

IOANNIS E. SARRIS



Date of birth: 17 May 1972 in Volos, Greece

Personal record: Married, 4 kids

Office: Mechanical Engineering, University of West Attica, 250 Thivon and P. Ralli Street, 122 44 Egaleo, Athens, Greece, Tel. +30 210-5381-131, Fax. 210-5385-306, Email: sarris@uniwa.gr

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:

- 2022- **Director** of the MSc Program «Research in Thermofluids», Department of Mechanical Engineering, University of West Attica, Athens, Greece.
- 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. Editorial member of the journal Al-Qadisiyah Journal for Engineering Sciences (QJES), E-ISSN: (2411-7773) , P-ISSN: (1998-4456), 2023.
2. Member of the International Advisory Committee of the Conference "International Conference on Recent Advances in Fluid Mechanics"- 2022 (ICRAFM-2022), Manipal, India, 4-6 October 2022.
3. Member of the International Advisory Committee of the Conference "Particles in turbulence", Potsdam, Germany, 16-18 March 2011.
4. National Action Management Committee of COST, MP0806 "Particles in turbulence" European Union, 2009- 13.
5. Member of the International Organizing Committee of the Conference "MHD turbulence, Dynamo, and convective turbulence", IIT Kanpur, India, 21-23 December 2009.
6. Postdoctoral research fellowship Marie-Curie (Euratom, Intra-European postdoctoral fellowships), Université Libre de Bruxelles (ULB), 2005-7.
7. 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.
8. Merit research fellowship of the Greek State Institution of Fellowships (IKY), 2005.
9. Postdoctoral research fellowship "Pythagoras", Greek Ministry of Education and Religion, 2004-5.
10. 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:

2024-2027	PROMATAI, 'Development and testing of innovative solutions for the processing of hybrid materials and nanomaterials using artificial intelligence algorithms', HORIZON-MSCA Staff Exchanges 2022
2022-2023	'Pentaload Heatsink for electronics cooling', Logicdev eU, Austria
2021-2022	'Flow and optimization study of microfluidic biosensor', Bialoom, Cyprus
2021-2022	Kalippos+, 'Computational Fluid Dynamics', NTUA, Greece
2019-2021	Erasmus+, KA1, ICP, UNIWA- Anna University, India

- 2019 Optimal arrangement of ground electrodes system for the HVDC Attica-Crete very long current wire, ADMIE, UNIWA
- 2019-2020 ‘Magnetic navigation of nanoparticles in real human arteries’, EDBM, Hellenic Republic
- 2019-2020 ‘Magnetic targeting of nanoparticles across the blood-brain barrier for the purpose of thermal ablation of glioblastoma multiforme (NanoThermia)’, EDBM, Hellenic Republic
- 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 *Researcher*, ‘Magnetic nanoparticles for targeted MRI therapy (nanother)’, Hellenic Republic, TEI of Athens.
- 2007- *present* *Researcher*, ‘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 – Hellenic 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:

- 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’, 8th 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’, 7th 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, 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, 21) Fluids, 22) Nanomaterials, 23) Molecules, 24) Journal of Magnetism and Magnetic Materials, 25) Modern Physics Letters B, 26) Journal of Mechanical Engineering Science, 27) Journal of Fluid Mechanics, 28) Heliyon, 29) Case Studies in Thermal Engineering, 30) Journal of Computational Science, 31) Water, 32) Advances in Mathematical Physics, 33) Indian Journal of Physics, etc

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 (integrated), 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.
- 2021 More S., A. Kotia and I.E. Sarris, «Synovial fluid: Lubrication mechanism and viscosupplements», Advances in Medicine and Biology, book chapter, pp. 205-222, vol. 183, 2021.
- 2023 Reddy, L., A. Kotia and I.E. Sarris, «Carbon Nanomaterials as Renewable Water Purification Materials», in Ahankari, S.S., Mohanty, A.K., & Misra, M. (Eds.). Nanomaterials from Renewable Resources for Emerging Applications (1st ed.). CRC Press. <https://doi.org/10.1201/9781003245261>, 2023.

Refereed Journals

(Citations in journal papers, 31/8/2023, Source: Scopus: 2067/2681, h-index:23/27, Source: Google Scholar: 3313, h-index:30)

- J177. Palampigik A., K. Vasilopoulos, I. Lekakis and I.E. Sarris, «Risk assessment of toxic pollutant dispersion after methane pool fire accident in a street canyon», 16th International Conference on Meteorology, Climatology and Atmospheric Physics, 25-29 September, Athens, Greece, 2023, and Environ. Sci. Proc. Sci. Proc. vol. 4, 132, 2023.
- J176. Polychronopoulos, N.D., I.E. Sarris, L. Benos, and J. Vlachopoulos, «Pressure Drop in Converging Flows in Three-Dimensional Printing of Concrete», Physics of Fluids, paper accepted, 2023.
- J175. Yaseen, M., S.K. Rawat, U. Khan, I.E. Sarris, H. Khan, A.S. Negi, A. Khan, El-Sayed M. Sherif, A.M. Hassan and A. Zaib, «Numerical analysis of magnetohydrodynamics in a Eyring-Powell hybrid nanofluid flow on wall jet heat and mass transfer», Nanotechnology, paper accepted, 2023.
- J174. Nagaraja, K.V., K. Vinutha, J.K. Madhukesh, U. Khan, J.S. Chohan, El-Sayed M. Sherif, I.E. Sarris, A.M. Hassan and B. Shanker, 'Thermal conductivity performance in sodium alginate-based Casson nanofluid flow by a curved Riga surface', Frontiers in Materials, paper accepted, 2023.
- J173. Madhukesh, J.K., K. Vinutha, K. Chandan, U. Khan, K.V. Nagaraja, I.E. Sarris, E.-S.M. Sherif, A.M. Hassan and J.S. Chohan, «A model development for thermal and solutal transport analysis of non-Newtonian nanofluid flow over a Riga surface driven by a waste discharge concentration', Water, 15(16), 2879, 2023.
- J172. Madhukesh, J.K., I.E. Sarris, K. Vinutha, B.C. Prasannakumara and A. Abdulrahman, «Computational analysis of ternary nanofluid flow in a microchannel with non-uniform heat source/sink and waste discharge concentration», Numerical Heat Transfer, Part A, DOI: 10.1080/10407782.2023.2240509, 2023.

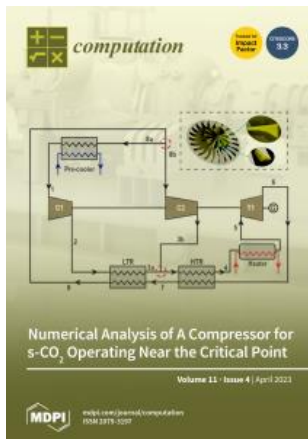
- J171. Khan, U., L.F. Alharbi, A. Ishak, I.E. Sarris and El-S. M. Sherif, «Stability Scrutinization and model development for mixed convective non-Newtonian hybrid nanomaterial flow in thermal system and irregular heat source/sink effect: the case of Williamson model over a vertical permeable shrinking surface», *Tribology International*, 108757, 2023.
- J170. Bartzis, V., I.F. Strati, I.E. Sarris, T. Tsiaka, A. Batrinou, S.J. Konteles and V.J. Sinanoglou, «Application of Electric Field Force for the accumulation of anthocyanins from winery wastewater», *Water*, vol. 15(13), 2450, 2023.
- J169. Mahabaleshwar, U.S. and I.E. Sarris, «An Influence of Radiation and Magnetohydrodynamic Flow of Hybrid nanofluid Past a Stretching/Shrinking sheet with Mass transpiration», *ZAMM*, e202300140, 2023.
- J168. Fenuga, O.J., J. A. Osilagun, S. J. Aroloye and I. Sarris, «Numerical investigation of an unsteady magnetohydrodynamic boundary layer flow over a permeable surface with suction and chemical reaction», *Journal of Scientific Research and Development*, vol. 22 (1), pp. 70-93, 2023.
- J167. Khan, U., A. Zaib, A. Ishak, El-Sayed M. Sherif, I.E. Sarris, S.M. Eldin and I. Pop, «Analysis of assisting and opposing flows of the Eyring-Powell fluid on the wall jet nanoparticles with significant impacts of irregular heat source/sink», *Case Studies in Thermal Engineering*, paper accepted, 2023.
- J166. Vishalakshi A.B., M.I. Kopp, U.S. Mahabaleshwar and I.E. Sarris, «Ternary hybrid nanofluid flow caused by thermal radiation and mass transpiration in a porous stretching/shrinking sheet», *Mathematical Modeling and Computing*, paper accepted, 2023.
- J165. Ali Q., M. Amir, I.Q. Memon, I.E. Sarris and K.A. Abro, Investigation of Magnetized Convection for Second-Grade Nanofluids via Prabhakar Differential, *Nonlinear Engineering, Modeling and Application*, paper accepted, 2023.
- J164. Ali, Q.A., K.A. Abro, I.E. Sarris, A. Raza and S.U. Khan, «Thermal Study of Convective Flow for Nanofluid based on Damped Shear and Thermal Flux», *International Journal of Modern Physics B*, paper accepted, 2023.
- J163. Varun Kumar, R.S., I.E. Sarris, G. Sowmya and A. Abdulrahman, «Iterative solutions for the nonlinear heat transfer equation of a convective-radiative annular fin with power-law temperature-dependent thermal properties», *Symmetry*, vol. 15(6), 1204, 2023.
- J162. Yalini Devi, N., A.S. Alagar Nedunchezian, D. Sidharth, P. Rajasekaran, M. Arivanandhan, I. Sarris, T.Y. Yang and R. Jayavel, «High thermoelectric power factor of Ag and Nb co-substituted SrTiO₃ perovskite nanostructures», *Materials Chemistry and Physics*, 127950, 2023.
- J161. Varun Kumar, R.S., M.D. Alsulami, I.E. Sarris, G. Sowmya and F. Gamaoun, «Stochastic Levenberg-Marquardt neural network implementation for analyzing the convective heat transfer in a wavy fin», *Mathematics*, vol. 11(10), 2401, 2023.
- J160. Wang, F., E.O. Fatunmbi, A.T. Adeosun, S.O. Salawu, I.L. Animasaun and I.E. Sarris, «Comparative analysis between copper ethylene-glycol and copper-iron oxide ethylene-

glycol nanoparticles both experiencing Coriolis force, velocity and temperature jump», *Case Studies in Thermal Engineering*, vol. 47, 103028, 2023.

J159. Zisis, T., K. Vasilopoulos and I.E. Sarris, «Effect of passenger physical characteristics in the uptake of combustion products during a railway tunnel evacuation due to a fire accident», *Computation*, vol. 11(4), 82, 2023.

J158. Manikandan, R., S. Ramkumar, V Jeyakrishnan, I.E. Sarris and K. Loganathan, «Minimizing Energy Depletion using Extended Lifespan – QoS Satisfied Multiple Learned rate (ELQSSM-ML) for increased Lifespan of Mobile Adhoc Networks (MANET)», *Information*, vol. 14(4), 244, 2023.

J157. Aretis, G., A.A. Gkoutas, D. Koubogiannis and I.E. Sarris, «Preliminary design and numerical investigation of a centrifugal compressor for supercritical carbon dioxide operating in the vicinity of its critical thermodynamic state», *Computation*, vol. 11(4), 77, 2023 (Published with open access and featured on the cover).



J156. Abbas A., I.E. Sarris, M. Ashraf, K. Ghachem, N. Hnaein, B. M. Alshammari, «The Effects of Reduced Gravity and Radiative Heat Transfer on the Magnetohydrodynamic Flow Past a Non-Rotating Stationary Sphere Surrounded by a Porous Medium», *Symmetry*, vol. 15(4), 806, 2023.

J155. Abbas, A., M. Ashraf, I.E. Sarris, K. Ghachem, T. Labidi, L. Klosi and H. Ahmad, «Numerical Simulation of the effects of Reduced Gravity, Radiation and Magnetic field on Heat Transfer past a Solid Sphere using Finite Difference Method», *Symmetry*, vol. 15(3), 772, 2023.

J154. Sivalingam, A., T. Balusamy, P.K. Nagarajan, I.E. Sarris, S.Suseel Jai Krishnan and M. Sharifpur, «Intensified convective energy tapping in modified tubes using Azadirachta indica brewed zinc oxide as potential thermo-fluids» *International Journal of Thermal Sciences*, vol. 189, 108287, 2023.

J153. Karvelas, E., S. Doukeridis, T. Karakasidis and I.E. Sarris, «Investigation of inlet conditions on nanoparticles and blood mixing in a T-shaped microfluidic reactor with small rectangular cavities», *Yale Journal of Biology and Medicine*, vol. 96(1), pp. 43–55, 2023.

- J152. Madhukesh, J.K., I.E. Sarris, B.C. Prasannakumara and A. Abdulrahman. «Investigation of thermal performance of ternary hybrid nanofluid flow in a permeable inclined Cylinder/Plate», *Energies*, vol. 16(6), 2630, 2023.
- J151. Manikandan, R., K. Loganathan, S. Ramkumar and I.E. Sarris, «An Automated Path-Focused Test Case generation with dynamic parameterization using Adaptive Genetic Algorithm (AGA) for Structural Program Testing», *Information*, vol. 14(3), 166, 2023.
- J150. Hashem, G.T., M.F. Al-Dawody and I.E. Sarris, «The Characteristics of Gasoline Engines with the Use of LPG: An Experimental and Numerical Study», *International Journal of Thermofluids*, vol. 18, 100316, 2023.
- J149. Sofiadis, G., I.E. Sarris and A. Alexakis, «Inducing intermittency in the inverse cascade of two-dimensional turbulence by a fractal forcing», *Physical Review Fluids*, vol. 8(2), 024607, 2023.
- J148. Ammar, Z., H. Ibrahim, M. Adly, I.E. Sarris and S. Mehanny, «Influence of Natural Fiber Content on the Frictional Material of Brake Pads – A Review», *Journal of Composites Science*, vol. 7(2), 72, 2023.
- J147. Varun Kumar, R.S., I.E. Sarris, G. Sowmya, B.C. Prasannakumara and A. Vermad, «Artificial neural network modeling for predicting the transient thermal distribution in a stretching/shrinking longitudinal fin», *ASME Journal of Heat and Mass Transfer*, paper accepted, 2023.
- J146. Abbas, A., M. Ashraf, I.E. Sarris, K. Ghachem, T. Labidi and L. Klosi, «Numerical Simulation of the effects of Reduced Gravity, Radiation and Magnetic field on Heat Transfer past a Solid Sphere using Finite Difference Method», *Symmetry*, paper accepted, 2023.
- J145. Athal, I., I.E. Sarris, P. Velusamy and V. Govindan, «Viscosity dissipation and mixed convection flow in a vertical double-passage channel with permeable fluid», *Frontiers in Nanotechnology*, vol. 4, 1058973, 2023.
- J144. Varun Kumar, R.S., M.D. Alsulami, I.E. Sarris, B.C. Prasannakumara and S. Rana, 'Backpropagated neural network modelling for the non-Fourier thermal analysis of a moving plate', *Mathematics*, vol. 11(2), 438, 2023.
- J143. Reddy, L., A. Kotia and I.E. Sarris, «Carbon Nanomaterials as Renewable Water Purification Materials», in Ahankari, S.S., Mohanty, A.K., & Misra, M. (Eds.). *Nanomaterials from Renewable Resources for Emerging Applications* (1st ed.). CRC Press. <https://doi.org/10.1201/9781003245261>, 2023.
- J142. Bhatti, M.M., A. Shahid, I.E. Sarris and O. Anwar Bég, «Spectral relaxation computation of Maxwell fluid flow from a stretching surface with quadratic convection and non-Fourier heat flux using Lie symmetry transformations», *International Journal of Modern Physics B*, vol. 37(9), 2350082, 2023.
- J141. Bartzis, V., A. Batrinou, I.E. Sarris, S.J. Konteles, I.F. Strati and D. Houhoula, «Electric field induced drift of bacterial protein toxins of foodborne pathogens *Staphylococcus aureus* and *Escherichia coli*», *Applied Sciences*, vol. 12(24), 12739, 2022.

- J140. Mohamed Ismail M., J. Aishwarya, J. Prasath, A.S. Alagar Nedunchezian, V. Manimuth, M. Arivanandhan, T. Sivakumar, I.E. Sarris and R. Jayavel, «Comparative analysis on electrochemical properties of CeO₂/rGO and CeO₂/MoS₂ nanocomposites for supercapacitor applications», *Indian Journal of Chemical Technology*, vol. 29 (6), pp. 688 – 696, 2022.
- J139. Raza, A., M.Y. Almusawa, Q. Ali, A.U. Haq, K. Al-Khaled and I.E. Sarris, «Solution of Water and Sodium Alginate-Based Casson Type Hybrid-nanofluid with Slip and Sinusoidal Heat Conditions: A Prabhakar fractional derivative Approach», *Symmetry*, vol. 14(12), 2658, 2022.
- J138. Mehmood, Y., R. Shafqat, I.E. Sarris, M. Bilal, T. Sajid and T. Akhtar, «Numerical investigation of MWCNT and SWCNT fluid flow along with the activation energy effects over a quartic autocatalytic endothermic and exothermic chemical reactions», *Mathematics*, vol. 14(12), 2658, 2022.
- J137. Ullah, Z., M. Bilal, I.E. Sarris and A. Hussanan, «MHD and thermal slip analysis of radiative-convective heat transfer along magnetized and symmetrically heated plate embedded in porous medium using Keller box analysis», *Symmetry*, vol. 14(11), 2421, 2022.
- J136. Ninos, G., G. Sofiadis, A. Skouropoliakou and I.E. Sarris, «A Low-Cost Algorithm for Uncertainty Quantification Simulations of Steady-State Flows: Application to Ocular Hemodynamics», *Symmetry*, vol. 14(11), 2305, 2022.
- J135. Liosis, C., G. Sofiadis, E. Karvelas, T. Karakasidis and I.E. Sarris, «Simulations of Tesla Valve Micromixer for Water Purification with Fe₃O₄ Nanoparticles», *Environmental Sciences Proceedings*, vol. 21(1), 82, 2022.
- J134. Varun Kumar, R.S., R. Naveen Kumar, G. Sowmya, B.C. Prasannakumara and I.E. Sarris, «Exploration of temperature distribution through a longitudinal rectangular fin with linear and exponential temperature-dependent thermal conductivity using DTM-Pade approximant», *Symmetry*, vol. 14(4), 690, 2022.
- J133. Sakellariou, E.I., P.J. Axaopoulos, B.V. Bot and I.E. Sarris, «Energy Performance Evaluation of a Solar PVT Thermal Energy Storage System Based on Small Size Borefield», vol. 15(21), 7906, 2022.
- J132. Anjam, Y.N., R. Shafqat, I.E. Sarris, M. ur Rahman, S. Touseef and M. Arshad, «A fractional order investigation of smoking model using Caputo Fabrizio differential operator», *Fractal and Fractional*, vol. 6(11), 623, 2022.
- J131. Al-Maliki, M., K. Al-Farhany and I.E. Sarris, «Heat transfer in an inclined rectangular cavity filled with hybrid nanofluid attached to a vertical heated wall integrated with PCM: An experimental study», *Symmetry*, vol. 14(10), 2181, 2022.
- J130. Al-Farhany, K., B. Al-Muhja, L. Karuppusamy, P. Umadevi, F. Ali and I.E. Sarris, «Analysis of Convection Phenomenon in Enclosure utilizing Nanofluids with Baffle Effects», *Energies*, vol. 15(18), 6615, 2022.

- J129. Malamataris, N, I.E. Sarris, D. Pазis and A. Liakos, «A comprehensive study of the onset of boundary layer separation in the unbounded flow around a circular cylinder», *Physics of Fluids*, vol. 34(10), 103607, 2022.
- J128. Benos, L., G. Ninou, N.D. Polychronopoulos, A. Exomanidou, I.E. Sarris, «Natural Convection of Blood-Magnetic Iron Oxide Bio-nanofluid in the Context of Hyperthermia Treatment», *Computation*, vol. 10, 190, 2022.
- J127. Prabakaran, R., S. Eswaramoorthi, K. Loganathan and I.E. Sarris, «Comparative study of thermally radiative mixed convective flow of water based Carbon nanotubes and Al₂O₃ nanofluid past a stretchy plate with Joule heating and viscous dissipation», *Micromachines*, vol. 13(9), 1424, 2022.
- J126. Liosis, C., G. Sofiadis, E. Karvelas, T. Karakasidis and I.E. Sarris, «Tesla's valve as micromixer for Fe₃O₄ nanoparticles», *Processes*, vol. 10 (8), 1648, 2022.
- J125. Bartzis, V., G. Ninou and I.E. Sarris, «Water purification from heavy metals due to electric field ion drift», *Water*, vol. 14 (15), 2372, 2022.
- J124. Punith Gowda, R.J., I.E. Sarris, R. Naveen Kumar, R. Kumar and B.C. Prasannakumara, 'A three-dimensional non-Newtonian magnetic fluid flow induced due to stretching of the flat surface with chemical reaction', *ASME Journal of Heat Transfer*, vol. 144(11): 113602, 2022.
- J123. Sofiadis, G. and I.E. Sarris, 'Reynolds number effect of the turbulent micropolar channel flow', *Physics of Fluids*, vol. 34(7), 075126, 2022.
- J122. Rekha, M.B., I.E. Sarris, J.K. Madhukesh, K.R. Raghunatha, B.C. Prasannakumara, 'Impact of Thermophoretic particle deposition on heat transfer and nanofluid flow through different geometries: an application to solar energy', *Chinese Journal of Physics*, vol. 80, pp. 190–205, 2022.
- J121. Thiyagarajan, P., S. Sathiyamoorthy, K. Loganathan, O.D. Makinde, I.E. Sarris, 'Mass transfer effects on mucus fluid in the presence of chemical reaction', *Inventions*, vol. 7(3), 50, 2022.
- J120. Zisis, T., K. Vasilopoulos, I.E. Sarris, «Numerical simulation of a fire accident in a longitudinally ventilated railway tunnel and tenability analysis», *Applied Sciences*, vol. 12(11), 5667, 2022.
- J119. Karvelas, E.G., N.K. Lampropoulos, T.E. Karakasidis, I.E. Sarris, «Blood flow and diameter effect in the navigation process of magnetic nanocarriers inside the carotid artery», *Computer Methods and Programs in Biomedicine*, vol. 221, 106916, 2022.
- J118. Maranna, T., K.N. Sneha, U.S. Mahabaleshwar, I.E. Sarris, T.E. Karakasidis, «An Effect of Radiation and MHD Newtonian fluid over a stretching/shrinking sheet with CNTs and mass transpiration», *Applied Sciences*, vol. 12, 5466, 2022.
- J117. Al-Mdallal, Q., H.T. Basha, I.E. Sarris and N. Akkurt, «Keller box simulation of the magnetic pseudoplastic nano-polymer coating flow over a circular cylinder with entropy optimization», *Computers and Mathematics with Applications*, vol. 118, 132–158, 2022.

- J116. Ullah, Z, M. Ashraf, I.E. Sarris, T.E. Karakasidis, «The impact of Reduced Gravity on Oscillatory Mixed Convective Heat Transfer around a Non-conducting and Thermally Circular Cylinder», *Applied Sciences*, vol. 12, 5081, 2022.
- J115. Polychronopoulos, N., L. Benos, C. Stergiou, I.E. Sarris and J. Vlachopoulos, «Viscous Coalescence of Unequally Sized Spherical and Cylindrical Doublets», *Soft Matter*, vol. 18(20), pp. 4017–4029, 2022.
- J114. Liosis, C., E. Karvelas, T. Karakasidis and I.E. Sarris, «Mixing of Fe₃O₄ nanoparticles under electromagnetic and shear conditions for wastewater treatment applications», *Journal of Water Supply: Research and Technology – AQUA*, vol. 71 (6), 671–681, 2022.
- J113. Bhatti, M.M., H.F. Oztop, R. Ellahi, M. Hassan, and I.E. Sarris, «Insight into the investigation of diamond (C) and Silica (SiO₂) nanoparticles suspended in water-based hybrid nanofluid with application in solar», *Journal of Molecular Liquids*, vol. 357, 119134, 2022.
- J112. Basha, N.Z., K. Vajravelu, F. Mebarek-Oudina, I.E. Sarris, H. Vaidya, K.V. Prasad and C. Rajashekhar, «MHD Carreau Nanoliquid Flow over a Nonlinear Stretching Surface», *Heat Transfer*, vol. 51 (6), 5262-5287, 2022.
- J111. Varun Kumar, R.S., R. Naveen Kumar, G. Sowmya, B.C. Prasannakumara, I.E. Sarris, «Exploration of temperature distribution through a longitudinal rectangular fin with linear and exponential temperature-dependent thermal conductivity using DTM-Pade approximant», *Symmetry*, vol. 14(4), 690, 2022.
- J110. Pavlidis, C.L., A.V. Palampigik, K.V. Vasilopoulos, I.C. Lekakis, I.E. Sarris, «Air Flow Study Around Isolated Cubical Building in the City of Athens under Various Climate Conditions», *Applied Sciences*, vol. 12(7), 3410, 2022.
- J109. Mabood, F., E.O. Fatunmbi, L. Benos and I.E. Sarris, «Entropy Generation in the Magnetohydrodynamic Jeffrey Nanofluid Flow over a Stretching Sheet with wide Range of Engineering Application Parameters», *International Journal of Applied and Computational Mathematics*, vol. 8, 98, 2022.
- J108. Nagathan, P., A. Patil, S.C. Desai, C. Rajashekhar, I.E. Sarris, H. Vaidya and K. V. Prasad, "Electroosmotic peristaltic pumping of Jeffrey liquid with variable characteristics: An application to hemodynamic", *International Journal of Applied and Computational Mathematics*, vol. 8(3), 151, 2022.
- J107. Rekha, M.B., I.E. Sarris, J.K. Madhukesh, K.R. Raghunatha and B. Prasannakumara, "Activation energy impact on flow of AA7072-AA7075/water -based hybrid nanofluid through a cone, wedge and plate", *Micromachines*, vol. 13(2), 302.
- J106. Sofos, F., Th. Karakasidis and I.E. Sarris, "Effects of channel size, wall wettability, and electric field strength on ion removal from water in nanochannels", *Scientific Reports*, vol. 12, 641, 2022.
- J105. Varun Kumar, R.S, I.E. Sarris, G. Sowmya, J.K, Madhukesh and B.C. Prasannakumara, "Effect of electromagnetic field on the thermal performance of longitudinal trapezoidal porous fin using DTM-Pade approximant", *Heat Transfer*, vol. 51, 3313–3333, 2022.

- J104. Vishalakshi, A.B., U.S. Mahabaleshwar and I.E. Sarris, "Three-dimensional MHD fluid flow over a porous stretching/shrinking sheet with slips and mass transpiration", *Micromachines*, vol. 13(1), 116, 2022.
- J103. Liosis, C., A. Papadopoulou, E. Karvelas, Th. Karakasidis and I.E. Sarris, "Heavy metals adsorption using magnetic nanoparticles for water purification: a critical review", *Materials*, vol. 14(24), 7500, 2021.
- J102. Shahzad, H., X. Wang, I. Sarris, K. Iqbal, M.B. Hafeez and M. Krawczuk, "Study of Non-Newtonian biomagnetic blood flow in a stenosis bifurcated artery having elastic walls", *Scientific Reports*, vol. 11, 23835, 2021.
- J101. Shankaralingappa, B.M., J.K. Madhukesh, I.E. Sarris, B.J. Giresha and B.C. Prasannakumara, "Influence of thermophoretic particle deposition on the 3D flow of Sodium alginate-based Casson nanofluid over a stretching sheet", *Micromachines*, vol. 12(12), 1474, 2021.
- J100. Shankaralingappa, B.M., B.C. Prasannakumara, B.J. Giresha and I.E. Sarris, "The impact of Cattaneo-Christov double diffusion on Oldroyd-B fluid flow over a stretching sheet with thermophoretic particle deposition and relaxation chemical reaction", *Inventions*, vol. 6(4), 95, 2021.
- J99. Aslani, K.-E. and I.E. Sarris, "Effect of micromagnetorotation on the heat transfer of micropolar Hartmann flow", *Thermal Science and Engineering Progress*, vol. 26, 101129, 2021.
- J98. Gkoutas, A.A., N.D. Polychronopoulos, G.N. Sofiadis, E.G. Karvelas and I.E. Sarris, "Simulation of Magnetic Nanoparticles Crossing through a simplified Blood-Brain Barrier model for Glioblastoma Multiforme Treatment", *Computer Methods and Programs in Biomedicine*, vol. 212, 106477, 2021.
- J97. Choudhari, R., F. Mebarek-Oudina, I.E. Sarris, H. Vaidya, K. Prasad, M. Gudekote, B. Hadimane, "Impact of electroosmosis and wall properties in modelling peristaltic mechanism of a Jeffrey liquid through a microchannel with variable fluid properties", *Inventions*, vol. 6(4), 73, 2021.
- J96. Polychronopoulos, N.D., A.A. Gkoutas, I.E. Sarris and L. Spyrou, "A Computational Study on Magnetic Nanoparticles Hyperthermia of Ellipsoidal Tumors", *Applied Sciences*, vol. 11, 9526, 2021.
- J95. Sakellariou, E., P. Axaopoulos, I.E. Sarris and N. Abdullaev, "Improving the electrical efficiency of the PV panel via geothermal heat exchanger: mathematical model, validation and parametric analysis", *Energies*, vol. 14(19), 6415, 2021.
- J94. Kotia, A., S. More, A. Yadav, T.V.S.Y. Mohan, A.H. Naidu, G. Rajesh and I.E. Sarris, "Rheological Properties and its Effect on Lubrication Mechanism of PVP K30 and PVP 40-50G as Artificial Synovial Fluids", *Inventions*, vol. 6(4), 61, 2021.
- J93. Sowmya, G., I.E. Sarris, C.S. Vishalakshi, R.S. Varun Kumar and B. Prasannakumara, "Analysis of transient thermal distribution in a convective-radiative moving rod using two-

- dimensional differential transform method with multivariate Pade approximant", *Symmetry*, vol. 13(10), 1793, 2021.
- J92. Punith Gowda, R.J., A.M. Jyothi, R. Naveen Kumar, B.C. Prasannakumara, I.E. Sarris, "Convective flow of second grade fluid over a curved stretching sheet with Dufour and Soret effects", *International Journal of Applied and Computational Mathematics*, vol. 7, 226, 2021.
- J91. Sofiadis, G. and I.E. Sarris, "Microrotation viscosity effect on turbulent micropolar fluid channel flow", *Physics of Fluids*, vol. 33(9), 095126, 2021.
- J90. Iatridis, A., I.E. Sarris and N.S. Vlachos, "Effect of radius of toroidal square duct on the transition of electromagnetically driven liquid metal flow", *International Journal of Heat and Fluid Flow*, vol. 91, 108858, 2021.
- J89. Bartzis, V. and I.E. Sarris, "Time evolution study of the electric field distribution and charge density due to ion movement in salty water", *Water*, 13(16), 2185, 2021.
- J88. Sarada, K., R.J. Punith Gowda, I.E. Sarris, R. Naveen Kumar and B.C. Prasannakumara, "Effect of magnetohydrodynamic on heat transfer behaviour of a non-Newtonian fluid over a stretching sheet under local thermal non-equilibrium condition", *Fluids*, vol. 6(8), 264, 2021.
- J87. Aslani, K.-E., U.S. Mahabaleshwar, P.H. Sakanaka and I.E. Sarris, "Effect of partial slip and radiation on liquid film fluid flow over an unsteady porous stretching sheet with viscous dissipation and heat source/sink", *Journal of Porous Media*, vol. 24(11), pp. 1-15, 2021.
- J86. Benos, L.T., K.R. Nagaraju, U.S. Mahabaleshwar, M. S. Prasad, I. E. Sarris and G. Lorenzini, "Magnetohydrodynamic and radiation effects on the heat transfer of a continuously stretching/shrinking sheet with mass transpiration of the horizontal boundary", *Chinese Journal of Physics*, vol. 72, pp. 700–715, 2021.
- J85. Sofiadis, G. and I.E. Sarris, "Turbulence intensity modulation by micropolar fluids", *Fluids*, vol. 6, 195, 2021.
- J84. Aslani, K.-E. and I.E. Sarris, "Effect of micromagnetorotation on magnetohydrodynamic Poiseuille micropolar flow: Analytical solutions and stability analysis", *Journal of Fluid Mechanics*, vol. 920, A25, 2021.
- J83. Polychronopoulos, N.D., I.E. Sarris, and J. Vlachopoulos, "A Viscous Sintering Model for Pore Shrinkage in Packings of Cylinders", *Rheologica Acta*, vol. 60(8), pp. 397–408, 2021.
- J82. Punith Gowda, R.J. , R. Naveen Kumar, A.M. Jyothi, B.C. Prasannakumara and I.E. Sarris, "Impact of binary chemical reaction and activation energy on heat and mass transfer of Marangoni driven boundary layer flow of a non-Newtonian nanofluid", *Processes*, vol. 9(4), 702, 2021.
- J81. Charakopoulos, A., T. Karakasidis and I.E. Sarris, "Analysis of Magnetohydrodynamic Channel Flow Through Complex Network Analysis", *Chaos*, vol. 31, 043123, 2021.

- J780. Vasilopoulos, K., I. Lekakis, I.E. Sarris and P. Tsoutsanis, "Large eddy simulation of dispersion of hazardous materials released from a fire accident around a cubical building", *Environmental Science and Pollution Research*, vol. 28(36), pp. 50363–50377, 2021.
- J79. Aslani K.-E., U.S. Mahabaleshwar, J. Singh and I.E. Sarris, "Combined effect of radiation and inclined MHD flow of a micropolar fluid over a porous stretching/shrinking sheet with mass transpiration", *Intl. Journal of Applied and Computational Mathematics*, vol. 7:60, 2021.
- J78. Yusuf, T.A., F. Mabood, B.C. Prasannakumara and I.E. Sarris, "Magneto-bioconvection flow of Williamson nanofluid over an inclined plate with gyrotactic microorganisms and entropy generation", *Fluids*, vol. 6(3), 109, 2021.
- J77. Ninos, G., V. Bartzis, N. Merlemis and I.E. Sarris, "Uncertainty quantification implementations in human hemodynamic flows", *Computer Methods and Programs in Biomedicine*, vol. 203, 106021, 2021.
- J76. Karvelas, E., C. Liosis, A. Theodorakakos, I.E. Sarris, T. Karakasidis, "An optimized method for 3D magnetic navigation of nanoparticles inside human arteries", *Fluids*, vol. 6(3), 97, 2021.
- J75. Gkoutas, A.A., L.Th. Benos, G.N. Sofiadis and I.E. Sarris, "A printed-circuit heat exchanger exploiting an Al₂O₃-water nanofluid: Effect of the nanoparticles interfacial layer on heat transfer", *Thermal Science and Engineering Progress*, vol. 22, 100818, 2021.
- J74. 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*, vol. 143, pp. 751-765, 2021.
- J73. Aslani, K.-E., U.S. Mahabaleshwar, P.H. Sakanaka and I.E. Sarris, «Effect of partial slip and radiation on liquid film fluid flow over an unsteady porous stretching sheet with viscous dissipation and heat source/sink», *Journal of Porous Media*, paper accepted, 2021.
- J72. Benos, L.T. , K. R. Nagaraju, U. S. Mahabaleshwar, M. S. Prasad, I. E. Sarris and G. Lorenzini, «Magneto-hydrodynamic and radiation effects on the heat transfer of a continuously stretching/shrinking sheet with mass transpiration of the horizontal boundary», *Chinese Journal of Physics*, vol. 72, pp. 700–715, 2021.
- J71. Sofiadis, G. and I.E. Sarris, «Turbulence intensity modulation by micropolar fluids», *Fluids*, vol. 6, 195, 2021.
- J70. Aslani, K.-E. and I.E. Sarris, «Effect of micromagnetorotation on magnetohydrodynamic Poiseuille micropolar flow: Analytical solutions and stability analysis», *Journal of Fluid Mechanics*, vol. 920, A25, 2021.
- J69. Polychronopoulos, N.D., I.E. Sarris, and J. Vlachopoulos, «A Viscous Sintering Model for Pore Shrinkage in Packings of Cylinders», *Rheologica Acta*, paper accepted, 2021.
- J68. Punith Gowda, R.J., R. Naveen Kumar, A.M. Jyothi, B.C. Prasannakumara and I.E. Sarris, «Impact of binary chemical reaction and activation energy on heat and mass transfer

- of Marangoni driven boundary layer flow of a non-Newtonian nanofluid», *Processes*, vol. 9(4), 702, 2021.
- J67. Charakopoulos, A., T. Karakasidis and I.E. Sarris, «Analysis of Magnetohydrodynamic Channel Flow Through Complex Network Analysis», *Chaos*, vol. 31, 043123, 2021.
- J66. Aslani K.-E., U.S. Mahabaleshwar, J. Singh and I.E. Sarris, «Combined effect of radiation and inclined MHD flow of a micropolar fluid over a porous stretching/shrinking sheet with mass transpiration», *Intl. Journal of Applied and Computational Mathematics*, vol. 7:60, 2021.
- J65. Yusuf, T.A., F. Mabood, B.C. Prasannakumara and I.E. Sarris, «Magneto-bioconvection flow of Williamson nanofluid over an inclined plate with gyrotactic microorganisms and entropy generation», *Fluids*, vol. 6(3), 109, 2021.
- J64. Ninos, G., V. Bartzis, N. Merlemis and I.E. Sarris, «Uncertainty quantification implementations in human hemodynamic flows», *Computer Methods and Programs in Biomedicine*, vol. 203, 106021, 2021.
- J63. Karvelas, E., C. Liosis, A. Theodorakakos, I.E. Sarris, T. Karakasidis, «An optimized method for 3D magnetic navigation of nanoparticles inside human arteries», *Fluids*, vol. 6(3), 97, 2021.
- J62. Gkountas, A.A., L.Th. Benos, G.N. Sofiadis and I.E. Sarris, «A printed-circuit heat exchanger exploiting an Al₂O₃-water nanofluid: Effect of the nanoparticles interfacial layer on heat transfer», *Thermal Science and Engineering Progress*, vol. 22, 100818, 2021.
- J61. 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*, vol. 143, pp. 751-765, 2021.
- J60. 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), pp. 89-105, 2021.
- J59. Karvelas, E., N.K. Lampropoulos, L. Benos, T.H. Karakasidis and I.E. Sarris, ‘On the magnetic aggregation of Fe₃O₄ nanoparticles’, *Computer Methods and Programs in Biomedicine*, vol. 198, 105778, 2021.
- J58. Sofos, F., T. Karakasidis and I.E. Sarris, «Molecular Dynamics simulations of ion drift in nanochannel water flow», *Nanomaterials*, vol. 10, 2373, 2020.
- J57. Kotia A., A. Yadav, T.R. Raj, M.G. Keischgens, H. Rathore and I.E. Sarris, «Carbon Nanoparticles as a source for Cost Effective Water Purification Method: A Comprehensive Review», *Fluids*, vol. 5(4), 230, 2020.
- J56. Gkountas, A.A., L. Benos, K.-S. Nikas and I.E. Sarris, «Heat transfer enhancement by an Al₂O₃-water nanofluid coolant in printed-circuit exchanger of supercritical CO₂ Brayton cycle», *Thermal Science and Engineering Progress*, vol. 20, 100694, 2020.

- J55. Karvelas, E., G. Sofiadis, A. Papathanasiou and I.E. Sarris, «Effect of micropolar fluid properties on the blood flow in a human's carotid model», *Fluids*, vol. 5(3), 125, 2020.
- J54. More, S., A. Kotiya, A. Kotia, S.K. Ghosh, L.A. Spyrou and I.E. Sarris, «Rheological Properties of Synovial Fluid due to Viscosupplements: A Review for Osteoarthritis Remedy», *Computer Methods and Programs in Biomedicine*, vol. 196, 105644, 2020.
- J53. Bartzis, V. and I.E. Sarris, «Electric field distribution and diffuse layer thickness study due to salt ion movement in water desalination», *Desalination*, vol. 490, 114549, 2020.
- J52. 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*, vol. 11(6), pp. 595-611, 2020.
- J51. Aslani K.-E., L. Benos, E. Tzirtzilakis and I.E. Sarris, «Micromagnetorotation of MHD micropolar flows», *Symmetry*, vol. 12, 148, 2020.
- J50. 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.
- 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*, vol. 69(3), 266-275, 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. Béq, 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 calendring 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. Tzotzis A., A. Manavis, I.E. Sarris and P. Kyratsis, «The effects of the drill microgeometry on the induced thrust force and cutting torque», 10th ITC & 4th ICEE 2023, 19 – 20 October, Tirana, Albania, 2023.

2. Karakasidis, T., E. Karvelas, S. Doulkeridis and I.E. Sarris, «Investigation of topology effect on the mixing process between the nanoparticles and the biological fluid inside T shaped micromixers», 2023 International Conference on Topology and its Applications, July 3-7, Nafpaktos, Greece, 2023.
3. Frangkou, A., T. Karakasidis, I. Sarris and I. Andreadis, «Application of the visual boundary recurrence plots to magnetohydrodynamic turbulence channel flow», International Conference on Recent Advances in Fluid Mechanics and Nanoelectronics, ICRAFMN, Bengaluru, India, July 12-14, 2023.
4. Karakasidis T., S. Doulkeridis, E. Karvelas and I.E. Sarris, «Investigation of Inlet Conditions in The Mixing Process of Nanoparticles and Blood in a T-Shaped Microfluidic Reactor with Small Rectangular Cavities», 37th Panhellenic Conference on Solid-State Physics and Materials Science, 17-20 September, Thessaloniki, Greece, 2023.
5. Ninos G., G. Sofiadis and I.E. Sarris , “Development of fluid dynamics simulation models and Uncertainty Quantification algorithms for ophthalmic hemodynamic flows”, Advances in Biomedical Sciences, Engineering, and Technology (ABSET) Conference, 10-11 June, Athens, Greece, 2023.
6. Palampigik A., K. Vasilopoulos, I. Lekakis and I.E. Sarris, «Risk assessment of toxic pollutant dispersion after methane pool fire accident in a street canyon», 16th International Conference on Meteorology, Climatology and Atmospheric Physics, 25-29 September, Athens, Greece, 2023.
7. Fatunmbi, E.O., O.A. Agbolade and I.E. Sarris, «Bioconvective Analysis of Williamson Fluid Conveying Tiny Particles with a Non-Uniform Heat Source in Porous Media: A Biomedical Engineering Application», Advances in Biomedical Sciences, Engineering, and Technology (ABSET) Conference, 10-11 June, Athens, Greece, 2023.
8. Sree, K.K., N. Srivastav and I.E. Sarris, «Prediction of heart wellness based on the analysis of skin color», Advances in Biomedical Sciences, Engineering, and Technology (ABSET) Conference, 10-11 June, Athens, Greece, 2023.
9. Selladurai, S.J., N. Srivastav and I.E. Sarris, «Machine learning analysis of nanodrug delivery in 2nd order blood flowing through porous blood vessels», Advances in Biomedical Sciences, Engineering, and Technology (ABSET) Conference, 10-11 June, Athens, Greece, 2023.
10. Zisis, Th., K. Vasilopoulos and I.E. Sarris, «Numerical Modelling of Smoke Dispersion After a Fire Accident in a Tunnel, Evaluation of the Ventilation System and Evacuation Plan», 10th International Conference from Scientific Computing to Computational Engineering (10th IC-SCCE), Athens, Greece, July 6th – 9th, 2022.
11. Exomanidou, M.A., L. Benos and I.E. Sarris, «Natural Convection of Blood-Magnetic Iron Oxide Bio-Nanofluid using a New Theoretical Model for the Effective Thermal Conductivity», 10th International Conference from Scientific Computing to Computational Engineering (10th IC-SCCE), Athens, Greece, July 6th – 9th, 2022.
12. Karvelas, E.G., C. Liosis, I.E. Sarris and T.E. Karakasidis, «Evaluation of the Tesla valve as a micromixer for iron oxide nanoparticles and contaminated water», XXXVI Pan-Hellenic conference on Solid-State Physics and Materials Science, Heraklion, 26-28 September 2022.
13. Malamataris, N., I. Sarris, D. Pazis and A. Liakos, "A numerical solution to the onset of boundary layer separation in the flow around a circular cylinder independent of the size

of the flow domain", 74th Annual Meeting of the APS Division of Fluid Dynamics, November 21–23, Phoenix, Arizona; Bulletin of the American Physical Society, E14.00006, 2021.

14. Karvelas, E.G. , N.K. Lampropoulos and I.E. Sarris, "Optimum magnetic navigation of nanoparticles inside the human carotid", Euro-Global Conference on Biotechnology and Bioengineering (ECBB 2021), 06-08 September, Rome, Italy, 2021.
15. Karvelas, E., C. Liosis, T. Karakasidis and I.E. Sarris, 'Magnetic Navigation of Nanoparticles for Drug Delivery inside Carotid Artery Under the Cardiac Cycle', XXXV Panhellenic Conference on Solid State Physics and Materials Science, NCSR "Demokritos", 26-29 September , Athens, Greece, 2021.
16. J80. Sofiadis, G., E. Karvelas and I.E. Sarris, "Micropolar Theory on Turbulence Modulation", 9th International Conference on Vortex Flow Mechanics - ICVFM, 2021.
17. Karvelas E., C. Liosis, T. Karakasidis and I.E. Sarris, «Micromixing Nanoparticles and Contaminated Water Under Different Velocities for Optimum Heavy Metal Ions Adsorption», Environmental Sciences Proceedings, vol. 2, 65, 2020.
18. Liosis, C., E. Karvelas, T.H. Karakasidis and I.E. Sarris, «Wastewater treatment using an external magnetic field», 4th EWaS International Conference, 2020.
19. Polychronopoulos, N.D., A.A. Gkountas, I.E. Sarris and L.A. Spyrou, «Numerical Analysis of Temperature Distribution in Ellipsoidal Tumors in Magnetic Fluid Hyperthermia», 20th IEEE Conference on Bioinformatics and Bioengineering, 2020.
20. Karvelas, E., C. Liosis, T.H. Karakasidis and I.E. Sarris, ‘Nanoparticles mixing in microfluidics with magnetic fields’, 12th National conference on Chemical Engineering, 29 & 30 May, Athens, Greece, 2019.
21. Sofiadis, G and I.E. Sarris, ‘Numerical study of micropolar turbulent channel flow’, 11th National conference «FLOW 2018», 23 & 24 November, Kozani, Greece, 2018.
22. 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.
23. 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.
24. 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.
25. 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.
26. 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.
27. 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.
28. 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.
 29. 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.
 30. Karakasidis, T.E., A.K. Charakopoulos and I.E. Sarris, «Non-linear time series analysis tools for wind energy production», 3rd International Conference on EconoPhysics, 23-28 September, Volos, Greece, 2017.
 31. Karvelas E.G., N.K. Lampropoulos, D.I. Papadimitriou, T.E. Karakasidis and I.E. Sarris, «Computational study of the effect of gradient magnetic field in navigation of spherical particles», International Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences (BIOMEPE 2017), October 12-13, Athens, Greece, 2017. *Journal of Physics: Conference Series*, vol. 931 (1), 012014, 2017.
 32. Samioti S.E., K. Karamanos, A. Tsiantis, T. Papathanasiou, and I.E. Sarris, 'Two Dimensional Drug Diffusion Between Nanoparticles and Fractal Tumors', International Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences (BIOMEPE 2017), October 12-13, Athens, Greece, 2017. *Journal of Physics: Conference Series*, vol. 931 (1), 012034, 2017.
 33. Karvelas, E.G., N.K. Lampropoulos, T.E. Karakasidis, and I.E. Sarris, "A computational analysis of paramagnetic spherical nanoparticles for medical applications under magnetic field", European Congress and Exhibition on Advanced Materials and Processes (EUROMAT), September 17-22, Thessaloniki, Greece, 2017.
 34. Dritselis C.D. and I.E. Sarris, Numerical modeling of dust transport in a tokamak plasma», 17th European Fusion Theory Conference, EFTC7, 9 – 12 October, Athens, Greece, 2017.
 35. Karvelas, E.G., N.K. Lampropoulos, T.E. Karakasidis, and I.E. Sarris, 'Parametric studies on the magnetic navigation of spherical particles in targeted drug delivery process', 7th Pan-Hellenic Conference on Biomedical Technology (ELEVIT 2017), April 7, Athens, Greece, 2017.
 36. Mahabaleshwar, U.S., M. Arivanandhan and I.E. Sarris, 'Hemodynamic Applications of the Carbon Nanotubes suspended Nanoliquids due to a Stretching Sheet', International Workshop on Advanced Functional Nanomaterials (IWAN 4), Anna University, Chennai, India, 22nd – 24th March 2017.
 37. Agathesh Waran M, S. ArunBalaji , U.S. Mahabaleshwar, M. Arivanandhan, I.E. Sarris and R. Jayavel , 'Heat Transfer Enhancement on Forced Convection Heat Exchanger Using Graphene Oxide-TiO₂ Nanocomposites as Nanofluids', International Workshop on Advanced Functional Nanomaterials (IWAN 4), Anna University, Chennai, India, 22nd – 24th March, 2017.
 38. Rajasekaran P, A.S. Alagar Nedunchezian, M. Arivanandhan, I.E. Sarris and R. Jayavel, 'A Novel Method for the Preparation of Nanostructured Perovskite Material for

- Thermoelectric Applications', International Workshop on Advanced Functional Nanomaterials (IWAN 4), Anna University, Chennai, India, 22nd – 24th March 2017.
39. Kefou, N., E.G. Karvelas, K. Karamanos, T.E. Karakasidis, and I.E. Sarris, 'Water purification in Micromagnetofluidic devices: Mixing in MHD Micromixers', *Procedia Engineering*, 162, pp. 593-600, 2016.
 40. Karvelas, E.G., N.K. Lampropoulos, T.E. Karakasidis, and I.E. Sarris, 'Computational study of the optimum gradient magnetic field for the navigation of spherical particles in the process of cleaning water from heavy metals', *Procedia Engineering*, vol. 162, pp. 77-82, 2016.
 41. Kefou, N., E.G. Karvelas, K. Karamanos, T.E. Karakasidis, and I.E. Sarris, 'Water purification in Micromagnetofluidic devices: Mixing in MHD Micromixers', 2nd EWaS International Conference: "Efficient & Sustainable Water Systems Management toward Worth Living Development", Chania, Crete, Greece, 1- 4 June 2016.
 42. Karvelas, E.G., N.K. Lampropoulos, T.E. Karakasidis and I.E. Sarris, 'Computational study of the optimum gradient magnetic field for the navigation of spherical particles in the process of cleaning water from heavy metals', 2nd EWaS International Conference: "Efficient & Sustainable Water Systems Management toward Worth Living Development", Chania, Crete, Greece, 1- 4 June, 2016.
 43. Mahabaleshwar U.S. and I.E. Sarris, 'An MHD Newtonian fluid flow of a nanofluid over a stretching sheet with navier's slip and suction', Third International Workshop on Advanced Functional Nanomaterials (TIWAN-2015), Anna University, Chennai, India, 16-18 December 2015.
 44. Charakopoulos, A.K., T.E. Karakasidis, and I. Sarris, 'Application of recurrence quantification analysis in wind time series from wind farms', International Conference "Science in Technology" SCinTE 2015, 5-7 November, Athens, Greece, 2015.
 45. Karamanos, K., E. G. Karvelas, N. K., Lampropoulos and I. E. Sarris, 'Cross-fertilizing nanoscience with ideas coming from non-equilibrium thermodynamics', International Conference "Science in Technology" SCinTE 2015, 5-7 November, Athens, Greece, 2015.
 46. Lampropoulos, N.K., E.G. Karvelas, D.I. Papadimitriou and I.E. Sarris, 'Computational study of the optimum gradient magnetic field for the navigation of spherical particles into targeted areas', International Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences (BIOMEPE 2015), June 18-20, Athens, Greece, 2015 and, *Journal of Physics: Conference Series*, vol. 637, no. 012038, 2015.
 47. Lampropoulos, N.K., E.G. Karvelas, D.I. Papadimitriou and I.E. Sarris, 'Computation of the optimal magnetic field for the navigation of magnetic nanoparticles in arteries', 6th Pan-Hellenic Conference on Biomedical Technology (ELEVIT 2015), May 6-8, Athens, Greece, 2015.
 48. Lampropoulos, N.K., E.G. Karvelas, D.I. Papadimitriou and I.E. Sarris, 'Computational study of the optimal magnetic field for the navigation of magnetic nanoparticles inside human arteries', 1st European conference on Pharmaceuticals, Reims, France, 2015.
 49. Kakarantzas, S., B. Knaepen, M. Caby, L. Benos, I. Sarris & N. Pelekasis, 'Simulation of a lithium flow in an argon environment to determine an optimal nozzle configuration with respect to uniformity, stability and minimum turbulent fluctuations

- presence', 9th National conference «FLOW 2014», 12 & 13 December, Athens, Greece, 2014.
50. Lampropoulos, N. K., E. G. Karvelas, I. E. Sarris and T.E. Karakasidis, 'Computational Modeling of an MRI Guided Drug Delivery System Based on Magnetic Nanoparticle Aggregations for the Navigation of Paramagnetic Nanocapsules', 9th National conference «FLOW 2014», 12 & 13 December, Athens, Greece, 2014.
 51. Fragkou, A.D., T.E. Karakasidis, I.E. Sarris and A. Liakopoulos, 'Spatiotemporal correlations in a turbulent Hartmann flow', 12th International Conference on Protection and Restoration of the Environment, 29 June - 4 July, Skiathos Island, Greece, p. 224, 2014.
 52. Kakarantzas, S.C., B. Knaepen, M. Caby, L.Th. Benos, I.E. Sarris and N. Pelekasis, 'Investigation of various nozzles configurations with respect to IFMIF and liquid walls concepts', 28th Symposium on Fusion Technology, San Sebastian, September 29th - October 3rd, 2014.
 53. Lampropoulos, N.K, E.G Karvelas, and I.E. Sarris, 'Computational Modeling of an MRI Guided Drug Delivery System Based on Magnetic Nanoparticle Aggregations for the Navigation of Paramagnetic Nanocapsules in the Cardiovascular System', 11th World Congress on Computational Mechanics (WCCM XI) and 5th European Conference on Computational Mechanics (ECCM V) and 6th European Conference on Computational Fluid Dynamics (ECFD VI), July 20 - 25, 2014, Barcelona (Spain), 2014, accepted abstract.
 54. Polychronopoulos N.D., I.E. Sarris, and T.D. Papathanasiou, 'Flow-Induced Resin Infiltration of Porous Substrates', 30th International Conference of the Polymer Processing Society PPS-30, June 8-12, Cleveland, Ohio (USA), 2014, accepted abstract.
 55. Polychronopoulos N.D., I.E. Sarris, and T.D. Papathanasiou, 'Spreading and pressure development in calendering: a three-dimensional approach', Proceedings of the Polymer Processing Society 29th Annual Meeting PPS-29, July 15-19, Nuremberg (Germany), 2013.
 56. Kalogianni, D., I.E. Sarris and A. Liakopoulos, 'An OpenFOAM based distributed model of water motion and water quality for the reconstituted lake Karla, Thessaly, Greece', 4th Int'l Conference on Environmental Management, Engineering, Planning & Economics (CEMEPE) and & SECOTOX Conference, Mykonos island, Greece, June 24-28, 2013.
 57. Karakasidis, T.E., T. Fragkou, I.E. Sarris and A. Liakopoulos, 'Recurrence plot analysis of a turbulent channel flow', CHAOS 2012, Athens, Greece, p.69, 2012.
 58. Benos, L.Th., S.C. Kakaratzas, I.E. Sarris, A.P. Grecos and N.S. Vlachos, 'Analytical and numerical study of magnetohydrodynamic natural convection in an internally heated shallow cavity', 80 National conference «FLOW 2012» », Volos 16 & 17 November 2012.
 59. Fragkou T., T.E. Karakasidis, I.E. Sarris and A. Liakopoulos, 'Study of magnetic field effect in turbulent flows by velocity time series analysis', 80 National conference «FLOW 2012» », Volos 16 & 17 November 2012.
 60. Iatridis, A.I., I.E. Sarris, and N.S. Vlachos, 'Transition to turbulence in a magnetohydrodynamic flow in toroidal ducts', 80 National conference «FLOW 2012» », Volos 16 & 17 November 2012.

61. Kakarantzas, S.C., L.Th. Benos and I.E. Sarris, 'Magnetohydrodynamic convection in coaxial cylinders with variable height-to-length ratio', 80 National conference «FLOW 2012» », Volos 16 & 17 November 2012.
62. Dritselis, C.D., A. Iatridis, E. Benos, I.E. Sarris and N.S. Vlachos, 'Near wall coherent structures in MHD turbulent channel flow with heat transfer', FLOW2010: 7th National Conference of Research Activities in Fluid Flow, pp. 73-82, 12-13 Nov. 2010, Thessaloniki, Greece.
63. Kakarantzas, S.C., I.E. Sarris, and N.S. Vlachos, 'DNS simulation of liquid metal flow in annuli under the effect of volumetric heating', FLOW2010: 7th National Conference of Research Activities in Fluid Flow, pp. 537-546, Nov. 12-13, 2010, Thessaloniki, Greece.
64. Nath, D., M.K. Verma, T. Lessinnes, D. Carati, and I.E. Sarris, Direct numerical simulation of dynamo transition for nonhelical MHD, 23rd National Symposium on Plasma Science & Technology (PLASMA-2008) and Journal of Physics: Conference Series 208 (2010) 012039.
65. Neveskiotis, H, A. Tserdani, I.E. Sarris, T.E. Karakasidis and A. Liakopoulos, '3-D simulations of flows in the reconstituted Lake Karla, Thessaly, Greece', 6th International Symposium on Environmental Hydraulics, Athens, Greece, 23-25 June 2010.
66. Kakarantzas, S.C., I.E. Sarris, A.P. Grecos and N.S. Vlachos, DNS simulation of liquid metal flow in annuli under the effect of a magnetic field and volumetric heating, 6th Intl Symposium on Turbulence, Heat and Mass Transfer, Rome, September 2009.
67. Sarris, I.E., A. Iatridis, C.D. Dritselis, and N.S. Vlachos, Low-Prandtl number MHD cooling in a vertical cylindrical container, 12th EUROMECH European Turbulence Conference, Marburg, Germany, September 7-10, 2009.
68. Dritselis, C.D., A. Iatridis, I.E. Sarris and N.S. Vlachos, 'Turbulent dispersion of nonmetallic impurities in magnetohydrodynamic channel flow of liquid metals at low magnetic Reynolds number', 6th International Conference on Electromagnetic Processing of Materials, Dresden, Germany, October 19-23, 2009.
69. Tserdani, A., I.E. Sarris, T.E. Karakasidis and A. Liakopoulos, 'Application of computational fluid dynamic methods in environmental flows: The case of Lake Karla', in Conference: 11th EYE and 7th EEDYP, Volos, Greece, May 2009.
70. Tserdani, A., A. Katsioura, I.E. Sarris, T.E. Karakasidis and A. Liakopoulos, 'Flow simulation in lake Karla by using computational fluid dynamics methods', in Conference: Modern Methods in Ecology Research, Volos, Greece, p. 109, 9-10 Oct. 2008.
71. Karakasidis, T.E., S. Biziaki, I.E. Sarris, and A. Liakopoulos, 'Nonlinear time series analysis in a turbulent channel flow', 21st International Conference "Nonlinear Science and Complexity", National Technical University, Athens, Greece, 21 July - 2 August 2008.
72. Sarris, I.E., B. Cassart, D. Carati, N.S. Vlachos, 'Development of a numerical method for the modeling of nonlinear fusion plasma instabilities in Tokamaks', 35th European Physical Society Conference on Plasma Physics, Crete, Greece 12-14 August 2008.
73. Sarris, I.E., S.C. Kassinos, and D. Carati, 'On the N and R similarity of the turbulent Hartmann flows using direct large eddy simulations', accepted in APCOM'07-EPMESC XI, Kyoto, Japan, 3-6 December 2007.

74. Verma, M.K., D. Carati, I.E. Sarris, T. Lessinnes, C. Toniolo and K. Kumar, 'Magnetic Field Generation and Critical Reynolds and Prandtl numbers', Catania, Italy, 1-3 October 2007.
75. Verma, M., D. Carati, I.E. Sarris, T. Lessinnes and K. Kumar, 'Magnetic Field Generation and Critical Reynolds and Prandtl numbers', XXIII IUPAP International Conference on Statistical Physics, Genova, Italy, 9-13 July 2007.
76. Sarris, I.E., Y. Detandt, C. Toniolo, A. Viré, M. Kinet, D. Carati, G. Degrez and B. Knaepen, 'Direct numerical simulations of the turbulent Hartmann flow in cylindrical ducts', 11th European Turbulence Conference - ETC11, Porto, Portugal, 25-29 June 2007.
77. Kakarantzas, S.C., A. P. Grecos, N. S. Vlachos, I.E. Sarris, B. Kneapen and D. Carati, '*Direct Numerical Simulation of an efficient configuration for fusion heat removal blankets*', ECOS 2006 Int. Conference, Crete, Greece 12-14 July 2006.
78. Sarris, I.E., C. Toniolo, D. Carati and G. Huysmans, 'Modelling of MHD transition and turbulence of fusion plasma instabilities', 33rd European Physical Society Conference on Plasma Physics, Rome, 19-23 June 2006.
79. Dritselis, C. D., I.E. Sarris, and N. S. Vlachos, '*Direct numerical simulation of particle pollutant transport and deposition in turbulent duct flows*', 9th Conference on Environmental Science and Technology, Rhodes Island, Greece, 1-3 September 2005
80. Sarris, I.E., N.S. Vlachos, S. Song and P. Tsiakaras, '*Three-dimensional simulation of direct ethanol fuel cell bed*', SSI Conference, Baden-Baden, Germany, September 2005
81. Kakarantzas, S.C., I.E. Sarris, A. P. Grecos, and N. S. Vlachos, '*Numerical study of magnetic field effect on MHD natural convection in a laterally and volumetrically heated square cavity*', 1st National Conference of Mechanical and Electrical Engineering, Athens, Greece, 2005 [in Greek]
82. Sarris, I.E., C. D. Dritselis, A. P. Grecos, and N. S. Vlachos, '*Direct numerical simulation of MHD natural convection cooling in a vertical cylindrical container*', 1st National Conference of Mechanical and Electrical Engineering, Athens, Greece, 2005 [in Greek]
83. Dritselis, C. D., I. E. Sarris, and N. S. Vlachos, '*Magnetohydrodynamic Turbulent Channel Flow with Transverse Square Cylinders*', 16th ANS biennial Topical Meeting on the Technology of Fusion Energy (TOFE) in Madison, Wisconsin, September 14-16, 2004
84. Sarris, I.E. and N. S. Vlachos, '*Mixing enhancement in an industrial glass melt tank by additional heating from the bottom*', 7th ESG Conference on Glass Science and Technology, Athens, Greece, April 25-28, 2004
85. Kakarantzas, S. C., I.E. Sarris, A. P. Grecos and N.S. Vlachos, '*Interaction of magnetic field and internal heat sources in the natural convection of laterally heated enclosures*', 3rd National Meeting of Research Activities in Flow Phenomena in Greece, Univ. of Patras, Greece, 2-3 Oct. 2002
86. Sarris, I. E, G. Zikos, A. Tataridou, S. Kakarantzas, A. P. Grecos and N. S. Vlachos, '*Study of magnetic field effects on natural convection using the low-Rm approximation*', 1st Workshop of the Greek ERCOFTAC Pilot Centre, Thessaloniki, Greece, 31 Jan.-1 Feb. 2002

87. Sarris, I. E., I. Lekakis, and N.S. Vlachos, '*Effect of burner arrangement on glass melt circulation*', Intl. Congress on Glass, Edinburgh, Vol. 2, pp. 127, 2001
88. Katsavos, N., I.G. Pappa, I.E. Sarris, I. Lekakis and N.S. Vlachos, '*A study of natural convection from a heating line source of a high Prandtl number fluid in a rectangular cavity*', 5th ASME World Conference on Experimental Heat Transfer, Fluid Mechanics & Thermodynamics, Thessaloniki, Greece, 24-28 Sep. 2001
89. Sarris, I.E., I. Lekakis, and N. Vlachos, '*Control of glass melt recirculation by a heated strip on the tank bottom*', 1st Balkan Conference on Glass Science & Technology, Volos, Greece, pp. 379-388, 9-10 Oct. 2000
90. Katsavos, N., I. Lekakis, I. Pappa, I. E. Sarris, and N. Vlachos, '*Development of a PIV system for the study of glass melt flow*', First Balkan Conference on Glass Science & Technology, Volos, Greece, pp. 239-247, 9-10 Oct. 2000
91. Sarris, I. E., A. Tsiantis, O. Giannopoulos, D. Feidaros, and N. S. Vlachos, '*Modelling of Coal Combustion in a Rotary Cement Kiln*', 3rd National Congress on Computational Mechanics, Volos, June 24-26, 1999, p. 665-672.
92. Feidaros, D.K., I.E. Sarris, and N. Vlachos, '*Study of dispersion and deposition of exhaust-gases and particles from chimneys*', 6th Conference in Environmental Science and Technology, Samos, Aug. 28– Sept. 2, 1999
93. Feidaros, D.K., I. E. Sarris and N. Vlachos, '*Pollution estimation from industrial chimneys using a 3D numerical model*', 6th National Conference of the Institute of Solar Technology, Volos, Vol. 2, pp. 111-120, 3-5 Nov. 1999
94. Sarris, I.E., N. Katsavos, I. Lekakis, and N.S. Vlachos, '*Study of combustors location for the optimal flow of glass in industrial melting tanks*', 6th National Conference of the Institute of Solar Technology, Volos, Vol. 2, pp. 201-210, 3-5 Nov. 1999

Technical reports and other

1. Sofiadis, G., I.E. Sarris, A. Alexakis. "Inducing intermittency in the inverse cascade of two dimensional turbulence by a fractal forcing", arXiv: 2206.02657, 2022.
2. Sofiadis, G. and I.E. Sarris, «Internal microstructure driven turbulence enhancement of fluids», arXiv:2011.04952, 2020.
3. Fidaros D., I.E. Sarris, S.C. Kakarantzas and N.S. Vlachos, 'Estimation of the MHD effects on the flow of Pb-17Li under magnetic fields produced by the DEMO machine in the proposed ENEA design for the DCLL blanket', FPN FUS STG Nr. 23110, 2008.
4. Kakarantzas, S.C., I.E. Sarris, and N.S. Vlachos, 'MHD natural convection between isothermal concentric cylinders with volumetric heat sources', MHD Summer Program, Universite Libre de Bruxelles, 2007.
5. Schlatter, P. and I.E. Sarris, 'Passive scalar transport in magnetohydrodynamic turbulent channel flows', MHD Summer Program, Universite Libre de Bruxelles, 2007.
6. Rouson, D., S. Kassinos, I. E. Sarris, and F. Toschi, 'Particle dispersion in MHD turbulence', Center of Turbulence Research (CTR) Summer Program, Stanford University, 2006.

7. Sarris, I. E., S. Kassinos, B. Knaepen, and D. Carati, 'LES simulations of the turbulent Hartman flows close to the transitional regime', Center of Turbulence Research (CTR) Summer Program, Stanford University, 2006.
8. Sarris, I. E., B. Knaepen, O. Debliquy, and D. Carati, Three-dimensional turbulent Kolmogorov flow driven by magnetic fields, Statistical, and Plasma Physics Unit, Université Libre de Bruxelles, Belgium, 2003
9. Sarris, I. E., G. K. Zikos, S. C. Kakarantzas, A. Grecos, and N. S. Vlachos, 'Computational studies of two-dimensional MHD natural convection', Association Euratom – Hellenic Republic, University of Thessaly, Greece, 2002