researcher</i> , 'Magnetic nanoparticles for targeted MRI therapy (nanother)', Hellenic Republic, TEI of Athens. |
| 2007- present | <i>Researcher</i> , 'National program of controlled thermonuclear fusion', Association EURATOM – Hellenic Republic, University of Thessaly. Tasks: Development of numerical methods for the simulation of turbulent flows under the effect of magnetic fields. |

- 2010- 2014 Visiting Researcher, Physics Department, University of Craiova, Craiova, Romania.
- 2009- 2013 COST, MP0806, “Particles in turbulence”, European Union.
- 2007- 2011 Visiting Researcher, Physique Statistique et Plasmas, Université Libre de Bruxelles, Belgium.
- 2007- 2011 Visiting Researcher, ‘Development of immersed boundary methods for quasi-static MHD turbulent simulations’, Dept. of Mechanical & Manufacturing Eng., University of Cyprus, Cyprus.
- 2005-2007 *Researcher*, ‘National program of controlled thermonuclear fusion’, Association EURATOM – Belgian State, Physique Statistique et Plasmas, Université Libre de Bruxelles, Belgium.
Tasks: Development of numerical models for the study of the turbulent, compressible and high-temperature MHD plasma flow inside TOKAMAK devices.
- 2006 Visiting Researcher, Association Euratom-CEA, Département de recherches sur la Fusion Contrôlé CEA Cadarache, France
Tasks: Development of a full non-linear MHD code for the study of instabilities in cylindrical plasmas.
- 2004-05 *Researcher*, ‘Direct ethanol feed and oxidation in PEM fuel cells (with polymer membrane electrolyte) and simulation of the flow and transport phenomena’, EPEAEK, University of Thessaly.
- 1999- present *Researcher*, ‘National program of controlled thermonuclear fusion’, Association EURATOM – Hellenique Republic, Laboratory of Fluid Mechanics & Turbomachines, University of Thessaly.
Tasks: Development of numerical models for the study of MHD flows in turbulent and thermally driven liquid metal flows.
- 2000-2005 *Visiting Researcher*, Laboratory of Plasma Physics, Université Libre de Bruxelles
Tasks: Study of turbulent MHD flows under various Reynolds and magnetic Prandtl numbers with DNS.
- 2000 *Researcher*, ‘Modern methods of analysis and design in the industry’, Department of Mechanical & Industrial Engineering, University of Thessaly
Tasks: Development of models for the simulation of glass melt flow
- 1996-97 *Researcher*, ‘Improvement of quality and productivity of Greek glass industry’, Department of Mechanical & Industrial Engineering, University of Thessaly
Tasks: Development of numerical models for the simulation of flow and transport phenomena of glass in industrial melting tanks (including bubble and grain growth, dispersion and dissolution, optimization of combustion and burner position, radiation heat transfer, and pollutant dispersion)

Laboratory Experience:

1. Laser Doppler Velocimetry Lab for Senior and Graduate students, Lab. of Fluid Mechanics and Turbomachines, University of Thessaly. 1998-2001.
2. CFD Lab for Graduate students, Lab. of Fluid Mechanics and Turb., University of Thessaly. 1998-2001.
3. Instructor of the Workshop on topics of Numerical Simulation of Glass Melt Flow in Industrial Tanks, First Balkan Conference on Glass Science & Technology, 11 Oct. 2000.
4. Assisted in the supervision of Graduating (11) Theses (one of them prized by the Greek Technical Chamber), Master Theses (4) of students at the University of Thessaly and Doctorate Theses (2).

Talks:

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| 2017 | ‘Drug delivery models to drive magnetic nanoparticles through MRI’, Institute of Nanoscience and Nanotechnology, NCSR Demokritos, Athens, Greece. |
| 2011 | ‘Large-eddy simulation of non-equilibrium Kolmogorov flow under the effect of external magnetic fields’, 10th School on Fusion Physics & Technology, Volos, Greece. |
| 2010 | ‘Plasma stability and turbulent simulations in tokamaks based on OpenFOAM’, 9th School on Fusion Physics & Technology, Volos, Greece. |
| 2009 | Invited talk in the international conference “MHD turbulence, Dynamo, and convective turbulence”, IIT Kanpur, India. |
| 2009 | ‘Turbulent MHD flow driven by electromagnetic forces’, 8 th School on Fusion Physics & Technology, Volos, Greece. |
| 2009 | Invited talk “Magnetohydrodynamics of liquid metals: Basic theory and applications”, University of Ioannina, Greece. |
| 2008 | ‘Heat transfer in turbulent magnetohydrodynamic flows’, 7 th School on Fusion Physics & Technology, Volos, Greece. |
| 2007 | ‘Numerical simulations of the magnetic field generation (Dynamo action)’, Université Libre de Bruxelles, Belgium. |
| 2006 | ‘Development of a non-linear full MHD code for plasma instabilities’, CEA, Département de recherches sur la Fusion Contrôlé CEA Cadarache, France. |
| 2006 | ‘Development of non-linear full MHD codes for Tokamaks’, School on Fusion Physics & Technology, Volos, Greece. |
| 2006 | ‘MHD natural convection in vertical concentric cylinders’, EUROMECH Colloquium 475: Fluid dynamics in high magnetic fields, TU-Ilmenau, Germany. |
| 2005 | ‘LES modeling of MHD liquid metal flows’, School on Fusion Physics & Technology, Volos, Greece. |
| 2005 | ‘Structures of magnetohydrodynamical flow in enclosures under thermal sources’, 18th Summer School of Nonlinear Science and Complexity, Volos, Greece. |
| 2004 | ‘MHD turbulence in non-uniform magnetic fields’, School on Fusion Physics & Technology, Volos, Greece. |

- 2003 'MHD in free convection problems: Use of the Lorentz force for the fluid flow', School on Fusion Physics & Technology, Volos, Greece.
- 2002 'Effect of the magnetic field in natural convection flows', School on Fusion Physics & Technology, Volos, Greece.

Other Activities:

1. Participation in the MHD summer program of Université Libre de Bruxelles, 7/2009, Brussels, Belgium.
2. Participation in the MHD summer program of Université Libre de Bruxelles, 7/2007, Brussels, Belgium.
3. Participation in the Center of Turbulence Research (CTR) Summer Program of Stanford University, 7/2006, California, USA.
4. Participation in the EUA4X workshop (Higher order numerical schemes) at von Karman Institute, Brussels, Belgium.
5. Participation in the MHD summer program of Université Libre de Bruxelles, 6/2005, Brussels, Belgium.
6. Member of the Organizing Committee (Secr.) of the 4th, 2nd and 1st School on Fusion Physics & Technology, Volos, Greece, 18-23 April 2005, 22-27 May 2003, 16-21 May 2002.
7. Member of the Organizing Committee, 1st Balkan Conference on Glass Science & Technology, Volos, Greece, 9-10 10/2000.
8. Member of the Organizing Committee, 2nd Workshop of Research Activities in Flow Phenomena in Greece, Volos, Greece, 22 May 2000.
9. Member of the Technical Committee, 6th National Conference of the Solar Technology Institute, Volos, Greece, 3-5 November 1999.

A reviewer in the Journals:

- 1) Heat Transfer Engineering,
- 2) IEEE Transactions on Plasma Science,
- 3) International Journal of Applied Mechanics,
- 4) Fusion Engineering and Design,
- 5) Chemical Engineering Communications,
- 6) Numerical Heat Transfer,
- 7) Numerical Algorithms, and
- 8) Journal of the Franklin Institute,
- 9) Progress in Computational Fluid Dynamics,
- 10) Physics of Fluids,

- 11) Computers and Mathematics with Applications,
- 12) Fluid Dynamics Research,
- 13) International Journal of Thermal Sciences,
- 14) International Journal of Applied and Computational Mathematics,
- 15) Engineering Science and Technology: An International Journal,
- 16) Plasma Science and Technology,
- 17) Applied Mathematical Modelling,
- 18) Periodica Polytechnica Chemical Engineering,
- 19) Journal of Molecular Liquids
- 20) Engineering, and
- 21) Journal of Magnetism and Magnetic Materials.

PUBLICATIONS

Theses:

1. 'Numerical simulation of flow and heat transfer in industrial glass melting tanks', Ph.D. Thesis, University of Thessaly, November 2001
2. 'Study of vibrations during Laser corrugation of a plate with finite element analysis', MSc thesis, University of Patras, November 1995
3. 'Development of a finite element code for the study of shaft durability', B.Sc. thesis, University of Patras, January 1994

Books and book chapters:

- 2011 Sarris I.E. and T. Karakasidis, 'Numerical analysis and applications for engineers', Tziolas Ltd, 1st edition, pages 270, ISBN: 978-960-418-300-5.
- 2013 Sarris I.E. and T. Karakasidis, 'Numerical analysis and applications for engineers', Tziolas Ltd, 2nd edition (520pages), ISBN: 978-960-418-419-7.
- 2015 Sarris I.E. and T. Karakasidis, 'Numerical analysis and applications for engineers', Tziolas Ltd, 3rd edition (620pages), ISBN: 978-960-418-520-7.
- 2014 Karlatiras G.K. and I.E. Sarris, 'Energy Inspection of Buildings: Questions for the exams of the basic course' (264 pages), ISBN: 978-960-93-6210-8.
- 2017 Sarris I.E. and T. Karakasidis, 'Numerical analysis and applications for engineers', Tziolas Ltd, 4th edition (802pages), ISBN: 978-960-418-725-6.
- 2019 Vasilopoulos, K., Sarris, I.E., Lekakis, I. and P. Tsoutsanis, Diesel pool fire incident inside an urban street canyon, Lecture Notes in Mechanical Engineering (Book Chapter), vol. Part F6, 2019, pp. 339-350.

Refereed Journals

(Citations in journal papers, Source: Scopus, 18/4/2019: 487, h-index:10)

- J55. Benos, L.Th. and I.E. Sarris, ‘The interfacial nanolayer role on magnetohydrodynamic natural convection of an Al₂O₃-water nanofluid’, *Heat Transfer Engineering*, vol. 42(2), 2021.
- J54. Mabood, F., T. A. Yusuf and I.E. Sarris, «Entropy generation and irreversibility analysis on free convective unsteady MHD Casson fluid flow over a stretching sheet with Soret/Dufour in porous media», *Special Topics & Reviews in Porous Media – An International Journal*, in press, 2020.
- J53. Bartzis, V. and I.E. Sarris, “Electric field effect and diffuse layer thickness study on the salt ion drift for water desalination», *Desalination*, paper accepted, 2020.
- J52. Aslani K.-E., L. Benos, E. Tzirtzilakis and I.E. Sarris, «Micromagnetorotation of MHD micropolar flows», *Symmetry*, vol. 12, 148, 2020.
- J51. Bartzis, V. and I.E. Sarris, «A theoretical model for salt ion drift due to electric field suitable to seawater desalination», *Desalination*, vol. 473(1), 114163, 2020.
- J50. Benos, L.Th., N. Polychronopoulos, U.S. Mahabaleshwar, G. Lorenzini and I.E. Sarris, ‘Thermal and flow investigation of MHD natural convection in a nanofluid saturated porous enclosure: an asymptotic analysis’, *Journal of Thermal Analysis and Calorimetry*, in press, 2020.
- J49. Liosis, C., E. Karvelas, T.H. Karakasidis and I.E. Sarris, «Numerical study of magnetic particles mixing in waste water under an external magnetic field», *Journal of Water Supply: Research and Technology – AQUA*, in press, 2020.
- J48. Nagaraju, K.R., U.S. Mahabaleshwar, A.A. Krimpeni, I.E. Sarris, E. Lorenzini, «Impact of mass transpiration on unsteady boundary layer flow of impulsive porous stretching», *Mathematical Modelling of Engineering Problems*, vol. 6(3) pp. 349-354, 2019.
- J47. Charakopoulos, A., T.H. Karakasidis and I.E. Sarris, «Pattern identification for wind power forecasting via Complex Network and Recurrence plot time series analysis», *Energy Policy*, vol. 133, 110934, 2019.
- J46. Fragkou, A.D., T.H. Karakasidis and I.E. Sarris, ‘Recurrence Quantification Analysis of MHD turbulent channel flow’, *Physica A: Statistical Mechanics and its Applications*, vol. 531, 121741, 2019.
- J45. Samioti, S., L. Benos and I.E. Sarris, ‘Effect of fractal-shaped outer boundary of glioblastoma multiform on drug delivery’, *Computer Methods and Programs in Biomedicine*, vol. 178, pp. 191-199, 2019.

- J44. Karvelas, E., C. Liosis, L. Benos, T.H. Karakasidis and I.E. Sarris, 'Micromixing efficiency of particles in heavy metal removal processes under various inlet conditions', *Water*, vol. 11(6), 1135, 2019.
- J43. Benos, L.Th., U.S. Mahabaleshwar, P.H. Sakanaka and I.E. Sarris, 'Thermal analysis of the unsteady sheet stretching subject to slip and magnetohydrodynamic effects', *Thermal Science and Engineering Progress*, vol. 13, 100367, 2019.
- J42. Benos L., E.G. Karvelas and I.E. Sarris, 'Crucial effect of aggregations in CNT-water nanofluid magnetohydrodynamic natural convection', *Thermal Science and Engineering Progress*, vol. 11, pp. 263-271, 2019.
- J41. Vasilopoulos, K., I.E. Sarris and P. Tsoutsanis, 'Assessment of air flow distribution and hazardous release dispersion around a single obstacle using Reynolds-averaged Navier-Stokes equations', *Heliyon*, vol. 5(4), e01482, 2019.
- J40. Benos L., L. Spyrou and I.E. Sarris, 'Development of a new theoretical model for blood-CNTs effective thermal conductivity pertaining to hyperthermia therapy of glioblastoma multiform', *Computer Methods and Programs in Biomedicine*, vol. 172, pp. 79-85, 2019.
- J39. Benos, L.Th., E.G. Karvelas and I.E. Sarris, 'A theoretical model for the magnetohydrodynamic natural convection of a CNT-water nanofluid incorporating a renovated Hamilton-Crosser model', *International Journal of Heat & Mass Transfer*, vol. 135, pp. 548-560, 2019.
- J38. Benos L. and I.E. Sarris, 'Analytical study of the magnetohydrodynamic natural convection of a nanofluid filled horizontal shallow cavity with internal heat generation', *International Journal of Heat & Mass Transfer*, vol. 130, pp. 862-873, 2019.
- J37. K. Vasilopoulos, M. Mentzos, I.E. Sarris and P. Tsoutsanis, 'Computational assessment of the hazardous release dispersion from a diesel pool fire in a complex building's area', *Computation*, vol. 6(4), pp. 65, 2018.
- J36. E.G. Karvelas, T.E. Karakasidis, and I.E. Sarris, 'Computational analysis of paramagnetic spherical Fe_3O_4 nanoparticles under permanent magnetic fields', *Computational Materials Science*, vol. 154, pp. 464-471, 2018.
- J35. U.S. Mahabaleshwar, I.E. Sarris, and G. Lorenzini, 'Effect of radiation and Navier slip boundary of Walters' liquid B flow over a stretching sheet in a porous media', *International Journal of Heat & Mass Transfer*, vol. 127, pp. 1327-1337, 2018.
- J34. E.G. Karvelas, T.E. Karakasidis, and I.E. Sarris, "Simulation of nanoparticle magnetic driving in water purification processes", *Desalination and Water Treatment*, vol. 99, pp. 27-33, 2017.
- J33. Karvelas, E.G., N.K. Lampropoulos and I.E. Sarris, 'A numerical model for aggregations formation and magnetic driving of spherical particles based on OpenFOAM', *Computer Methods and Programs in Biomedicine*, 142 (2017) 21–30, 2017.
- J32. Kakarantzas, S.C., L.Th. Benos, I.E. Sarris, B. Knaepen, A.P. Grecos, and N.S. Vlachos, 'Effects of aspect ratio and annular gap on MHD liquid metal flow and heat transfer between vertical coaxial cylinders under horizontal magnetic field', *Intl Journal of Heat and Fluid Flow*, vol. 65, pp. 342-351, 2017.

- J31. Mahabaleshwar, U.S., I.E. Sarris, A. Hill, G. Lorenzini, and I. Pop, "An MHD couple stress fluid due to a perforated sheet undergoing linear stretching with heat transfer", *Intl J. of Heat & Mass Transfer*, vol. 105, pp. 157-167, 2017.
- J29. Karvelas, E.G., D.G. Koubogiannis, A. Hatzia Apostolou, and I.E. Sarris, 'Anode bed geometry effect on the hydraulic behavior of PEM Fuel Cells', *Renewable Energy*, vol. 93, pp. 269-279, 2016.
- J28. Karakasidis, T.E., T. Fragkou, I.E. Sarris and A. Liakopoulos, 'Spatiotemporal time series analysis methods for the study of magnetohydrodynamic flow', *Environmental Processes*, vol. 2, pp. S141-S158, 2015.
- J27. Kakarantzas, S., B. Knaepen, M. Caby, E. Benos, I. Sarris & N. Pelekasis, 'Investigation of various nozzles configurations with respect to IFMIF and liquid walls concepts', *Fusion Engineering and Design*, vol. 98-99, pp. 1337-1340, 2015.
- J26. Lampropoulos, N.K., E.G. Karvelas, and I.E. Sarris, 'Computational study of the particles interaction distance under the influence of steady magnetic field', *Advances in Systems Science and Applications*, vol. 15(3), pp. 227-236, 2015.
- J25. Bég, O.A., U.S. Mahabaleshwar, M.M. Rashidi, N. Rahimzadeh, J-L. Curiel Sosa, I. Sarris, and N. Laraqi, 'Homotopy analysis of magnetohydrodynamic convection flow in manufacture of a viscoelastic fabric for space applications, *Intl Journal of Applied Mathematics and Mechanics*, vol. 10(10), pp. 9 - 49, 2014.
- J24. Benos, L.T., S.C. Kakarantzas, I.E. Sarris, A.P. Grecos and N.S. Vlachos, 'Analytical and numerical study of MHD natural convection in a horizontal shallow cavity with heat generation', *Intl Journal of Heat and Mass Transfer*, vol. 75, pp.19-30, 2014.
- J23. Karamanos, K., I.S. Mistakidis, S.I. Mistakidis and I.E. Sarris, 'Symbolic dynamics applied to velocity time-series in wind farms', *Advances in Systems Science and Applications*, vol. 14(3), pp. 244-253, 2014.
- J22. Kakarantzas, S., I.E. Sarris, and N.S. Vlachos, 'Magnetohydrodynamic natural convection of liquid metal between coaxial isothermal cylinders due to internal heating', *Numerical Heat Transfer: Part A-Applications*, vol. 65(5), pp. 401-418, 2014.
- J21. Polychronopoulos, N., I.E. Sarris, and T. Papathanasiou, '3D features in the calendaring of thermoplastics: A computational investigation', *Polymer Engineering & Science*, vol. 54(7), pp. 1712-1722, 2014.
- J20. Iatridis, A.I., I.E. Sarris and N.S. Vlachos, 'Transition of an electromagnetically driven liquid metal flow from laminar to turbulent in a toroidal square duct', *EPL (Europhysics Letters)*, vol. 101, 44005, 2013.
- J19. Dritselis, C.D., A.I. Iatridis, I.E. Sarris and N.S. Vlachos, 'Buoyancy assisted convection in vertical plates with spatially periodic wall temperature', *Intl J. Thermal Sciences*, vol. 65, pp. 28-38, 2013.
- J18. Iatridis, A.I., C.D. Dritselis, I.E. Sarris and N.S. Vlachos, 'Transient laminar MHD natural convection cooling in a vertical cylinder', *Numerical Heat Transfer: Part A - Applications*, vol. 62, pp. 1-16, 2012.
- J17. Kakarantzas, S.C., I.E. Sarris, and N.S. Vlachos, 'Natural convection of liquid metal in a vertical annulus with lateral and volumetric heating in the presence of a horizontal magnetic field', *Intl Journal of Heat and Mass Transfer*, vol. 54(15-16), pp. 3347-3356, 2011.

- J16. Dritselis, C.D., I.E. Sarris, D.K. Fidaros and N.S. Vlachos, 'Transport and deposition of neutral particles in magnetohydrodynamic turbulent channel flow at low magnetic Reynolds numbers', *Intl Journal of Heat and Fluid Flow*, vol. 32(2), pp. 365-377, 2011.
- J15. Sarris, I.E., D.G.E. Grigoriadis, and N.S. Vlachos, 'Laminar free convection in a square enclosure driven by the Lorentz force', *Numerical Heat Transfer: Part A-Applications*, vol. 58, pp. 1–20, 2010.
- J14. Sarris, I.E., A.I. Iatridis, C.D. Dritselis, and N.S. Vlachos, 'Magnetic field effect on the cooling of a low-Pr fluid in a vertical cylinder', *Physics of Fluids*, vol. 22, 017101, 2010.
- J13. Grigoriadis, D.G.E., I.E. Sarris and S.C. Kassinos, 'MHD flow past a circular cylinder using the immersed boundary method', *Computers and Fluids*, vol. 39, pp. 345-358, 2010.
- J12. Kakarantzas, S.C., I.E. Sarris, A.P. Grecos, and N.S. Vlachos, 'Magnetohydrodynamic natural convection in a sinusoidal upper heated cylindrical cavity', *Intl Journal of Heat and Mass Transfer*, vol. 52, pp. 250-259, 2009.
- J11. Verma, M.K., T. Lessinnes, D. Carati, I.E. Sarris, K. Kumar, and M. Singh, 'Dynamo transition in a low-dimensional model', *Physical Review E*, vol. 78, 036409, 2008.
- J10. Rouson, D., S.C. Kassinos, I. Moulitsas, I.E. Sarris and X. Xu, 'Dispersed-phase structural anisotropy in homogeneous magnetohydrodynamic turbulence at low magnetic Reynolds number', *Physics of Fluids*, vol. 20, 025101, 2008 (Published with open access and featured on the cover).
- J9. Carati, D., B. Teaca, M. Kinet, B. Knaepen, P. Burattini, I.E. Sarris, C. Toniolo, T. Lessinnes and M. Verma, 'Development and exploitation of a spectral code for magnetohydrodynamics', *Physics AUC*, vol. 17, pp.100-108, 2007.
- J8. Sarris, I.E., H. Jeanmart, D. Carati, and G.S. Winckelmans, 'Box-size dependency and breaking of translational invariance in the velocity statistics computed from three-dimensional turbulent Kolmogorov flows', *Physics of Fluids*, vol. 19, 095101, 2007.
- J7. Kakarantzas, S.C., A.P. Grecos, N.S. Vlachos, I.E. Sarris, B. Knaepen and D. Carati, 'Direct numerical simulation of a heat removal configuration for fusion blankets', *Energy Conversion and Management*, vol. 48, Nr. 11, pp. 2775-2783, 2007.
- J6. Sarris, I. E., S.C. Kassinos and D. Carati, 'LES simulations of the turbulent Hartmann flows close to the transitional regime', *Physics of Fluids*, vol. 19, 085109, 2007.
- J5. Sarris, I.E., S. Song, P. Tsiakaras and N.S. Vlachos, 'A Three-Dimensional CFD Model of Direct Ethanol Fuel Cells: Anode Flow Bed Analysis', *Solid State Ionics*, vol. 177, pp. 2133-2138, 2006.
- J4. Sarris, I.E., G.K. Zikos, A.P. Grecos, and N.S. Vlachos, 'On the validity of the low magnetic Reynolds number approximation in MHD natural convection heat transfer', *Numerical Heat Transfer: Part B – Fundamentals*, vol. 50, pp. 157-180, 2006.
- J3. Sarris, I.E., S.C. Kakarantzas, A.P. Grecos, and N.S. Vlachos, 'MHD natural convection in a laterally and volumetrically heated square cavity', *Intl Journal of Heat & Mass Transfer*, vol. 48, pp. 3443–3453, 2005.
- J2. Sarris, I.E., I. Lekakis, and N.S. Vlachos, 'Natural convection in rectangular tanks heated locally from below', *Intl Journal of Heat & Mass Transfer*, vol. 47, pp. 3549-3563, 2004.

- J1. Sarris, I.E., I. Lekakis, and N.S. Vlachos, 'Natural convection in a 2D enclosure with sinusoidal upper wall temperature', *Numerical Heat Transfer: Part A-Applications*, vol. 42(5), pp. 513-530, 2002.

Conference Proceedings

1. Sofiadis, G and I.E. Sarris, 'Numerical study of micropolar turbulent channel flow', 11th National conference «FLOW 2018», 23 & 24 November, Kozani, Greece, 2018.
2. Samioti, S., L. Benos and I.E. Sarris, 'Numerical study of diffusion near fractal cancer tumors boundaries', 11th National conference «FLOW 2018», 23 & 24 November, Kozani, Greece, 2018.
3. Karvelas, E.G., L. Benos, T.E. Karakasidis, and I.E. Sarris, 'Computational analysis of paramagnetic spherical Fe₃O₄ nanoparticles under permanent magnetic fields', 11th National conference «FLOW 2018», 23 & 24 November, Kozani, Greece, 2018.
4. Charakopoulos, A., T.E. Karakasidis and I.E. Sarris, 'Wind energy potential based on Visibility Complex Network and Recurrence Plot time series analysis', *Economics of Natural Resources and the Environment*, 5th Conference, University of Thessaly, Volos, Greece, 2-3 November 2018.
5. Karvelas, E.G., C. Liosis, T.E. Karakasidis, and I.E. Sarris, 'Mixing of nanoparticles in micromixers under different angles and velocities of the incoming water', *Proceedings*, vol. 2, 577, 2018.
6. Vasilopoulos, K., I. E. Sarris, I. Lekakis and P. Tsoutsanis, «Diesel pool fire incident inside an urban street canyon», 1st International Conference on Numerical Modelling in Engineering, NME 2018, Ghent University, Belgium, 28-29 August 2018.
7. Vasilopoulos, K., M. Mentzos, I.E. Sarris and P. Tsoutsanis, «Assessment of airflow distribution and hazardous release dispersion from a diesel pool fire in a complex building's area», 8th International Conference from Scientific Computing to Computational Engineering (8th IC-SCCE), Athens, Greece, 4-7 July 2018.
8. Karvelas, E.G., C. Liosis, T.E. Karakasidis, and I.E. Sarris, 'Mixing of nanoparticles in micromixers under different angles and velocities of the incoming water', 3rd EWaS International Conference, Lefkada, Greece, 27-30 June 2018.
9. Malamataris N., I.E. Sarris, D. Pazis and A. Liakos, «The computation of the drag coefficient of the unbounded flow around a circular cylinder in the limit of zero Reynolds number», 70th Annual Meeting of the APS Division of Fluid Dynamics, November 19–21, Denver, Colorado, USA, 2017.
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