

Curriculum Vitae

Dr. Ioannis K. Nikolos
Professor

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Technical University of Crete, University Campus, GR-73100, Chania, Greece,
Turbomachinery & Fluid Dynamics Laboratory (TurboLab – TUC).
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STUDIES

July 1991 – Sep. 1996

Ph.D. Degree, Department of Mechanical Engineering, National Technical University of Athens (NTUA), Greece, Fluids Section, Lab. of Thermal Turbomachines.
Thesis: “*Contribution to the calculation of secondary flows inside compressors and modeling of the tip clearance effects*” (in Greek).

Sep. 1985 – Oct. 1990

Mechanical Engineering Diploma, NTUA.

RESEARCH INTERESTS

Computational Fluid Dynamics (CFD), Computational Engineering.
Design and optimization of turbomachinery components and wind turbines.
Engineering Design Optimization using Computational Intelligence (Evolutionary Algorithms - Artificial Neural Networks).
Unmanned Aerial Vehicles (Aerodynamic Design, Path planning).
Macroscopic modeling of traffic flow.

PROFESSIONAL EXPERIENCE

Jan. 2003 – today

Technical Univ. of Crete
School of Production Engineering & Management
Subject: “Thermal and Hydrodynamic Engines”.

Oct. 98 – Jan. 2003

Technical Univ. of Crete,
- Dept. of Production Engineering & Management,
- Dept. of General Science.
Adjunct Lecturer.

1999 – Jan. 2003

Technical Univ. of Crete,
Dept. of Production Engineering & Management,
Intelligent Systems and Robotics Laboratory.
Research Associate.

Sep. 2001 – Feb. 2002
Feb. 2002 – June 2002
Sep. 2002 – Feb. 2003

Technical Educational Institute of Crete,
Adjunct Lecturer.

Sep. 1998 – July 1999
Nov. 1999 – July 2000
Okt. 2000 – July 2001

Technical Educational Institute of Athens,
Adjunct Lecturer.

Mar. 2000 – Feb. 2001

National Technical University of Athens (NTUA), Dept. of Mechanical Engineering, Lab. of Thermal Turbomachines.
Research Associate.

July 1998 – Nov. 1998

National Technical University of Athens (NTUA),
Project Manager.

Nov. 1996 – May 1998

Military Service.

Jan. 1991 – July 1996

National Technical University of Athens (NTUA), Dept. of Mechanical Eng., Lab. of Thermal Turbomachines,
Research Assistant.

ADMINISTRATIVE POSITIONS

Apr. 2015 – Mar. 2017

Member of the Technical Committee (Technical University of Crete).

Apr. 2020 – 2023

July 2013 – Apr. 2015

Associate Member of the Technical Committee (Technical University of Crete).

March 2017 – March 2020

Oct. 2013 – Oct. 2016

Member of the Research Committee (Technical University of Crete).

Sep. 2009 – Aug. 2010

Associate member of the University Senate (Technical University of Crete).

Sep 2010 – Aug. 2011

Aug. 2005 – Aug. 2006

Member of the University Senate (Technical University of Crete).

Sep. 2008 – Nov. 2013

Coordinator of the student's internships project, School of Production Engineering & Management, TUC.

Sep. 2005 – Nov. 2013

Member of the University Library Committee (Technical University of Crete).

Okt. 2004 – Sep. 2007

Member of the Department's Undergraduate Studies Committee (Department of Production Engineering & Management - Technical University of Crete).

MEMBER OF PROFESSIONAL SOCIETIES

Senior Member of A.I.A.A. (American Institute of Aeronautics and Astronautics) (Since 1/1/2004)

Member of A.S.M.E. (American Society of Mechanical Engineers) (Since 2/7/2005)

Member of I.E.E.E. (Institute of Electrical and Electronics Engineers) (Since 1/1/2005)

Member of I.E.E.E., Computational Intelligence Society (Since 1/1/2005)

Member of I.E.E.E., Systems, Man, and Cybernetics Society (Since 1/1/2005)

Member of the Technical Chamber of Greece (Since 1991)

Member of the Greek Professional Mechanical and Electrical Engineers Society (Since 1991)

DEVELOPMENT PROJECTS

Scientific Coordinator

1. "Students internship for the Department of Production Engineering and Management". Duration: 1/1/2011 - 30/8/2013. Scientific Coordinator.

RESEARCH PROJECTS

Scientific Coordinator / Principal Investigator

2. "Numerical simulation of alternative interface geometries at various pressure differences for UZ SCENT TECHNOLOGIES Ltd". Funding: UZ SCENT TECHNOLOGIES Ltd (Israel). Duration: 15/2/2020 – 15/6/2020. Scientific Coordinator.
3. "Studying the transport and diffusion of emissions inside a metallurgical plant with Computational Fluid Dynamics", Funding: PASECO. Duration: 10/12/2019 - 13/5/2020. Scientific Coordinator.
4. "Development of a computational methodology for the optimal design of ducted rotors". Funding: Greek State/EU (ESPA 2014-2020). Duration: 1/2/2020 – 30/4/2021. Scientific Coordinator.
5. "Stohos: Desing of Optimal Vehicles' Motion in Future Highways". Funding: European Union (European Social Fund) and Greek national funds (Operational Program "Human Resources Development, Education and Lifelong Learning"). Duration: 1/6/2018 - 31/1/2020. Scientific Coordinator.

6. "Development of a computational methodology for the optimal design of ducted rotors". Funding: ELIDEK (Greek State). Duration: 1/11/2017 - 28/2/2019. Scientific Coordinator.
7. "Numerical simulation of a Multi-Chamber Interface for SRL - SCA-1051-IN". Funding: Shimadzu Research Laboratory Ltd. Duration: 1/2/2017 - 30/9/2017. Scientific Coordinator.
8. "Flow vectors measurement inside a vacuum chamber and use of computational methods for the flow simulation". Funding: Fasmatech Science & Technology S.A. Duration: 1/2/2017 - 31/12/2017. Scientific Coordinator.
9. "Design and Optimization of a Diffuser Augmented Wind Turbine - Stage 2". Fundinh: O.G.T. GREENTECH LTD. Duration: 4 months (since 1/7/2016). Scientific Coordinator.
10. "FIDES Contract relating to the "EUREKA-Eurostars" Project No E!7987". Funding: FIDES DV-Partner GmbH. Duration 29/12/2015 - 30/6/2016. Scientific Coordinator.
11. "Numerical simulation of a Multi-Chamber Interface for SRL - SCA-1069-IN". Funding: Shimadzu Research Laboratory Ltd. Duration: 1/11/2015 - 30/7/2016. Scientific Coordinator.
12. "Design and Optimization of a Diffuser Augmented Wind Turbine - Stage 1". Funding: O.G.T. GREENTECH LTD. Duration: 4 months (since 1/9/2015). Scientific Coordinator.
13. "Design of new blades for a Diffuser Augmented Wind Turbine". Funding: O.G.T. GREENTECH LTD. Duration: 10 months (since 1/4/2015). Scientific Coordinator.
14. "Design of new flaps and centrebody for a Diffuser Augmented Wind Turbine". Funding: O.G.T. GREENTECH LTD. Duration: 8 months (since 1/4/2015). Scientific Coordinator.
15. "Contract relating to the "EUREKA-Eurostars" Project No E!7987". Funding: Wacker Bauwerksaerodynamik GmbH. Duration: 30 months (since April 2014). Scientific Coordinator.
16. "Software development for geometric modeling and data entry". Funding: SOFiSTiK HELLAS. Duration: 1/2/14 - 30/4/14. Scientific Coordinator.
17. "Flow vectors measurement inside a vacuum chamber and flow simulation using computational methods - PHASE 5". Funding: Fasmatech Science & Technology S.A. Duration: 1/11/13 - 30/04/14. Scientific Coordinator.
18. "Subcontract relating to the "EUREKA-Eurostars" Project No E!7987". Funding: DENCO and EU. Duration: 36 months (since Sep. 2013). Scientific Coordinator.
19. "Numerical simulation of a Multi-Chamber Interface for SRL - SCA-1051-IN". Funding: Shimadzu Research Laboratory Ltd. Duration: 15/5/2013 - 15/8/2013. Scientific Coordinator.
20. "Flow vectors measurement inside a vacuum chamber and flow simulation using computational methods - PHASE 4". Funding: Fasmatech Science & Technology S.A. Duration: 1/5/13 - 31/10/13. Scientific Coordinator.
21. "DE_SPARK_NANO_GEN - Development of a spark discharge aerosol nanoparticle generator for gas flow visualisation and for fabrication of nanostructured materials for gas sensing applications" (SYNERGASIA 2011) (11ΣΥΝ_5_144). Funding: Greek State/EU. Scientific Coordinator for the TUC research team.
22. "Flow vectors measurement inside a vacuum chamber and flow simulation using computational methods - PHASE 3". Funding: Fasmatech Science & Technology S.A. Duration: 1/10/12 - 31/3/13. Scientific Coordinator.
23. "Flow vectors measurement inside a vacuum chamber and flow simulation using computational methods - PHASE 2". Funding: Fasmatech Science & Technology S.A. Duration: 1/3/12 - 30/9/12. Scientific Coordinator.
24. "Consulting on subjects related to Computational Fluid Dynamics". Funding: SOFiSTiK Hellas S.A. Duration: 3/01/12 - 31/12/12. Scientific Coordinator.
25. "Flow vectors measurement inside a vacuum chamber and flow simulation using computational methods". Funding: Fasmatech Science & Technology S.A. Duration: 2/5/11 - 30/9/11. Scientific Coordinator.
26. "Flow vectors measurement inside a vacuum chamber". Funding: Fasmatech Science & Technology S.A. Duration: 10/12/10 - 28/2/11. Scientific Coordinator.
27. "Providing research and education work in the subject of three-dimensional constructions modeling - Phase 1". Funding: SOFiSTiK Hellas S.A. Duration: 1/10/10 - 31/12/10. Scientific Coordinator.
28. "TUNFEC - Structural and aerodynamic design of TUNnels under Fire Emergency Conditions", Eurostars Project No E!5292. Subcontract of ELXIS Engineering Consultants S.A. Scientific Coordinator.
29. "Consulting on subjects related to Computational Fluid Dynamics". Funding: EADS 3 Sigma S.A. Duration: 16/02/10 - 16/06/10. Scientific Coordinator.
30. "Software development for the constructions modeling in three dimentions, utilizing the geometric libraries of Open Cascade - Phase IV". Funding: SOFiSTiK Hellas S.A. Duration: 1/07/09 - 31/12/09. Scientific Coordinator.
31. "Software development for the constructions modeling in three dimentions, utilizing the geometric libraries of Open Cascade - Phase III". Funding: SOFiSTiK Hellas S.A. Duration: 1/04/09 - 30/06/09. Scientific Coordinator.
32. "Software development for the constructions modeling in three dimentions, utilizing the geometric libraries of Open Cascade - Phase II". Funding: SOFiSTiK Hellas S.A. Duration: 1/09/08 - 31/12/08. Scientific Coordinator.
33. "Software development for the constructions modeling in three dimentions, utilizing the geometric libraries of Open Cascade". Funding: SOFiSTiK Hellas S.A. Duration: 1/06/08 - 31/08/08. Scientific Coordinator.
34. "3-dimensional modeling and analysis of Tunnels". Within the framework of "International Cooperation in Industrial Research, and Development Actions in Pre-competitive Stage – 2005", Funding: Greek State and SOFiSTiK Hellas S.A. Duration: 25/07/06 - 30/04/08. Scientific Coordinator.
35. "Design and aerodynamic evaluation of an S-Duct intake for Perseas UAV, using computational tools", 2005. Funding: EADS-3SIGMA S.A. Scientific Coordinator.
36. "Aerodynamic evaluation of the existing S-Duct intake of the IRIS-JET UAV and design of a new one using computational tools", 2005. Funding: EADS-3SIGMA S.A. Scientific Coordinator.
37. "Optimal design of products and manufacturing processes, with focusing on the parametric formation of complicated geometry bladings", PYTHAGORAS II project. Funding: Greek Ministry of Education. Duration: 1/1/2005 - 31/12/2007. Scientific Coordinator.

38. "Automatic parametric design of small turbomachinery parts, using modern numerical methods", 2004. Funding: Technical University of Crete. Scientific Coordinator.

Research Assistant/ Research Associate (Selection)

1. "Traffic Management for the 21st Century" TRAMAN21. European Research Council (ERC). Duration 1/3/2013 - 28/2/2018. Research Associate.
2. "THALES - NTUA: Development of know-how for the aeroelastic analysis and design - optimization of wind turbines". Duration: 1/01/12 to 30/11/15. Member of the TUC research team.
3. "Development of a vertical take off and landing Unmanned Aerial Vehicle", 00 EPER 169, Greek General Secretariat of Research and Technology, Intelligent Systems and Robotics Laboratory, Technical University of Crete. Research Associate.
4. "Development of a jet engine for the propulsion of UAVs", 00 EPER 167, Greek General Secretariat of Research and Technology, Intelligent Systems and Robotics Laboratory, Technical University of Crete. Research Associate.
5. "Robust integration methodologies of a fleet of commercially available autonomous robots", PENED 99, Greek General Secretariat for Research and Technology (GSRT) , Intelligent Systems and Robotics Laboratory, Technical University of Crete. Research Associate.
6. "Small Turbomachinery Research", G1RD-CT2000-00151, Lab. of Thermal Turbomachines, NTUA, Research Associate.
7. "Advanced Civil Core Compressor Aerodynamics" IMT AER2-CT92-0039, Lab. of Thermal Turbomachines, NTUA, Research Assistant.
8. "Tip Clearance Effects in Axial Flow Compressors" BRITE/EURAM AERO-0021-C, Lab. of Thermal Turbomachines, NTUA, Research Assistant.

PARTICIPATION IN CONFERENCE ORGANIZING COMMITTEES

1. **KES 2008**, 12th International Conference on Knowledge-Based and Intelligent Information & Engineering Systems, 3, 4 and 5 September 2008, Zagreb, Croatia.
 - Member of the International Organizing Committee.
 - Organizer and Chairman of an Invited Session: “Artificial Intelligence driven Engineering Design Optimization”.
2. **CSC 2009**: The First International Conference on Soft Computing Technology in Civil, Structural and Environmental Engineering, Funchal, Madeira Island, 1-4 Sept. 2009.
 - Member of the Editorial Board.
 - Co-organizer and Chairman of an invited session: “Soft Computing Methodologies applied to Water-related Technologies”.
3. 3rd International Workshop on Soft Computing Applications, **SOFA 2009**. July 29 - August 1, Szeged, Hungary and Arad, Romania.
 - Member of the International Program Committee.
4. **CSC 2011**: The Second International Conference on Soft Computing Technology in Civil, Structural and Environmental Engineering, Chania, Crete, Greece, 6-9 Sept. 2011.
 - Member of the Editorial Board.
5. **KES 2012**, 16th International Conference on Knowledge-Based and Intelligent Information & Engineering Systems, 10, 11 and 12 September 2012, San Sebastian, Spain.
 - Member of the International Organizing Committee.
6. **MED 2013**: The 21st Mediterranean Conference on Control and Automation, June 25-28, 2013, Chania, Crete, Greece.
 - Member of the International Program Committee (IPC).
 - Associate Editor.
7. **CSC 2013**: The Third International Conference on Soft Computing Technology in Civil, Structural and Environmental Engineering, Cagliari, Sardinia, Italy, 3-6 Sept. 2013.
 - Member of the Editorial Board.
8. **10th HSTAM** International Congress on Mechanics, May 25th -27th, 2013, Chania, Crete, Grece.
 - Member of the Local Organizing Committee.
 - Session Chair.
9. **KES 2014**, 18th International Conference on Knowledge-Based and Intelligent Information & Engineering Systems, 15, 16 and 17 September 2014, Gdynia, Poland.
 - Member of the International Organizing Committee.
10. **ASME ESDA 2014**, 12th Biennial Conference on Engineering Systems Design and Analysis, June 25-27, Copenhagen, Denmark.
 - Session Chair (Analytical and Numerical Analysis 1 - Fluids Engineering).
11. ASME 2014 International Mechanical Engineering Congress & Exposition **IMECE2014**, November 14-20, 2014, Montreal, Canada.
 - Session Organizer: “Advanced Automotive Systems and Methodologies”.
12. **IACM & ECCOMAS** 11th World Congress on Computational Mechanics (WCCM XI), 5th European Conference on Computational Mechanics (ECCM V), 6th European Conference on Computational Fluid Dynamics (ECFD VI), 20 - 25 July, 2014, Barcelona, Spain.
 - Session Chair, “Advances in Accurate and Robust Numerical Methods for Computational Fluid Dynamics” (MS051D) (22-7-2014).
13. **PARENG 2015**, International Conference on Parallel, Distributed, Grid and Cloud Computing for Engineering, 24-27 March, 2015, Dubrovnik, Croatia.
 - Member of the Editorial Board.
14. **CSC2015**, The Fourth International Conference on Soft Computing Technology in Civil, Structural and Environmental Engineering, 1-4 Sept, 2015, Prague, Czech Republic.
 - Member of the Editorial Board.
 - Session Chair.
15. ASME 2015 International Mechanical Engineering Congress & Exposition **IMECE2015**, Houston, Texas, USA, November 13-19, 2015.
 - Session Co-chair: “Vehicle stability and control systems”.

16. ASME 2016 International Mechanical Engineering Congress & Exposition **IMECE2016**, Phoenix, Arizona, USA, November 11-17, 2016. Track Co-Organizer: “16-3 Transportation Systems Dynamics and Controls”. Session Co-Organizer: “16-3-1 Transportation Systems Dynamics and Controls”.
17. Fifth International Conference on Parallel, Distributed, Grid and Cloud Computing for Engineering (**PARENG 2017**), Pecs, Hungary, 30th-31st May, 2017. Member of the Editorial Board.
18. 25th Mediterranean Conference on Control and Automation (**MED 2017**), Valletta, Malta on July 3-6, 2017. Member of the International Programme Committee (IPC). Associate Editor for contributed papers.
19. **KES 2017**, 21st International Conference on Knowledge-Based and Intelligent Information & Engineering Systems 6, 7 & 8 September 2017 Marseille, France. Member of the International Programme Committee.
20. 26th Mediterranean Conference on Control and Automation (**MED 2018**), Zadar, Croatia, June 19-22, 2018. Member of the International Programme Committee (IPC). Associate Editor for contributed papers.
21. **KES2018**, 22nd International Conference on Knowledge-Based and Intelligent Information & Engineering Systems, 3-5 September 2018, Belgrade, Serbia. Member of the International Programme Committee.
22. **9th GRACM** Conference on Computational Mechanics, 4-6 June 2018, Chania, Greece. Session Chair.
23. 27th Mediterranean Conference on Control and Automation (**MED 2019**), Akko, Israel, July 1-4, 2019. Member of the International Programme Committee (IPC).
24. **KES2020**, 24th International Conference on Knowledge-Based and Intelligent Information & Engineering Systems, 16-18 September 2020, Verona, Italy. Member of the International Programme Committee.
25. **GPPS-Chania20**, Global Power & Propulsion Society European Technical Conference, Chania, Crete, Greece, 7th - 9th September 2020. Track Chair (Ducts & Nozzles). Session Chair (Ducts & Nozzles).

GUEST/ASSOCIATE EDITOR IN SCIENTIFIC JOURNALS

1. **I.K. Nikolos**, Editorial, *International Journal of Advanced Intelligence Paradigms (IJAIP)*, Special Issue on: "Artificial Intelligence Driven Engineering Design Optimisation", Vol. 2, No. 4, 2010.
2. J.M. Adam, D., Camotim, L. Dunai, K. Marti, **I.K. Nikolos**, F.J. Palares, M.P. Papadopoulou, M.P. Saka, G.I. Schueller, T. Vietor, Y. Tsompanakis, B.H.V. Topping, Editorial, *Advances in Engineering Software (ADES)*, Special Issue, 44 (1), Editorial, pp. 1-2, 2012.
3. **I.K. Nikolos**, *ASME Journal of Fluids Engineering*. Guest Editor (March 2017 - October 2017). Associate Editor (24/10/2017 – 31/1/2021).
4. A.I. Delis, **I.K. Nikolos**, *Water*, Guest Editors, Special Issue "Shallow Water Equations in Hydraulics: Modeling, Numerics and Applications" (2019).

INVITED SPEAKER

1. **I.K. Nikolos**, "Inverse Design of Aerodynamic Shapes using Differential Evolution coupled with Artificial Neural Network", ERCOFTAC Conference in Design Optimization: Methods and Applications, Athens, Mar. 31- Apr. 2, 2004.
2. **I.K. Nikolos**, "Surrogate modeling in evolutionary based engineering design optimization", The Second International Conference on Soft Computing Technology in Civil, Structural and Environmental Engineering, 6-9 Sept. 2011, Chania, Greece.
3. **I.K. Nikolos**, "Research activities on Computational Fluid Dynamics", Shimadzu Research Laboratory (Europe) Ltd., Wharfside, Trafford Wharf Road, Manchester, M17 1GP, UK. 13 Dec. 2012.
4. **I.K. Nikolos**, "Geometry reconstruction based on Artificial Intelligence techniques", The Fourth International Conference on Soft Computing Technology in Civil, Structural and Environmental Engineering, 1-4 Sept. 2015, Prague, Czech Republic.

PATENTS

1. D. Papanastasiou, E. Raptakis, D. Kounadis, A. Lekkas, I. Orfanopoulos, **I. K. Nikolos**, "Improvements in and relating to the Control of Ions", Patent Family: GB2508574, EP2864998, US20150340218, WO/2014/001827.

BOOKS

1. L. Klianis, **I.K. Nikolos**, I. Sideris, "Internal Combustion Engines, Volume I", Eugenides Foundation, 1st Ed. 2002 (in Greek), ISBN 960-337-046-0. 2nd Ed. 2017.
2. L. Klianis, **I.K. Nikolos**, I. Sideris, "Internal Combustion Engines, Volume II", Eugenides Foundation, 1st Ed. 2003 (in Greek), ISBN 960-337-047-9. 2nd Ed. 2018.
3. N. Tsurveloudis, **I. K. Nikolos**, "Production Technologies", Technical University of Crete, 2014 (in Greek), ISBN 978-618-81537-0-7.

SCIENTIFIC PUBLICATIONS

A. Refereed Serial Transaction / Journal papers

1. D. Papanastasiou, D. Kounadis, I. Orfanopoulos, A. Lekkas, A. Zacharos, E. Raptakis, M.I. Gini, K. Eleftheriadis, **I.K. Nikolos**, "Experimental and Numerical Investigations of Under-expanded Gas Flows for Optimal Operation of a novel Multipole Differential Ion Mobility Filter in the First Vacuum-Stage of a Mass Spectrometer", *International Journal of Mass Spectrometry*, 465, 116605, 2021. (I.F. (2019): **2.090**, CiteScore 2019: **3.0**).
2. S.N. Leloudas, G.N. Lygidakis, A.I. Delis, **I.K. Nikolos**, «An Artificial Compressibility Method for Axisymmetric Swirling Flows», *Engineering Computations*, 2021. (CiteScore 2019: **2.1**) (Accepted).
3. S.N. Leloudas, A.I. Eskantar, G.N. Lygidakis, **I.K. Nikolos**, "Low Reynolds Airfoil Family for Small Horizontal Axis Wind Turbines Based on RG15 Airfoil", *SN Applied Sciences*, 2, 371, 2020. <https://doi.org/10.1007/s42452-020-2161-1>.
4. S.N. Leloudas, G.N. Lygidakis, A.I. Eskantar, **I.K. Nikolos**, "A Robust Methodology for the Design Optimization of Diffuser Augmented Wind Turbine Shrouds", *Renewable Energy*, 150, pp. 722-742, 2020. (I.F. (2019): **6.274**, CiteScore 2019: **11.2**).
5. K. Makantasis, M. Kontorinaki, **I. Nikolos**, "A Deep Reinforcement-Learning-based Driving Policy for Autonomous Road Vehicles", *IET Intelligent Transport Systems*, 14(1), pp. 13-24, 2020. (I.F. (2019): **2.48**, CiteScore 2019: **3.8**).
6. I. Papamichail, N. Bekiaris-Liberis, A.I. Delis, D. Manolis, K.-S. Mountakis, **I.K. Nikolos**, C. Roncoli, M. Papageorgiou, "Motorway traffic flow modelling, estimation and control with vehicle automation and communication systems", *Annual Reviews in Control*, 48, pp. 325-346, 2019. (I.F.(2018): **4.759**)

7. G.A. Strofylas, K.N. Porfyri, **I.K. Nikolos**, A.I. Delis, and M. Papageorgiou, "Using Synchronous and Asynchronous Parallel Differential Evolution for Calibrating a Second-order Traffic Flow Model", *Advances in Engineering Software*, 125, pp. 1-18, 2018. (I.F.(2018): **4.194**)
8. A.I. Delis, **I.K. Nikolos**, M. Papageorgiou, "A macroscopic multi-lane traffic flow model for ACC/CACC traffic dynamics", *Transportation Research Record: Journal of the Transportation Research Board*, 2672 (20), pp. 178-192, 2018. (I.F. (2018): **0.748**)
9. E. Kaselouris, V. Dimitriou, I. Ftilis , A. Skoulakis, G. Koundourakis, E.L. Clark, J. Chatzakis, M. Bakarezos, **I.K. Nikolos**, N.A. Papadogiannis and M. Tatarakis, "Preliminary investigation on the use of low current pulsed power Z-pinch plasma devices for the study of early stage plasma instabilities", *Plasma Physics and Controlled Fusion*, 60, 014031, 2018. (I.F.(2018): **2.799**)
10. S.S. Sarakinos, G.N. Lygidakis, **I.K. Nikolos**, "Flow Analysis of the DLR-F11 High Lift Model Using the Galatea-I Code", *AIAA Journal of Aircraft*, 55(1), pp. 355-372, 2018. (I.F. (2018): **0.963**, 5-year: **1.366**)
11. S.N. Leloudas, G.A. Strofylas and **I.K. Nikolos**, "Constrained Airfoil Optimization Using the Area-Preserving Free-Form Deformation", *Aircraft Engineering and Aerospace Technology*, 90(6), pp. 914-926, 2018. (I.F.(2018): **0.924**)
12. E. Kaselouris, V. Dimitriou, I. Ftilis, A. Skoulakis, G. Koundourakis, E.L. Clark, M. Bakarezos, **I.K. Nikolos**, N.A. Papadogiannis and M. Tatarakis, "Plasma Instabilities: The influence of the solid to plasma phase transition on the generation and the dynamics of plasma instabilities", *NATURE Communications*, 8: 1713, 2017. DOI: 10.1038/s41467-017-02000-6. (I.F.(2017): **12.353**)
13. G.A. Strofylas, G.N. Lygidakis, **I.K. Nikolos**, "An Agglomeration Strategy for Accelerating RBF-Based Mesh Deformation", *Advances in Engineering Software*, 107, pp. 13-37, 2017. (I.F.(2017): **3.198**)
14. I. Ntousakis, **I.K. Nikolos**, M. Papageorgiou, "Optimal vehicle trajectory planning in the context of cooperative merging on highways", *Transportation Research Part C*, 71, pp. 464-488, 2016. (I.F. (2016) **3.805**)
15. G.N. Lygidakis, S.S. Sarakinos, **I.K. Nikolos**, "Comparison of different agglomeration multigrid schemes for compressible and incompressible flow simulations", *Advances in Engineering Software*, 101, pp. 77-97, 2016. (I.F. (2016): **3.000**)
16. G.N. Lygidakis, **I.K. Nikolos**, "Assessment of different spatial/angular agglomeration multigrid schemes for the acceleration of FVM radiative heat transfer computations", *Numerical Heat Transfer, Part B Fundamentals*, 69 (5), pp. 389-412, 2016. (I.F. (2016) **1.663**)
17. E. Kaselouris, E. Skarvelakis, **I.K. Nikolos**, G.E. Stavroulakis, Y. Orphanos, E. Bakarezos, N.A. Papadogiannis, M. Tatarakis, V. Dimitriou, "Simulation of the transient behavior of matter with characteristic geometrical variations & defects irradiated by nanosecond laser pulses using FEA", *Key Engineering Materials, Advances in Fracture and Damage Mechanics XIV*, Vol. 665, 2016.
18. E. Kaselouris, **I.K. Nikolos**, Y. Orphanos, E. Bakarezos, N.A. Papadogiannis, M. Tatarakis, V. Dimitriou, "Elastoplastic study of nanosecond-pulsed laser interaction with metallic films using 3D multiphysics fem modeling", *International Journal of Damage Mechanics*, 25(1), pp. 42-55, 2016. (I.F. (2016): **1.783**)
19. A. Delis, **I.K. Nikolos**, M. Papageorgiou, "Macroscopic traffic flow modelling with adaptive cruise control: Development and numerical solution", *Computers and Mathematics with Applications*, 70, pp. 1921-1947, 2015. (I.F. (2015): **1.398**)
20. C. Diakaki, M. Papageorgiou, I. Papamichail, **I.K. Nikolos**, "Overview and analysis of vehicle automation and communication systems from a motorway traffic management perspective", *Transportation Research Part A: Policy and Practice*, 75, pp. 147-165, 2015. (I.F. (2015): **1.994**)
21. G.N. Lygidakis, **I.K. Nikolos**, "Numerical Analysis of Flow over the NASA Common Research Model (CRM) Using the Academic CFD Code Galatea", *ASME Journal of Fluids Engineering*, Vol. 137, pp. 071103 - 1 - 18, 2015. (I.F. (2015): **1.442 (5yr)**)
22. V. Dimitriou, E. Kaselouris, Y. Orphanos, M. Bakarezos, N. Vainos, **I.K. Nikolos**, M. Tatarakis, N. Papadogiannis, "The thermo-mechanical behavior of thin metal films under nanosecond laser pulse excitation above the thermoelastic regime", *Applied Physics A. Materials Science & Processing*, 118, pp. 739-748, 2015. (I.F. (2015): **1.444**)
23. G.N. Lygidakis, **I.K. Nikolos**, "Using a parallel spatial/angular agglomeration multigrid scheme to accelerate the FVM radiative heat transfer computation - Part I: Methodology", *Numerical Heat Transfer, Part B Fundamentals*, 66, pp. 471-497, 2014. (I.F. (2014) **1.172**)
24. G.N. Lygidakis, **I.K. Nikolos**, "Using a parallel spatial/angular agglomeration multigrid scheme to accelerate the FVM radiative heat transfer computation - Part II: Numerical results", *Numerical Heat Transfer, Part B Fundamentals*, 66, pp. 498-525, 2014. (I.F. (2014) **1.172**)
25. A. Delis, **I.K. Nikolos**, M. Papageorgiou, "High-resolution numerical relaxation approximations to second-order macroscopic traffic flow models", *Transportation Research Part C*, 44, pp. 318-349, 2014. (I.F. (2014) **2.818**)
26. E. Tapoglou, I.C. Trichakis, Z. Dokou, **I.K. Nikolos**, G.P. Karatzas, "Groundwater level forecasting under climate change scenarios using an artificial neural network trained with particle swarm optimization", *Hydrological Sciences Journal*, 59 (6), pp. 1225-1239, 2014. (I.F. (2014): **1.549**)
27. E. Kaselouris, **I.K. Nikolos**, Y. Orphanos, E. Bakarezos, N.A. Papadogiannis, M. Tatarakis, V. Dimitriou, "A review of simulation methods of laser matter interactions focused on nanosecond laser pulsed systems", *Journal of Multiscale Modelling*, 5 (4), pp. 133001 - 1 - 31, 2013.
28. **I.K. Nikolos**, "On the use of multiple surrogates within a differential evolution procedure for high-lift airfoil design", *International Journal of Advanced Intelligence Paradigms*, 5 (3), pp. 319-341, 2013.
29. G.N. Lygidakis, **I.K. Nikolos**, "Using a high order spatial/temporal scheme and grid adaptation with a finite volume method for radiative heat transfer", *Numerical Heat Transfer, Part B Fundamentals*, 64, pp. 89-117, 2013. (I.F. (2013) **1.548**)
30. A. Delis, **I.K. Nikolos**, "A novel multidimensional solution reconstruction and edge-based limiting procedure for unstructured cell-centered finite volumes with application to shallow water dynamics", *International Journal for Numerical Methods in Fluids*, 71 (5), pp. 584-633, 2013. (I.F. (2013) **1.329**)

31. L.D. Adamoudis, G. Koini, **I.K. Nikolos**, "Heuristic repairing operators for 3D tetrahedral mesh generation using advancing-front technique", *Advances in Engineering Software*, 54, pp. 49-62, 2012. (I.F. (2012) **1.220**)
32. F. Papadopoulos, I. Valakos, **I.K. Nikolos**, "Design of an S-duct intake for UAV applications", *Aircraft Engineering and Aerospace Technology*, 84 (6), pp. 439-456, 2012. (I.F. (2012) **0.441**)
33. G.N. Lygidakis, **I.K. Nikolos**, "Using finite volume method and hybrid unstructured meshes to compute radiative heat transfer in 3D geometries", *Numerical Heat Transfer, Part B Fundamentals*, 62, pp. 289-314, 2012. (I.F. (2012) **1.955**)
34. M. Kazolea, A. I. Delis, **I.K. Nikolos**, C.E. Synolakis, "An unstructured finite volume numerical scheme for extended 2D Boussinesq-type models", *Coastal Engineering*, 69, pp. 42-66, 2012. (I.F. (2012) **2.239**)
35. I. Trichakis, **I.K. Nikolos**, G.P. Karatzas, "Comparison of Bootstrap Confidence Intervals for an ANN Model of a Karstic Aquifer Response", *Hydrological Processes*, 25, pp. 2827-2836, 2011. (I.F. (2011): **2.488**)
36. A.N. Brintaki, S.K. Lai-Yuen, **I.K. Nikolos**, "A kinematics based heuristic approach to minimize molecular conformational search", *Computer-Aided Design & Applications*, 8(1), pp. 23-36, 2011.
37. A.I. Delis, **I.K. Nikolos**, M. Kazolea, "Performance and comparison of cell-centered and node-centered unstructured finite volume discretizations for shallow water free surface flows", *Archives of Computational Methods in Engineering*, 18 (1), pp. 57-118, 2011 (DOI: 10.1007/s11831-011-9057-6) (I.F. (2011): **2.767**).
38. I.C. Trichakis, **I.K. Nikolos**, G.P. Karatzas, «Artificial Neural Networks (ANNs) Based Modeling for Karstic Groundwater Level Simulation», *Water Resources Management*, 25, pp. 1143-1152, 2011. (DOI: 10.1007/s11269-010-9629-6) (I.F. (2011): **2.054**).
39. M.P. Papadopoulou, **I.K. Nikolos**, G.P. Karatzas, «Computational Benefits using Artificial Intelligent Methodologies for the Solution of an Environmental Design Problem - Saltwater Intrusion», *Water Science and Technology*, 62(7), pp. 1479-1490, 2010. (I.F. (2010): **1.056**).
40. **I.K. Nikolos**, M.P. Papadopoulou, G.P. Karatzas, "Artificial Neural Network and Differential Evolution Methodologies used in Single- and Multi-objective Formulations for the Solution of Subsurface Water Management Problems", *International Journal of Advanced Intelligence Paradigms*, 2 (4), pp. 365-377, 2010.
41. **I.K. Nikolos**, A. I. Delis, "An unstructured node-centered finite volume scheme for shallow water flows with wet/dry fronts over complex topography", *Computer Methods in Applied Mechanics and Engineering*, 198, pp. 3723-3750, 2009. (I.F. (2009): **1.806**)
42. I. Trichakis, **I.K. Nikolos**, G.P. Karatzas, "Optimal selection of Artificial Neural Network parameters for the prediction of a karstic aquifer's response", *Hydrological Processes*, 23, pp. 2956-2969, 2009. (I.F. (2009): **1.870**)
43. G. Koini, S. Sarakinos, **I.K. Nikolos**, "A Software Tool for Parametric Design of Turbomachinery Blades", *Advances in Engineering Software*, 40, pp. 41-51, 2009. (I.F. (2009): **1.045**).
44. E.I. Amoiralis and **I.K. Nikolos**, «Freeform Deformation versus B-Spline Representation in Inverse Airfoil Design», *ASME Journal of Computing & Information Science in Engineering*, 8 (2), 2008. (I.F. (2008): **0.807**)
45. **I.K. Nikolos**, M. Stergiadi, M.P. Papadopoulou, G.P. Karatzas, «Artificial Neural Networks an Alternative Approach to Groundwater Numerical Modeling and Environmental Design», *Hydrological Processes*, 22, pp. 3337-3348, 2008. (I.F. (2008): **2.002**)
46. I.M. Valakos, M.S. Ntipteni, **I.K. Nikolos**, «Structural Optimization of a Centrifugal Impeller Using Differential Evolution in CATIA™ Environment», *Operational Research: An International Journal (ORIJ)*, 7 (2), pp. 185-211, 2007.
47. S. Karterakis, G.P. Karatzas, **I.K. Nikolos** and M.P. Papadopoulou, «Application of Linear Programming and Differential Evolutionary Optimization Methodologies for the Solution of Coastal Subsurface Water Management Problems Subject to Environmental Criteria», *Journal of Hydrology*, 342 (3-4), pp. 270-282, 2007. (I.F.(2007): **2.161**)
48. S.S. Sarakinos, I.M. Valakos, **I.K. Nikolos**, «A Software Tool for Generic Parameterized Aircraft Design», *Advances in Engineering Software*, 38 (1), pp. 39-49, 2007. (I.F. (2007): **0.529**).
49. A. Brintaki, **I.K. Nikolos**, «Coordinated UAV Path Planning Using Differential Evolution», *Operational Research: An International Journal (ORIJ)*, 5 (3), pp. 487-502, 2005. ISSN 1109-2858.
50. **I.K. Nikolos**, L. Doitsidis, V. N. Christopoulos, N. Tsourveloudis, «Roll Control of Unmanned Aerial Vehicles using Fuzzy Logic», *WSEAS Transactions on Systems*, 4 (2), pp. 1039-1047, 2003.
51. **I.K. Nikolos**, K. P. Valavanis, N. C. Tsourveloudis, A. N. Kostaras, «Evolutionary Algorithm Based Off-line / On-line Path Planner for UAV Navigation», *IEEE Transactions on Systems, Man and Cybernetics-Part B*, 33 (6), pp. 898-912, 2003. (I.F. (2003): **1.029**)
52. **I.K. Nikolos**, N. Tsourveloudis, K. P. Valavanis, «Evolutionary Algorithm Based Off-Line Path Planner for UAV Navigation», *Automatika*, 42 (3-4), pp. 143-150, 2001.
53. N. Tsourveloudis, K.P. Valavanis, R. Kolluru, and **I.K. Nikolos**, «Position and Suction Control of a Reconfigurable Robotic Gripper», *Machine Intelligence and Robotic Control*, 1 (2), pp. 53-62, 1999.

B. Book chapters

1. **I.K. Nikolos**, "Geometry reconstruction based on artificial intelligence techniques", in Computational Techniques for Civil and Structural Engineering, J. Krus, Y. Tsompanakis, B.H.V. Topping (Editors), Computational Science, Engineering and Technology Series: 38, Saxe-Coburg Publications, Stirlingshire, Scotland, pp. 325-343, 2015.
2. M. Papageorgiou, C. Diakaki, **I.K. Nikolos**, I. Ntousakis, I. Papamichail, C. Roncoli, "Freeway traffic management in presence of Vehicle Automation and Communication Systems", In G. Meyer, S. Beiker (Eds.), Road Vehicle Automation 2, Series lecture Notes in Mobility, Springer, pp. 205-214, 2015.
3. **I.K. Nikolos**, "Chapter 8: Surrogate modeling in evolutionary based engineering design optimization", in Y. Tsompanakis, B.H.V. Topping (Eds.), Soft Computing Methods for Civil and Structural Engineering, Computational Science, Engineering and Technology Series: 29, Saxe-Coburg Publications, pp. 173-203, 2011.

4. Γ. Π. Καρατζάς, Β. Αλεξοπούλου, **I. Νικολός**, «Διαχείριση υπόγειων υδάτων με συνδυασμό προσομοίωσης και μεθόδων βελτιστοποίησης», ΥΔΡΟΓΑΙΑ, Τιμητικός Τόμος στον Καθηγητή Χρήστο Τζιμόπουλο, Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης, σελ. 157-167, 2009.
5. **I. K. Nikolos**, N. Tsourveloudis, «Path Planning for Cooperating Unmanned Vehicles over 3-D Terrain», in Filipe, J., Andrade-Cetto, J., Ferrier, J.-L. (Eds.), *Informatics in Control Automation and Robotics – Selected papers from the International Conference on Informatics in Control Automation and Robotics 2007*, Lecture Notes in Electrical Engineering, 24, pp. 153- 168, Springer, 2009, ISBN: 978-3-540-85639-9, e-ISBN: 978-3-540-85640-5.
6. **I. K. Nikolos**, N. Tsourveloudis, K. Valavanis, «Chapter 10: Evolutionary Algorithm based path planning for multiple UAV cooperation», in Valavanis Kimon (Ed.), *Advances in Unmanned Aerial Vehicles, State of the Art and the Road to Autonomy*, (Series: Intelligent Systems, Control and Automation: Science and Engineering, 33, pp. 309 – 340, Springer publications, 2007, ISBN: 978-1-4020-6113-4.
7. **I. K. Nikolos**, E. S. Zografos, A. N. Brintaki, «UAV Path Planning Using Evolutionary Algorithms», in Chahl, J.S., Jain, L.C., Mizutani, A., Sato-Ilic, M. (Eds.), *Innovations in Intelligent Machines - 1*, (Series: Studies in Computational Intelligence – SCI, vol. 70), pp. 77-111, Springer publications, 2007, ISBN: 978-3-540-72695-1.

C. Refereed Conference papers (full paper review)

1. G.N. Lygidakis, S.N. Leloudas, A.I. Delis, **I.K. Nikolos**, «Prediction of Turbulent Axisymmetric Flows Using an Artificial Compressibility Approach», Proceedings of Global Power and Propulsion Society, ISSN-Nr: 2504-4400, GPPS Chania20, Chania, Greece, 7 – 9 September, 2020. Paper No.: GPPS-CH-2020-0098.
2. D.P. Angelopoulos G.N. Lygidakis, **I.K. Nikolos**, «Validation of a High-order Numerical Discretization Scheme for the Solution of the 2-D Euler Equations», Proceedings of Global Power and Propulsion Society, ISSN-Nr: 2504-4400, GPPS Chania20, Chania, Greece, 7 – 9 September, 2020. Paper No.: GPPS-CH-2020-0039.
3. F. Gousopoulos, **I.K. Nikolos**, «Investigating the Effects of Fan-shaped Cooling Hole Geometry Parameters on Film Cooling Effectiveness for Internal Coolant Cross-flow Using CFD», Proceedings of Global Power and Propulsion Society, ISSN-Nr: 2504-4400, GPPS Chania20, Chania, Greece, 7 – 9 September, 2020. Paper No.: GPPS-CH-2020-0033.
4. S.N. Leloudas, A.I. Eskantar, **I.K. Nikolos**, «Design of a Low Reynolds Airfoil Family for Small Horizontal Axis Wind Turbine Applications Based on the RG15 Airfoil», 7th European Conference on Renewable Energy Systems (ECRES 2019), Madrid, Spain, 10-12 June 2019.
5. S.N. Leloudas, **I.K. Nikolos**, «Design of Improved Rotor Blades for a Shrouded Wind Turbine Using the RG15 Airfoil Family», 7th European Conference on Renewable Energy Systems (ECRES 2019), Madrid, Spain, 10-12 June 2019.
6. G.N. Lygidakis, S.N. Leloudas, **I.K. Nikolos**, «Applying a Radiative Heat Transfer Finite-Volume Methodology to a Geometrically Complex Furnace», Proceedings of the ASME International Mechanical Engineering Congress and Exposition, IMECE 2018, 9-15 November, 2018, Pittsburgh, PA, USA, Paper No. IMECE2018-86831.
7. S.N. Leloudas, G.N. Lygidakis, G.A. Strofylas, **I.K. Nikolos**, «Aerodynamic Shape Optimization of Diffuser Augmented Wind Turbine Shrouds Using Asynchronous Differential Evolution», Proceedings of the ASME International Mechanical Engineering Congress and Exposition, IMECE 2018, 9-15 November, 2018, Pittsburgh, PA, USA, Paper No. IMECE2018-86820.
8. A.I. Delis, **I.K. Nikolos**, M. Papageorgiou, «A macroscopic multi-lane traffic flow model for ACC/CACC traffic dynamics», In Proceedings of the Transportation Research Board 97th Annual Meeting, Washington, D.C., January 7-11, 2018.
9. S.N. Leloudas, G.N. Lygidakis, **I.K. Nikolos**, «Assessment of a modified blade element momentum methodology for diffuser augmented wind turbines», Proceedings of the ASME International Mechanical Engineering Congress and Exposition, IMECE 2017, 3-9 November, 2017, Tampa, Florida, USA, Paper No. IMECE2017-70288.
10. D.A. Inglezakis, G.N. Lygidakis, **I.K. Nikolos**, «Flow analysis of the M151 aircraft model using the academic CFD code Galatea», Proceedings of the ASME International Mechanical Engineering Congress and Exposition, IMECE 2017, 3-9 November, 2017, Tampa, Florida, USA, Paper No. IMECE2017-70208.
11. A.G. Klothakis, G.N. Lygidakis, **I.K. Nikolos**, «Rarefied gas flow analysis of a suborbital shuttle with the academic CFD code Galatea», Proceedings of the ASME International Mechanical Engineering Congress and Exposition, IMECE 2017, 3-9 November, 2017, Tampa, Florida, USA, Paper No. IMECE2017-70207.
12. K.G. Stokos, G.N. Lygidakis, **I.K. Nikolos**, S. Tsangaris, «Numerical investigation of a tunnel fire under longitudinal ventilation», Proceedings of the ASME International Mechanical Engineering Congress and Exposition, IMECE 2017, 3-9 November, 2017, Tampa, Florida, USA, Paper No. IMECE2017-70148.
13. I.A. Ntousakis, **I.K. Nikolos**, M. Papageorgiou, «Cooperative vehicle merging on highways – model predictive control», In Proceedings of the Transportation Research Board 96th Annual Meeting, Washington, D.C., January 8-12, 2017 (17-00930).
14. K.N. Porfyri, A.I. Delis, **I.K. Nikolos**, M. Papageorgiou, «Calibration and validation of a macroscopic multi-lane traffic flow model using a differential evolution algorithm», In Proceedings of the Transportation Research Board 96th Annual Meeting, Washington, D.C., January 8-12, 2017 (17-01340).

15. A.G. Klothakis, **I.K. Nikolos**, T.P. Koehler, M.A. Gallis, S.J. Plimpton, "Validation simulations of the DSMC code SPARTA", 30rd International Symposium on Rarefied Gas Dynamics, University of Victoria, Victoria BC, Canada, July 10-15, 2016. AIP Conference Proceedings 1786, 050016 (2016); doi: 10.1063/1.4967566.
16. A.I. Delis, **I.K. Nikolos**, M. Papageorgiou, "Simulation of the penetration rate effects of ACC and CACC on macroscopic traffic dynamics", Proceedings of the 19th IEEE Intelligent Transportation Systems Conference, ITSC'16, Rio de Janeiro, Brazil, November 1-4, 2016.
17. K.N. Porfyri, **I.K. Nikolos**, A.I. Delis, M. Papageorgiou, "Calibration of a second-order traffic flow model using a metamodel-assisted Differential Evolution algorithm", Proceedings of the 19th IEEE Intelligent Transportation Systems Conference, ITSC'16, Rio de Janeiro, Brazil, November 1-4, 2016.
18. G.N. Lygidakis, S.S. Sarakinos, **I.K. Nikolos**, "Simulation of the flow over the CAARC standard tall building using different LES turbulence models", Proceedings of the ASME 2016 International Mechanical Engineering Conference & Exposition, IMECE2016, Nov. 11-17, Phoenix, Arizona, USA, Paper No. IMECE2016-66399.
19. S.S. Sarakinos, G.N. Lygidakis, **I.K. Nikolos**, "Assessment of the academic CFD code Galatea-I with the DLR-F11 model in high lift configuration", Proceedings of the ASME 2016 International Mechanical Engineering Conference & Exposition, IMECE2016, Nov. 11-17, Phoenix, Arizona, USA, Paper No. IMECE2016-66405.
20. G.A. Strofylas, G.I. Mazanakis, S.S. Sarakinos, G.N. Lygidakis, **I.K. Nikolos**, "On the use of improved Radial Basis Functions methods in Fluid-Structure Interaction simulations", Proceedings of the ASME 2016 International Mechanical Engineering Conference & Exposition, IMECE2016, Nov. 11-17, Phoenix, Arizona, USA, Paper No. IMECE2016-66412.
21. K.N. Porfyri, **I.K. Nikolos**, A.I. Delis, M. Papageorgiou, "Nonlinear stability analysis of a macroscopic traffic flow model for Adaptive Cruise Control systems", Proceedings of the ASME 2016 International Mechanical Engineering Conference & Exposition, IMECE2016, Nov. 11-17, Phoenix, Arizona, USA, Paper No. IMECE2016-66470.
22. G.A. Strofylas, G.I. Mazanakis, S.S. Sarakinos, G.N. Lygidakis, **I.K. Nikolos**, "Using improved Radial Basis Functions methods for fluid-structure coupling and mesh deformation", in M. Papadrakakis, V. Papadopoulos, G. Stefanou, V. Plevris (Eds.), Proceedings of the ECCOMAS Congress 2016, VII European Congress on Computational Methods in Applied Science and Engineering, Crete Island, Greece, 5-10 June, 2016.
23. G.N. Lygidakis, **I.K. Nikolos**, "Comparison of different spatial/angular agglomeration multigrid schemes for radiative heat transfer computations", in M. Papadrakakis, V. Papadopoulos, G. Stefanou, V. Plevris (Eds.), Proceedings of the ECCOMAS Congress 2016, VII European Congress on Computational Methods in Applied Science and Engineering, Crete Island, Greece, 5-10 June, 2016.
24. A.G. Klothakis, G.N. Lygidakis, **I.K. Nikolos**, "Numerical analysis of rarefied gas flows using the academic CFD code Galatea", in M. Papadrakakis, V. Papadopoulos, G. Stefanou, V. Plevris (Eds.), Proceedings of the ECCOMAS Congress 2016, VII European Congress on Computational Methods in Applied Science and Engineering, Crete Island, Greece, 5-10 June, 2016.
25. A. Delis, **I.K. Nikolos**, M. Papageorgiou, "Macroscopic modelling and simulation of multi-lane traffic", IEEE 18th International Conference on Intelligent Transportation Systems (ITSC2015), Las Palmas de Gran Canaria, Sept. 15-18, 2015.
26. **I.K. Nikolos**, A. Delis, M. Papageorgiou, "Macroscopic modelling and simulation of ACC and CACC traffic", IEEE 18th International Conference on Intelligent Transportation Systems (ITSC2015), Las Palmas de Gran Canaria, Sept. 15-18, 2015.
27. S.S. Sarakinos, G.N. Lygidakis, **I.K. Nikolos**, "Assessment of the academic CFD code GALATEA-I with the DARPA SUBOFF test case", Proceedings of the ASME 2015 International Mechanical Engineering Conference & Exposition, IMECE2015, Nov. 13-19, Houston, Texas, USA, Paper No. IMECE2015-50980.
28. K.N. Porfyri, **I.K. Nikolos**, A.I. Delis, M. Papageorgiou, "Stability analysis of a macroscopic traffic flow model for adaptive cruise control systems", Proceedings of the ASME 2015 International Mechanical Engineering Conference & Exposition, IMECE2015, Nov. 13-19, Houston, Texas, USA, Paper No. IMECE2015-50977.
29. G.A. Strofylas, G.N. Lygidakis, **I.K. Nikolos**, "Accelerating RBF-based mesh deformation by implementing an agglomeration strategy", Proceedings of the ASME 2015 International Mechanical Engineering Conference & Exposition, IMECE2015, Nov. 13-19, Houston, Texas, USA, Paper No. IMECE2015-50902.
30. S.N. Leloudas, G.A. Strofylas, **I.K. Nikolos**, "Airfoil optimization using area-preserving free-form deformation", Proceedings of the ASME 2015 International Mechanical Engineering Conference & Exposition, IMECE2015, Nov. 13-19, Houston, Texas, USA, Paper No. IMECE2015-50904.
31. G.A. Strofylas, **I.K. Nikolos**, "Reverse engineering of wind turbine blade surface using differential evolution", Proceedings of the 4th International Conference on Soft Computing Technology in Civil, Structural and Environmental Engineering, Prague, Czech Republic, 1-4 Sept., 2015.
32. E. Kaselouris, E. Skarvelakis, **I.K. Nikolos**, G.E. Stavroulakis, Y. Orphanos, E. Bakarezos, N.A. Papadogiannis, M. Tatarakis, V. Dimitriou, "Simulation of the transient behavior of matter with characteristic geometrical variations & defects irradiated by nanosecond laser pulses using FEA", 14th International Conference on Fracture and Damage Mechanics, Budva, Montenegro, Sept. 21-23, 2015.
33. I. Fitis, A. Skoulakis, E. Kaselouris, **I.K. Nikolos**, E. Bakarezos, N.A. Papadogiannis, V. Dimitriou, M. Tatarakis, "Diagnosing the initial stages from solid to plasma phase for dense plasma explosions", 1st EPs Conference on Plasma Diagnostics (1st ECPD), Frascati - Rome - Italy, 14-17 April, 2015.
34. S.S. Sarakinos, G.N. Lygidakis, **I.K. Nikolos**, "Acceleration Strategies for Simulating Compressible and Incompressible Flows", PARENG2015, The 4th International Conference on Parallel, Distributed, Grid and Cloud Computing for Engineering, Dubrovnik, Croatia, 24-27 March, 2015.
35. I. Fitis, A. Skoulakis, E. Kaselouris, **I.K. Nikolos**, E. Bakarezos, N.A. Papadogiannis, V. Dimitriou, M. Tatarakis, "Experimental and numerical investigation of the early time dynamics of single wire plasma explosions", 42nd European Physical Society Conference on Plasma Physics, EPS 2015, Lisbon, Portugal, 22-26 June, 2015.

36. **I.K. Nikolos**, A.I. Delis, M. Papageorgiou, "Relaxation approximation to second-order traffic flow models by high-resolution schemes", AIP Conference Proceedings 1648, 530008 (2015). ICNAAM 2014, 22-28 September 2014, Rhodos, Greece. doi: 10.1063/1.4912741.
37. G.A. Strofylas, G.I. Mazanakis, **I.K. Nikolos**, "Wind turbine blade structure parameterization using T4T", Proceedings of the ASME 2014 International Mechanical Engineering Conference & Exposition, IMECE2014, Nov. 14-20, Montreal, Quebec, Canada, Paper No. IMECE2014-39674.
38. S.S. Sarakinos, G.N. Lygidakis, **I.K. Nikolos**, "Evaluation of a parallel agglomeration multigrid finite-volume algorithm, named Galatea-I, for the simulation of incompressible flows on 3D hybrid unstructured grids", Proceedings of the ASME 2014 International Mechanical Engineering Conference & Exposition, IMECE2014, Nov. 14-20, Montreal, Quebec, Canada, Paper No. IMECE2014-39759.
39. I.A. Ntousakis, K. Porfyri, **I.K. Nikolos**, M. Papageorgiou, "Assessing the impact of a cooperative merging system on highway traffic using a microscopic flow simulator", Proceedings of the ASME 2014 International Mechanical Engineering Conference & Exposition, IMECE2014, Nov. 14-20, Montreal, Quebec, Canada, Paper No. IMECE2014-39850.
40. G.N. Lygidakis, **I.K. Nikolos**, "Using the DLR-F6 aircraft model for the evaluation of the academic CFD code "Galatea"", Proceedings of the ASME 2014 International Mechanical Engineering Conference & Exposition, IMECE2014, Nov. 14-20, Montreal, Quebec, Canada, Paper No. IMECE2014-39756.
41. G.N. Lygidakis, S.S. Sarakinos, **I.K. Nikolos**, "A parallel agglomeration multigrid method for incompressible flow simulations", The 9th International Conference on Engineering Computational Technology ECT2014, Naples, Italy, Sept. 2-5, 2014.
42. G.N. Lygidakis, **I.K. Nikolos**, "A parallel finite-volume stial/angular agglomeration multigrid method for radiative heat transfer computation", HEAT TRANSFER 2014, 13th International Conference on Simulation and Experiments in Heat Transfer and its Applications, A Coruna, Spain, 2-4 July, 2014.
43. G.N. Lygidakis, **I.K. Nikolos**, "Assessment of the academic CFD code "GALATEA" using the NASA Common Research Model (CRM)", Proceedings of the 12th Biennial Conference on Engineering Systems Design and Analysis ESDA 2014, June 25-29, Copenhagen, Denmark, 2014.
44. A.I. Delis, **I.K. Nikolos**, "On a solution reconstruction and limiting procedure for unstructured finite volumes", in F. Ancona et al. (Eds.), *Hyperbolic Problems: Theory, Numerics, Applications, AIMS Series on Applied Mathematics, Vol. 8, Proceedings of the 14th International Conference on Hyperbolic Problems, Padova, June 25-29, 2012*. Americal Institute of Mathematical Sciences, 2014. ISBN-10: 1-60133-017-0.
45. V. Dimitriou, E. Kaselouris, Y. Orphanos, E. Bakarezos, N. Vainos, **I.K. Nikolos**, N.A. Papadogiannis, M. Tatarakis, "Matter dynamics under the interaction with laser pulses in the thermoelastic & plasma regimes", 40th European Physics Society Conference on Plasma Physics, EPS2013, Espoo, Finland, 1st-5th July, 2013.
46. G.N. Lygidakis, **I.K. Nikolos**, "Improving the accuracy of a finite volume method for computing radiative heat transfer in three-dimensional unstructured meshes", *SEECCM III, 3rd South-East European Conference on Computational Mechanics - an ECCOMAS and IACM Special Interest Conference*, M. Papadrakakis, M. Kojic, I. Tuncer, V. Papadopoulos (Eds.), Kos Island, Greece, 12-14 June, 2013.
47. E. Kaselouris, V. Dimitriou, **I.K. Nikolos**, Y. Orphanos, E. Bakarezos, N. Papadogiannis, M. Tatarakis, "Numerical simulation for the study of matter behaviour dynamics governed by the interaction with laser pulses or external strong currents", 10th HSTAM International Congress on Mechanics, Chania, Crete, Greece, 25-27 May, 2013.
48. G.N. Lygidakis, **I.K. Nikolos**, "Evaluating a parallel node-centered finite-volume algorithm, named Galatea, in simulation of 3D compressible flows", 10th HSTAM International Congress on Mechanics, Chania, Crete, Greece, 25-27 May, 2013.
49. A. Antoniou, **I.K. Nikolos**, A.I. Delis, "Solution reconstruction and limiting for the 2D Euler equations in centroid-dual unstructured finite volumes", 10th HSTAM International Congress on Mechanics, Chania, Crete, Greece, 25-27 May, 2013.
50. G. Strofylas, **I.K. Nikolos**, "Wind turbine blade design using T4T", 10th HSTAM International Congress on Mechanics, Chania, Crete, Greece, 25-27 May, 2013.
51. P.E. Kouskouris, **I.K. Nikolos**, "Evaluation of Radial Basis Functions for the deformation of unstructured meshes", *The Eighth International Conference on Engineering Computational Technology*, ECT2012, Dubrovnik, Croatia, 4-7 September, 2012.
52. G.N. Lygidakis, **I.K. Nikolos**, "A parallelized node-centered finite volume method for computing radiative heat transfer on 3D unstructured hybrid grids", Proceedings of the ASME 2012 11th Biennial Conference on Engineering Systems Design and Analysis (ESDA 2012), July 2-4, Nantes, France. Volume 1 - ISBN No: 978-0-7918-4484-7.
53. G. N. Lygidakis, **I.K. Nikolos**, "An unstructured node-centered finite volume method for computing 3D viscous compressible flows on hybrid grids", 7th GRACM International Congress on Computational Mechanics, Athens, June 30 - July 2, 2011.
54. F. Papadopoulos, I. Valakos, **I.K. Nikolos**, "Design and computational evaluation of S-duct intakes for UAV applications", 7th GRACM International Congress on Computational Mechanics, Athens, June 30 - July 2, 2011.
55. G.N. Koini, I.K. Nikolos, "Design of turbomachinery bladings using "T4T"", 7th GRACM International Congress on Computational Mechanics, Athens, June 30 - July 2, 2011.

56. I.C. Trichakis, **I.K. Nikolos**, G.P. Karatzas, "On the Use of Random-Walk Based Training Algorithms for Neural Networks Applied in Environmental Engineering", *Proceedings of the XVIII International Conference on Water Resources*, CMWR 2010, Barcelona, 21-24 June, 2010.
57. A.I. Delis, **I.K. Nikolos**, M. Kazolea, "Comparison of Cell-Centered and Node-Centered Formulations of a High-Resolution Well-Balanced Finite Volume Scheme: Application to Shallow Water Flows", *Proceedings of the XVIII International Conference on Water Resources*, CMWR 2010, Barcelona, 21-24 June, 2010.
58. M.P. Papadopoulou, **I.K. Nikolos**, G.P. Karatzas, "Optimal Geographical Well Positioning in Agricultural Polluted Areas", *Proceedings of the XVIII International Conference on Water Resources*, CMWR 2010, Barcelona, 21-24 June, 2010.
59. A. Brintaki, S. Lai-Yuen, **I.K. Nikolos**, "A Kinematics and Evolutionary Approach for Modeling Molecular Conformations", in A. Johnson and J. Miller, (eds.), *Proceedings of the 2010 Industrial Engineering Research Conference, IIE Annual Conference and Expo 2010, IERC10*, Cancun, Mexico, June 5 – 9, 2010.
60. I.C. Trichakis, G.P. Karatzas, **I.K. Nikolos**, "Quantification of artificial neural network uncertainty with bootstrap percentile intervals for the prediction of a karstic aquifer's response", in *Proceedings of the 6th International Symposium on Environmental Hydraulics, ISEH2010*, 23-25 June, 2010, Athens, Greece (Christodoulou & Stamou (eds.), Environmental Hydraulics, 2010 Taylor & Francis Group, London, ISBN 978-0-415-58475-3).
61. A.I. Delis, **I.K. Nikolos**, "A well-balanced node-centered finite volume scheme for shallow water flows with wetting and drying", *International Conference of Numerical Analysis and Applied Mathematics 2009 (ICNAAM 2009)*, Rethymnon, Greece, 18-22 Sep. 2009, American Institute of Physics, Conference Proceedings, pp. 1425-1428, ISBN: 978-0-7354-0709.
62. M. Papadopoulou, **I.K. Nikolos**, G.P. Karatzas, "Soft-computing methodologies for the solution of contamination problems", *Proceedings of the First International Conference on Soft Computing Technology in Civil, Structural and Environmental Engineering*, Madeira, Portugal, Sep. 2009.
63. I. Trihakis, **I.K. Nikolos**, G.P. Karatzas, "Predicting the change in hydraulic head of a karstic aquifer using Neural Networks", *Proceedings of the First International Conference on Soft Computing Technology in Civil, Structural and Environmental Engineering*, Madeira, Portugal, Sep. 2009.
64. A.N. Brintaki, S.K. Lai-Yuen, **I.K. Nikolos**, "A kinematics-based Differential Evolution method for molecular conformational search", *Proceedings of the IEE 2009 Industrial Engineering Research Conference*, Miami, 2009.
65. M.P. Papadopoulou, **I.K. Nikolos**, G.P. Karatzas, G. Kyritsakas, «Artificial Intelligence Methodologies used for the Solutions of Environmental Water Resources Management Problems», *Proceedings of the 2nd International Conference on Water Economics, Statistics, and Finance*, International Water Association, Alexandroupolis, Thrace-Greece, 3-5 July, 2009.
66. I.C. Trichakis, **I.K. Nikolos**, G.P. Karatzas, «Simulation of a Karstic Groundwater System using Artificial Neural Networks (ANNs). The example of Edwards aquifer», *European Water Resources Association 7th International Conference: Water Resources Conservation and Risk Reduction Under Climatic Instability*, Limassol, Cyprus, 25-27 June, 2009.
67. **I.K. Nikolos**, M. Stergiadi, M.P. Papadopoulou, G.P. Karatzas, «Groundwater Numerical Modeling and Environmental Design Using Artificial Neural Networks and Differential Evolution», In I. Lovrek, R.J. Howlett, and L.C. Jain (Eds.): *Knowledge-Based Intelligent Information and Engineering Systems (KES 2008)*, Part II, LNAI 5178, pp. 34–41, 2008, Springer-Verlag, ISBN 978-3-540-85564-4.
68. P. Spanoudakis, N. Tsourveloudis, **I.K. Nikolos**, «Optimal Selection of Tools for Rough Machining of Sculptured Surfaces», *Proceedings of International Multi Conference of Engineers and Computer Scientists – IMECS 2008*, (The 2008 IAENG International Conference on Industrial Engineering), Hong Kong, 19-21 March 2008, (ISBN: 978-988-98671-8-8).
69. **I.K. Nikolos**, and N. Tsourveloudis, «Evolutionary Path Planning for Unmanned Aerial Vehicles Cooperation», *Proceedings of the International Conference on Informatics in Control, Automation & Robotics*, Angers, France, May 09-12, 2007 (ICINCO07).
70. E.I. Amoiralis, and **I.K. Nikolos**, «Freeform Deformation vs. B-Spline Representation in Inverse Airfoil Design», *Proceedings of the 8th Biennial Conference on Engineering Systems Design and Analysis*, ASME-ESDA06, Torino, Italy, July 4-7, 2006, paper ESDA2006-95557.
71. S. Karterakis, G.P. Karatzas, **I.K. Nikolos** and M.P. Papadopoulou, «Groundwater Management in Coastal Regions Using Linear Programming and Genetic Algorithms», *XVI International Conference in Computational Methods in Water Resources (CMWRXVI)*, Copenhagen, Denmark, June 19-22, 2006.
72. S.S. Sarakinos, E. Amoiralis, and **I.K. Nikolos**, «Exploring FreeForm Deformation Capabilities in Aerodynamic Shape Parameterization», *CD Proceedings of the IEEE-EUROCON 2005*, Belgrade, November 22 – 24, 2005, pp. 535-538 (IEEE Catalog no.: 05EX1255C, ISBN: 1-4244-0050-3).
73. G.N. Koini, S.S. Sarakinos, and **I.K. Nikolos**, «Parametric Design for Turbomachinery Blades», *CD Proceedings of the IEEE-EUROCON 2005*, Belgrade, November 22 – 24, 2005, pp. 539-542 (IEEE Catalog no.: 05EX1255C, ISBN: 1-4244-0050-3).
74. **I.K. Nikolos**, A. Brintaki, «Coordinated UAV Path Planning Using Differential Evolution», *Proceedings of the 13th Mediterranean Conference on Control and Automation, IEEE*, Cyprus, June 2005.

75. V.N. Christopoulos, **I.K. Nikolos**, «Multi-Objective Optimization Using Evolutionary Algorithms in Engineering Design: Part I, Methodology Presentation and Benchmark Testing», *Proceedings of the 7th National Congress on Mechanics*, pp. 351-356, June 24-26, 2004, Chania, Greece.
76. V.N. Christopoulos, **I.K. Nikolos**, «Multi-Objective Optimization Using Evolutionary Algorithms in Engineering Design: Part II, Airfoil Design Optimization», *Proceedings of the 7th National Congress on Mechanics*, pp. 345-350, June 24-26, 2004, Chania, Greece.
77. S. Sarakinos, E. Amoiralis, I. Valakos, **I.K. Nikolos**, «Generic Parameterized Aircraft Surface Generation for Design Optimization», *Proceedings of the 7th National Congress on Mechanics*, pp. 357-362, June 24-26, 2004, Chania, Greece.
78. E.S. Zografos, **I.K. Nikolos**, «Design Optimization of Aerodynamic Shapes Using Differential Evolution», *Proceedings of the 7th National Congress on Mechanics*, pp. 339-344, June 24-26, 2004, Chania, Greece.
79. **I.K. Nikolos**, «Inverse Design of Aerodynamic Shapes using Differential Evolution coupled with Artificial Neural Network», *Proceedings of the ERCOFTAC Conference in Design Optimization: Methods and Applications*, Athens, Mar. 31- Apr. 2, 2004 (Invited).
80. **I.K. Nikolos**, L. Doitsidis, V.N. Christopoulos, N. Tsourveloudis, «Roll Control of Unmanned Aerial Vehicles using Fuzzy Logic», *Proceedings of the 4th WSEAS International Conference on Fuzzy Sets and Fuzzy Systems*, Athens, Greece, May 29-31, 2003.
81. G. Kolomvos, A. Mygdalas, **I.K. Nikolos**, «An Evolutionary Approach to a Time Table Problem», International Conference on Computational Management Science, Chania, Greece, May 27-30, 2003.
82. A.N. Kostaras, **I.K. Nikolos**, N. C. Tsourveloudis, K. P. Valavanis, «Evolutionary Algorithm Based On-line Path Planner for UAV Navigation», *Proceedings of the 10th Mediterranean Conference on Control and Automation, MED 2002 IEEE*, Portugal, July 9-12, 2002.
83. **I.K. Nikolos**, N. Tsourveloudis, K.P. Valavanis, «Evolutionary Algorithm Based 3-D Path Planner for UAV Navigation», *Proceedings of the 9th Mediterranean Conference on Control and Automation, IEEE*, Dubrovnik, Croatia, June, 27-29, 2001.
84. **I.K. Nikolos**, D.I. Douvikas, K.D. Papailiou, «Modelling of the Tip Clearance Losses in Axial Flow Machines», 1996, ASME paper 96-GT-72.
85. **I.K. Nikolos**, D.I. Douvikas, K.D. Papailiou, «The Prediction of the Tip Clearance Vortex Circulation and its Induced Flow Field in Axial Flow Machines», 1996, ASME paper 96-GT-73.
86. **I.K. Nikolos**, D. I. Douvikas, K.D. Papailiou, «Prediction of Losses Due to the Tip Clearance Presence in Axial Flow Machines», 1995, *AGARD Conference Proceedings 571*.
87. **I.K. Nikolos**, D. I. Douvikas, K.D. Papailiou, «Theoretical Modelling of Relative Wall Motion Effects in Tip Leakage Flow», 1995, ASME paper 95-GT-88.
88. **I.K. Nikolos**, D.I. Douvikas, K.D. Papailiou, «A Method for the Calculation of the Tip Clearance Flow Effects in Axial Flow Compressors. Part I: Description of Basic Models», 1993, ASME paper 93-GT-150.
89. **I.K. Nikolos**, D.I. Douvikas, K.D. Papailiou, «A Method for the Calculation of the Tip Clearance Flow Effects in Axial Flow Compressors. Part II: Calculation Procedure», 1993, ASME paper 93-GT-151.

D. Refereed Conference papers (extended abstract review)

1. A.G. Klothakis, G.N. Lygidakis, S.N. Leloudas, **I.K. Nikolos**, "Revisiting rarefied gas experiments with recent simulation tools", 6th European Conference on Computational Mechanics (ECCM 6), 7th European Conference on Computational Fluid Dynamics (ECFD 7), Glasgow, UK, 11 – 15 June, 2018.
2. A.G. Klothakis, S.N. Leloudas, G.N. Lygidakis, **I.K. Nikolos**, "Rarefied gas flow analysis over a re-entry space capsule geometry", 9th GRACM International Congress on Computational Mechanics, Chania, 4-6 June, 2018.
3. D.A. Inglezakis, G.N. Lygidakis, **I.K. Nikolos**, "Numerical flow simulation over the M151 combat aircraft model using Galatea solver", 9th GRACM International Congress on Computational Mechanics, Chania, 4-6 June, 2018.
4. S.N. Leloudas, G.A. Strofylas, **I.K. Nikolos**, "Aerodynamic shape optimization of Diffuser Augmented Wind Turbine blades using asynchronous parallel Differential Evolution", 9th GRACM International Congress on Computational Mechanics, Chania, 4-6 June, 2018.
5. G.A. Strofylas, K.N. Porfyri, **I.K. Nikolos**, A. I. Delis, M. Papageorgiou, "Calibrating a Traffic Flow Model with Parallel Differential Evolution", Proceedings of the Fifth International Conference on Parallel, Distributed, Grid and Cloud Computing for Engineering, P. Ivanyi, B.H.V. Topping and G. Varady (Editors), Civil-Comp Press, Stirlingshire, Scotland, 2017.
6. G.N. Lygidakis, **I.K. Nikolos**, "Acceleration Strategies for Radiative Heat Transfer Simulations", Proceedings of the Fifth International Conference on Parallel, Distributed, Grid and Cloud Computing for Engineering, P. Ivanyi, B.H.V. Topping and G. Varady (Editors), Civil-Comp Press, Stirlingshire, Scotland, 2017.
7. A. Klothakis, **I.K. Nikolos**, "Modeling of rarefied hypersonic flows using the massively parallel DSMC kernel "SPARTA"", 8th GRACM International Conference on Computational Mechanics, 12-15 July, 2015, Volos, Greece.
8. S.S. Sarakinos, G.N. Lygidakis, **I.K. Nikolos**, "Simulating unsteady incompressible flows using Galatea-I, a parallel multigrid finite volume solver", 8th GRACM International Conference on Computational Mechanics, 12-15 July, 2015, Volos, Greece.
9. K.G. Charalampous, G.A. Strofylas, G.I. Mazanakis, **I.K. Nikolos**, "Wind turbine blade parametric design using Grasshopper^R", 8th GRACM International Conference on Computational Mechanics, 12-15 July, 2015, Volos, Greece.
10. E. Kaselouris, A. Skoulakis, V. Dimitriou, L. Fitolis, **I.K. Nikolos**, E. Bakarezos, N.A. Papadogiannis, M. Tatarakis, "Finite Element study of the initial stages of explosion of single wire Z-pinch validated by experiments", 8th GRACM International Conference on Computational Mechanics, 12-15 July, 2015, Volos, Greece.
11. E. Kaselouris, E. Skarvelakis, **I.K. Nikolos**, G. Stavroulakis, Y. Orphanos, E. Bakarezos, N.A. Papadogiannis, M. Tatarakis, V. Dimitriou, "A FEM study on the influence of the geometric characteristics of metallic films irradiated by nanosecond laser pulses", 8th GRACM International Conference on Computational Mechanics, 12-15 July, 2015, Volos, Greece.

12. I.A. Ntousakis, **I.K. Nikolos**, M. Papageorgiou, "On microscopic modelling of Adaptive Cruise Control systems", 4th International Symposium of Transport Simulation 2014, ISTS 2014, Corsica, France, June 1-4, 2014.
13. G.N. Lygidakis, **I.K. Nikolos**, "A parallel agglomeration multigrid method for the acceleration of compressible flow computation on 3D hybrid unstructured grids", WCCM-ECCM-ECFD 2014 ECCOMAS Congress, Barcelona, Spain, 20-25 July, 2014.
14. E. Kaselouris, **I.K. Nikolos**, Y. Orphanos, E. Bakarezos, N. Vainos, N.A. Papadogiannis, M. Tatarakis, V. Dimitriou, "3D multiphysics FEM modeling of nanosecond pulsed laser interaction with metallic films", WCCM-ECCM-ECFD 2014 ECCOMAS Congress, Barcelona, Spain, 20-25 July, 2014.
15. S.S. Sarakinos, **I.K. Nikolos**, T. Pappou, «A Software Tool for 3D Geometric Modeling of Tunnels», CD-ROM Proceedings of the ECCOMAS Thematic Conference on Computational Methods in Tunnelling (EURO:TUN 2007), August 27-29, 2007, Vienna, Austria, Eds.: J. Eberhardsteiner, G. Beer, Ch. Hellmich, H.A. Mang, G. Meschke, W. Schubert, Publisher: Vienna University of Technology, Austria, ISBN: 978-3-9501554-7-1.
16. I.M. Valakos, M.S. Ntipteni, **I.K. Nikolos**, «Structural Optimization of a Centrifugal Impeller Using Differential Evolution», SEECCM06, Proceedings of the First South-East European Conference on Computational Mechanics, Kragujevac, Serbia, 28-30 June 2006, pp. 545-551.
17. E.I. Amoiralis, **I.K. Nikolos**, «Daedalus – A Software Package for the Design and Analysis of Airfoils», SEECCM06, Proceedings of the First South-East European Conference on Computational Mechanics, Kragujevac, Serbia, 28-30 June 2006, pp. 471-478.
18. M.S. Ntipteni, I.M. Valakos, **I.K. Nikolos**, «An Asynchronous Parallel Differential Evolution Algorithm», ERCOFTAC 2006 Conference on Design Optimization: Methods & Applications, Gran Canaria, Canary Islands, Spain, April 5-7, 2006.
19. **I.K. Nikolos**, A.N. Brintaki, E.S. Zografos, «Coordinated UAV Path Planning Using an ANN Assisted Differential Evolution Algorithm», *CD Proceedings of the EUROGEN 2005 Conference (Sixth Conference on Evolutionary and Deterministic Methods for Design, Optimization and Control with Applications to Industrial and Societal Problems)*, Munich, Sep. 12-14, 2005 (ISBN: 3-00-017534-2).
20. **I.K. Nikolos**, V. Christopoulos, «Enhanced Evolutionary Algorithm Convergence Using Partially Evaluated Population in Single and Multiple-Deme Implementations», *Proceedings of the EUROGEN 2003 Conference*, Barcelona, Sep. 15-17, 2003.
21. A.N. Kostaras, **I.K. Nikolos**, K.P. Valavanis, «Evolutionary Algorithm Based 3-D On-line Path Planner for UAV Navigation in an Unknown Environment», *Proceedings of the EUROGEN 2001 Conference*, Athens, Sep.19-21, 2001.

E. Conference Presentations (extended abstract review)

1. A.I. Delis, **I.K. Nikolos**, M. Papageorgiou, "On Macroscopic modelling of ACC/CACC traffic flows", 1st Symposium on "Management of Future motorway and urban Traffic Systems", MFTS 2016, Chania, Greece, June 2-3, 2016.
2. I. Ntousakis, **I.K. Nikolos**, M. Papageorgiou, "Using motion planning techniques as a means to improve traffic flow", 1st Symposium on "Management of Future motorway and urban Traffic Systems", MFTS 2016, Chania, Greece, June 2-3, 2016.
3. C. Roncoli, M. Papageorgiou, C. Diakaki, G.R. Iordanidou, I. Karafyllis, **I.K. Nikolos**, I.A. Ntousakis, I. Papamichail, "Traffic management in presence of Vehicle Automation and Communication Systems: the project TRAMAN21", Transportation Research Board (TRB) 94th Annual Meeting, January 11-15, Washington D.C., 2015 (P15-6925).
4. I. Ftilis, A. Skoulakis, S.M. Hassan, E.L. Clark, E. Kaselouris, V. Dimitriou, J. Chatzakis, P. Lee, T.G. Papadoulis, M. Bakarezos, C. Petridis, **I.K. Nikolos**, E. Drakakis, C. Kosmidis, A.A. Papadogiannis, M. Tatarakis, "Study of a miniature plasma focus neutron source", The 2015 International Conference on Applications of Nuclear Techniques Crete, Greece, June 14-20, 2015.
5. A.I. Delis, **I.K. Nikolos**, M. Papageorgiou, "Numerical solution of second-order traffic flow models by high-resolution relaxation schemes", HYP2014 - XV International Conference on Hyperbolic Problems, Rio de Janeiro, Brazil, July 28-August 1, 2014.
6. Papanastasiou, D., Raptakis, E., Kounadis, D., Orfanopoulos, I., Lekkas, A., Soulis, Ch. Zacharos, A., **Nikolos, I.**, Eleftheriadis, K., Gini, M., Eiceman, G., Wollnik, H., Kumashiro, S., Konishi, I., Nakanishi, H., Giles, R., Entwistle, A., Sudakov, M., "Implementation of a novel Differential Mobility Spectrometry Platform in a Fore Vacuum Region of a Mass Spectrometer", ASMS 2013, the 61st ASMS Conference on Mass Spectrometry and Allied Topics, 9-13 June, 2013, Minneapolis, MN, USA.
7. A. Delis, **I.K. Nikolos**, "A new multidimensional-type reconstruction and limiting procedure for unstructured cell-centered finite volume solving hyperbolic conservation laws", HYP2012, 14th International Conference on Hyperbolic Problems: Theory, Numerics, Applications, Universita di Padova, June, 25-29, 2012.
8. A. Brintaki, S. Lai-Yuen, **I.K. Nikolos**, "A Kinematics Based Heuristic Approach to Minimize Molecular Conformational Search", International CAD Conference, Dubai, United Arab Emirates, June, 21-25, 2010.

F. Posters

1. E.L. Clark, A. Grigoriadis, I. Tazes, G. Andrianaki, I. Ftilis, S. Petrakis, A. Skoulakis, E. Kaselouris, T.G. Maris, I. Tsiapa, M. Bakarezos, **I.K. Nikolos**, V. Dimitriou, E.P. Benis, N.A. Papadogiannis, M. Tatarakis, "Novel gel dosimetry diagnostic for the secondary sources of ZEUS 45TW laser system at CPPL", 3rd European Conference on Plasma Diagnostics, Lisbon, Portugal, May 6-9, 2019.
2. E.L. Clark, A. Grigoriadis, I. Tazes, G. Andrianaki, I. Ftilis, S. Petrakis, A. Skoulakis, E. Kaselouris, T.G. Maris, I. Tsiapa, M. Bakarezos, **I.K. Nikolos**, V. Dimitriou, E.P. Benis, N.A. Papadogiannis, M. Tatarakis, "Secondary sources generated with the ZEUS 45TW laser system at CPPL", The 2019 International Conference on Applications of Nuclear Techniques, Crete, Greece, June 9-15, 2019.
3. K. Makantasis, M. Kontorinaki, **I.K. Nikolos**, "A Deep Reinforcement Learning Driving Policy for Autonomous Road Vehicles", hEART 2019, 8th Symposium of the European Association for Research in Transportation, Budapest, Hungary, September 4-6, 2019.

4. D. Kounadis, A. Lekkas, L. Mavrikas, A. Zacharos, D. Papanastasiou, **I. Nikolos**, O. Malvar, M. Calleja, J. Tamayo, "A computational study to optimize transfer and soft-landing of ESI particles at low pressure on nano-optomechanical sensors", ASMS 2017, 65th ASMS Conference on Mass Spectrometry and Allied Topics, June 4-8, 2017, Indianapolis, USA.
5. E. Raptakis, D. Kounadis, A. Lekkas, A. Zacharos, **I. Nikolos**, D. Papanastasiou, "Tracing ions and visualizing charged clusters in the aerolens under transitory gas flow conditions", ASMS 2015, the 63rd ASMS Conference on Mass Spectrometry and Allied Topics, May 31- June 4, 2105, St. Louis, Missouri, USA.
6. E. Kaselouris, V. Dimitriou, A. Skoulakis, I. Fitis, Y. Orphanos, **I.K. Nikolos**, E. Bakarezos, N.A. Papadogiannis, M. Tatarakis, "Experimental and numerical study of the initial stages of explosion of thick single wire z-pinch", 41st European Physics Society Conference on Plasma Physics, EPS2014, Berlin, Germany, 23-27 June, 2014.
7. Papanastasiou, D., Kounadis, D., Lekkas, A., Zacharos, A., **Nikolos, I.**, Orfanopoulos, I., Raptakis, E., "The Aerolens: An evaluation study based on computational methods and Mass Spectrometry tests", ASMS 2014, the 62nd ASMS Conference on Mass Spectrometry and Allied Topics, 15-19 June, 2014, Baltimore, USA.
8. E. Raptakis, D. Kounadis, A. Lekkas, I. Orfanopoulos, A. Zacharos, **I.K. Nikolos**, D. Papanastasiou, "The aerolens: A novel ion-optical design for ion focusing in laminarized under-expanded gas flows", BMSS Annual Meeting 2014, 1st-2nd April, Cheshire, U.K., 2014.
9. Papanastasiou, D., Orfanopoulos, I., Kounadis, D., Lekkas, A, **Nikolos, I.**, Giles, R., Entwistle, A., Raptakis, E., "Performance Characterization of a Differential Mobility Spectrometer operated in Laminarized Low Pressure Subsonic Flows", ASMS 2013, the 61st ASMS Conference on Mass Spectrometry and Allied Topics, 9-13 June, 2013, Minneapolis, MN, USA.
10. Kounadis, D., Papanastasiou, D., Orfanopoulos, I., Lekkas, A., Zacharos, A., **Nikolos, I.**, Raptakis, E., "A novel ion-optical design for laminarization of under-expanded gas flows", ASMS 2013, the 61st ASMS Conference on Mass Spectrometry and Allied Topics, 9-13 June, 2013, Minneapolis, MN, USA.
11. Zacharos, A., Lekkas, A., Sudakov, M., Papanastasiou, D., Kounadis, D., **Nikolos, I.**, Raptakis, E., "Ion Tracing in Gas Dynamic Flow Fields: A Case Study on the Ion Funnel", ASMS 2013, the 61st ASMS Conference on Mass Spectrometry and Allied Topics, 9-13 June, 2013, Minneapolis, MN, USA.
12. Kounadis, D., Zacharos, A., Orfanopoulos, I., **Nikolos, I.K.**, Papanastasiou, D., Raptakis, E., "An Experimental and Computational investigation of under-expanded free jets in the fore-vacuum region of a mass spectrometer", BMSS, Mass Spectrometry Conference [80/60], Warwick, U.K., 10-11 Dec., 2012.
13. Kounadis, D., Papanastasiou, D., Orfanopoulos, I., Lekkas, A., **Nikolos, I.K.**, Raptakis, E., "A two-dimensional Particle Tracking Velocimetry investigation for visualization of gas flow inside the ion funnel", The 19th International Mass Spectrometry Conference, IMSC2012, Sept. 15-21, 2012, Kyoto, Japan.
14. Zacharos, A., **Nikolos, I.K.**, Papanastasiou, D., Giles, R., Entwistle, A., Raptakis, E., "A Combined DSMC-CFD approach for the numerical simulation of an under-expanded jet", The 19th International Mass Spectrometry Conference, IMSC2012, Sept. 15-21, 2012, Kyoto, Japan.
15. D. Papanastasiou, D. Kounadis, I. Orfanopoulos, **I. Nikolos**, E. Raptakis, "Visualization of under-expanded jet in the atmospheric pressure - Vacuum interface of a mass spectrometer", ASMS 2012 Conference on Mass Spectrometry and Allied Topics, May 20 - 24, 2012, Vancouver, BC, Canada.
16. D. Kounadis, D. Papanastasiou, I. Orfanopoulos, A. Lekkas, **I. Nikolos**, E. Raptakis, "Visualization of gas dynamics inside the ion funnel using Particle Tracking Velocimetry", ASMS 2012 Conference on Mass Spectrometry and Allied Topics, May 20 - 24, 2012, Vancouver, BC, Canada.

G. Workshops

1. A. Delis, **I.K. Nikolos**, "Macroscopic traffic flow modeling and numerical simulation: recent advances. Going towards high-order numerical solutions", TRAMAN21 Workshop 2013, Chania, Greece, 1st November, 2013.
2. A. Delis, M. Kazolea, N.A. Kampanis, **I.K. Nikolos**, "Finite Volume Simulations for the Generation and Propagation of Waves", FORTH-IACM, 30 March, 2009.
3. V. Gekas, K. Ahladianakis, **I.K. Nikolos**, «Development of an Experimental Apparatus for Oscillating-Flow Pressure-Drop Measurements Through a Stirling Engine Regenerator», The Improving Human Potential Programme, Research results at Plataforma Solar de Almeria, EDITORIAL CIEMAT, Madrid, p.p. 115 – 121, 2004.
4. **I.K. Nikolos**, N.C. Tsourveloudis, K.P. Valavanis, A.N. Kostaras, V. Christopoulos, «Evolutionary Algorithm Based Off-line / On-line Path Planner for UAV Navigation», 11th Mediterranean Conference on Control & Automation, Workshop on UAVs, IEEE, Rhodes, Greece, 2003.

G. Workshops

1. A. Delis, I.K. Nikolos, "Macroscopic traffic flow modeling and numerical simulation: recent advances. Going towards high-order numerical solutions", TRAMAN21 Workshop 2013, Chania, Greece, 1st November, 2013.
2. A. Delis, M. Kazolea, N.A. Kampanis, I.K. Nikolos, "Finite Volume Simulations for the Generation and Propagation of Waves", FORTH-IACM, 30 March, 2009.
3. V. Gekas, K. Ahladianakis, I. K. Nikolos, "Development of an Experimental Apparatus for Oscillating-Flow Pressure-Drop Measurements Through a Stirling Engine Regenerator", The Improving Human Potential Programme, Research results at Plataforma Solar de Almeria, EDITORIAL CIEMAT, Madrid, p.p. 115 – 121, 2004.
4. I. K. Nikolos, K. P. Valavanis, N. C. Tsourveloudis, A. N. Kostaras, V. Christopoulos, "Evolutionary Algorithm Based Off-line / On-line Path Planner for UAV Navigation", 11th Mediterranean Conference on Control & Automation, Workshop on UAVs, IEEE, Rhodes, Greece, 2003.

The work of Prof. I.K. Nikolos has attracted more than 2600 citations in Google Scholar.