Curriculum Vitae

I.1. PERSONAL DETAILS

Name	Theodoros
Surname	Karakasidis
Current Position	Professor of Applied Physics
Work Address	Department of Physics, School of Sciences University of Thessaly, Lamia, Greece (https://www.phys.uth.gr/en/) Director of Condensed Matter Physics Laboratory, https://comphylab.phys.uth.gr/ Director of the Graduate Program "Applied Physics", Department of Physics University of Thessly https://ap-msc.phys.uth.gr/
Phone	(+30) 22310-60280
Mobile	(+30) 6977-809006
E-mail	thkarak@uth.gr, thkarak@gmail.com

Google Scholar Profile
Scopus Profile
ResearchGate Profile
ORCID profile
Web of Science

I.2. EDUCATION

- *BSc in Physics,* Aristotle University of Thessaloniki, Greece (1989) (GPA 9.51/10).
- *MSc in Materials Science,* University Pierre et Marie Curie (Paris 6), Paris, France (1991).
- *PhD in Physics,* University Pierre et Marie Curie (Paris 6), Paris, France (1995).
- *Master in Education,* Greek Open University, Greece (2009).

I.3. ACADEMIC HONOURS & AWARDS

- Visiting Researcher at the Laboratoire d'Etude des Transferts en Hydrologie et Environnement, Université Joseph Fourier Grenoble, France (17 june-17 july 2012)
- Visiting Professor, Physics Dept., University of Cyprus, Nicosia (Sep 2011-Dec 2011)
- Postdoctoral grant by the National Scholarship Foundation, Greece (1-Jan-2001 to 31-Dec-2002) "Simulation of liquids using Molecular Dynamics Techniques."
- Onassis Foundation Scholarship for Graduate Studies (1991).
- Highest Grade Point Average, Dept. of Physics, University of Thessaloniki (1989).

- Scholarship for Excellence in Academic Performance, Dept. of Physics, University of Thessaloniki, National Scholarship Foundation, Greece (1985 through 1989).

I.4. RESEARCH INTERESTS

- Computational materials science
- Machine learning, Artificial Intelligence
- Data analytics
- Nanomaterials, nanofluidics and nanotechnology
- System dynamics and non-linear time series computational analysis
- Teaching Science and Technology with the use of ICT
- Scientific Literacy, Physics Education

I.5. TEACHING EXPERIENCE

1997-present University of Thessaly.

Sep 1997 – Aug 2005	Adjunct Assistant Professor, School of Engineering, University of Thessaly, Volos, Greece
Sep 2005 – Oct 2009	Lecturer of Applied Physics, Department of Civil Engineering, School of Engineering, University of Thessaly, Volos, Greece
Nov 2009 – Feb 2014	Assistant Professor of Applied Physics, Department of Civil Engineering, School of Engineering, University of Thessaly, Volos, Greece
Feb 2014 – Aug 2018	Associate Professor of Applied Physics, Department of Civil Engineering, School of Engineering, University of Thessaly, Volos, Greece
Sept 2018 – Aug 2020	Professor of Applied Physics, Department of Civil Engineering, School of Engineering, University of Thessaly, Volos, Greece
Sept 2020 – present	Professor of Applied Physics, Department of Physics, School of Sciences, University of Thessaly, Lamia, Greece

Undergraduate courses

DEPARTMENT OF PHYSICS, University of Thessaly, Volos, Greece

- **Introduction to Contemporary Physics (winter semester)**

As Faculty member (2020)

- **Electromagnetism I (winter semester)**

As Faculty member (2020 -present)

- **General Physics II (spring semester)**

As Faculty member (2021)

- **Electromagnetism II (spring semester)**

As Faculty member (2021-present)

- **Condensed Matter Physics I (spring semester)**

As Faculty member (2022-present)

DEPARTMENT OF CIVIL ENGINEERING, University of Thessaly, Volos, Greece

- **Physics I (winter Semester)**

As Adjunct Lecturer (1997 to 2004), As Faculty member (2005 to 2020)

- **Physics II (spring semester)**

As Adjunct Lecturer (1997 to 2004), As Faculty member (2005 to 2020)

- **Numerical Analysis (winter Semester)**

As faculty member (2012-2020)

- **Academic writing**

As faculty member (2015 to present)

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING, University of Thessaly, Volos, Greece

- **Physics I (winter Semester)**

As Adjunct Lecturer (2000)

- **Physics II (spring semester)**

As Adjunct Lecturer (2000)

DEPARTMENT OF MECHANICAL ENGINEERING, University of Thessaly, Volos, Greece

- **Electromagnetism-Optics (2000)**

As Adjunct Lecturer (2000)

DEPARTMENT OF PHYSICS, University of Cyprus, Nicosia, Cyprus

- **Physics for Chemists**
- **General Physics III (Waves, Electromagnetic waves, optics, modern physics)**

As Visiting Professor (2011)

GRADUATE COURSES

2005-2011 University of Thessaly: Department of Civil Engineering, University of Thessaly, Volos, Greece

- **System Theory and Simulation (spring semester),**

- **Applied Mathematics (winter semester)**
- **Linear Algebra and Applications.**

2010-2016 Common Greek-French Master Hydrohazards between University of Thessaly and University Joseph-Fourier Grenoble

- **Teaching at the Risk Course elements of non-linear time-series analysis (In English).**

2017-present Interdepartmental Interinstitutional Graduate Program "Econophysics – Financial Forecasting"

-Teaching the courses

- **"Statistical Physics and Thermodynamic approach to Economy"**
- **"Seminar course Research Methodology"**

2021-present Graduate Program "Applied Physics" Department of Physics

-Teaching the courses

- **"Computational Materials Science"**
- **"Advanced data analysis"**
- **"Research Methodology I and II"**

I.6. DIPLOMA THESIS SUPERVISING (20)

I.7. M.SC THESES SUPERVISION (25)

I.8. POSTDOC, PH. D. SUPERVISION AND COMMITTEES

Supervisor of postdoctoral research at the Department of Physics, U.Th. in progress

- Dr. Avraam Charakopoulos on *"Analysis of Natural Systems Dynamics with Methods of Complex Time Series Networks and Machine Learning".*
- Dr. Evangelos Karvelas on *"Magnetic nanoparticles for the purification of water from heavy metals: Study with advanced methods of computational simulation".*

Ongoing PhD theses

- Papastamatiou K. “Symbolic regression and machine learning with applications in Materials Science and Dynamical Systems”, Department of Physics, University of Thessaly.
- Stergiou K. *“Analysis and forecasting of energy resources availability and pricing with advanced time series analysis and machine learning methods” Dept. of Civil Engineering, University of Thessaly*

Supervisor of PhDs successfully defended

- Tsoutsoumanos E. “*Study of the phenomenological models of induced luminosity in the micro-scale and nanoscale dimensions through simulations in a programming environment*”, Department of Physics, University of Thessaly, September 2024
- Liosis C. «*Modeling of water purification via chemical reactions and electromagnetic driving of particles*”. Dept. of Civil Engineering, University of Thessaly, December 2023
- Myrovali G., “C Methodological framework for the recognition and identification of the Dynamics of Road Urban Traffic», Dept. of Civil Engineering, University of Thessaly, July 2020
- Karvelas E. «Magnetic driving of particles in Newtonian and non-Newtonian fluids”*, successfully defended, February 2019*.
- Fragkou A. «Detection and characterization of observations correlations of Dynamic Systems with advanced time series analysis methods», *successfully defended, January 2017*.
- Charakopoulos A. «Analysis and identification of spatiotemporal phenomena with the use of advanced Time series analysis methods” *successfully defended, July 2015*.

Member of the Consulting Committee of Phd candidates that have been successfully defended

- Tantos C., Dept. of Mechanical Engineering, University of Thessaly, Greece (2016) «Effect of rotational and vibrational degrees of freedom in polyatomic gas heat transfer, flow and adsorption processes far from equilibrium»
- Lemonakis P., Dept. of Civil Engineering, University of Thessaly, Greece (2012) «Contributing to the investigation of motorcycle drivers' behavior in curved road sections»
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- Ioannou A., Dept. of Civil Engineering, University of Thessaly, Greece (2022) Thesis Title: «Methodologies for modelling the water-energy-food nexus and other environmental systems for resilience and sustainability»

- Leousidis A., Dept. of Civil Engineering, University of Thessaly, Greece (2022), Thesis Title: «Experimental and computational field determination of fluid flow velocities (water) in an open pipeline, due to temperature changes».

Member of the Consulting Committee of ongoing Phd candidates

- Chatzoglou E., Scholarship Program DEKA. Laboratory of Hydrodynamics and Environmental Engineering, Department of Civil Engineering, University of Thessaly PhD Thesis Title: "Smoothed Particle Hydrodynamics (SPH) for free-surface flows."
- Ntinopoulos H., Department of Economics, University of Thessaly, PhD Thesis title, "Entropy in Financial Statemnts"
- Tzinava M., Dept Department of Computer Science and Biomedical Informatics, University of Thessaly" Computational methods for simulation, optimization and intelligent quality control of production processes (from 2020)
- Soulikias A. Investigation of the geometric, dimensional and spatio-temporal parameters and the characteristics of the observer in the mathematical expression of the Fundamental Natural Laws, Dept. of Physics, University of Thessaly
- Girgolas A. "Study and Forecast of Economic Indicators with the Use of Non-Linear Dynamics", Department of Physics, Aristotle University of Thessaloniki, Greece
- Kalogeras D., "Political and Social Culture Strategies in the Teaching of Mathematics", Department of Electrical and Computer Engineering, University of Peloponnese, Greece.
- Papadopulos G. "Multidimensinal data analysis, Complex networks and international economic systems", Department of Physics, Democritus University of Thrace, Greece
- Papavasiliou Z. «Study of spatiotemporal evolution of vulnerability of water supply networks through analysis of time series failures and use of Geographic Information Systems» Department of Civil Engineering, Univeristy of Thessaly, Greece.
- Pantazi V. Stability of Steel Structures Thesis Title: Buckling of Flat Straight and Curved Steel Structures based on Catastrophe Theory, Department of Civil Engineering, Univeristy of Thessaly, Greece.

Participation in three-member examination committees of Diploma Thesis of undergraduate students of the Department of Civil Engineering of the University of Thessaly (>40)

Participation in three-member examination committees of Diploma Thesis of postgraduate graduate students of the University of Thessaly (>30)

I.9. PARTICIPATION IN PHD EXAMINATION COMMITTEES

- Kasiteropoulou D. «Methods of Mesoscopic and Macroscopic Simulation of Fluid Motion" *successfully defended, 2012*. Dept. of Civil Engineering, University of Thessaly
- Sofos F. «Numerical Simulation and experimental study of flows in micro and nano-channels" *successfully defended, 2012*. Dept. of Civil Engineering, University of Thessaly
- Pantazis S. «Simulation of transport phenomena in conditions far from thermodynamic equilibrium via kinetic theory with applications in vacuum technology and MEMS" (2011) Dept. of Mechanical Engineering, University of Thessaly.
- Galanis A. «Contributing to the development of a methodology for monitoring and evaluation of road safety and pedestrian mobility in the urban environment» (2011) Dept. of Civil Engineering, University of Thessaly.
- Lemonakis P.. Dept. of Civil Engineering, University of Thessaly, « Contributing to the investigation of motorcycle drivers' behavior in curved road sections » (2012)
- Lycharopoulos I. (2014) «Computational solution of kinetic equation in time varying transport phenomena far from equilibrium» Dept. of Mechanical Engineering, University of Thessaly
- Tantos C. «Effect of rotational and vibrational degrees od freedom in polyatomic gas heat transfer, flow nad adsorption processes far from equilibrium" Dept. of Mechanical Engineering, University of Thessaly (2016)
- Gkana A. «Complex Population Dynamics and Economic Repercussions: Predator-Prey Interactions, Infectious Disease Transmission and Solar Magnetic Activity» Department of Economics, University of Thessaly (2016)
- Dimitriadis P., "Hurst-Kolmogorov dynamics in hydroclimatic processes and in the microscale of turbulence", School of Civil Engineering, National Technical University of Athens (2017)
- Kaloudis K. "Bayesian methods and estimation of nonlinear dynamical system", Dept. of Mathematics, University of the Aegean, Greece (2019)
- Razis D., "Nonlinear waves in the granular matter flow", Department of Mathematics, University of Patras (2020)
- Patelis M. "The management of water supply networks along the axes of quantity, quality and energy" Department of Civil Engineering, University of Thessaly (2023)

Reviewer for the PhD thesis

- Iacobello G. "Spatio-temporal analysis of wall-bounded turbulence. A multidisciplinary perspective via complex networks ", Doctoral School of Politecnico di Torino, Itally (also served as external reviewer) (2020)

I.10. RESEARCH POSITIONS AND EXPERIENCE

Horizon COLTERATREC: CLEAN AND EFFICIENT ELECTROCHEMICAL HEAT PUMPS (2025-2028)

Role: Senior Researcher

- Leading AI-driven modeling of materials and processes

Horizon MSCA Program: Project PROMATAI (2024–2026)

Role: Senior Researcher

- Leading AI-driven solutions for hybrid materials and nanomaterials processing.
- Developed explainable AI techniques for optimizing extrusion properties based on material characteristics.

National Program for Controlled Thermonuclear Fusion (2023–Present)

Role: Senior Researcher (Funded by EUROFUSION)

- Designing symbolic regression models to predict material properties, enhancing simulations for fusion reactor applications.

Research Actions in Digital Material Design (2023–2024)

Role: Principal Investigator

- Directing sustainable material design projects supported by the Research Committee of the University of Thessaly.

COST Action CA22123: European Materials Acceleration Center for Energy (2023–2027)

Role: Managing Committee Member (Greece)

- Contributing to the development of a Materials Acceleration Platform integrating experimental data, simulations, and AI for renewable energy applications.

Multiscale Modeling of Environmental and Free Surface Flows (2022–2025)

Role: Senior Researcher – from March 2025 Principal Investigator

- Collaborated with Brown University to improve multiscale fluid simulation frameworks, integrating CFD, SPH, and machine learning methodologies.

Horizon ARSINOE: Climate-Resilient Regions (2022)

Role: Senior Researcher

- Guided postdoctoral research and applied complex network analysis to identify critical urban heat island factors in climate data.

ParICT_CENG Program (2021–2023)

Role: Senior Researcher and Work Package Coordinator

- Coordinated research on advanced material modeling validated through experiments and high-performance computational simulations.
- Directed a work package within a €1.26M program funded by the Region of Central Greece.

Magnetic Driving of Nanoparticles (2020–2021)

Role: Principal Investigator

- Led research on magnetic navigation in arterial networks, supervising a postdoctoral researcher and a PhD student.
- Funded by the Ministry of Education's young researchers' program.

ARISTEIA (EXCELLENCE) Project: Fatigue of Vascular Surgery Materials (2014–2015)

Role: Senior Researcher

- Simulated nano and microscale flows to assess fatigue in vascular surgery materials.
- Contributed to a €246,000 project funded by the Ministry of Education.

Atomistic Simulation of Peptides (2011)

Role: Senior Researcher, University of Cyprus

- Investigated peptide complexes linked to Alzheimer's and diabetes using molecular dynamics techniques.

Atomistic Modeling of Oxide Interfaces (2007–2008)

Role: Principal Investigator

- Conducted molecular simulations of Si/NiO interfaces, utilizing in-house computational clusters.

Analysis and Modeling of Chaotic Hydraulic Systems (2004–2008)

Role: Senior Researcher

- Examined chaotic behavior in hydraulic systems through theoretical modeling and experimental data analysis.

Numerical Modeling of Micro/Nano Flows (2005–2008)

Role: Senior Researcher

- Led studies on fluid flows in micro/nano-channels, funded by the Greek Secretariat of Research and Technology.

Development of Parallel Processing Algorithms (2000–2001)

Role: Senior Researcher

- Developed a Linux-based parallel processing cluster to optimize molecular dynamics simulations.

Simulation of Grain Boundaries and Diffusion in Metals (1990–1995)

Role: Researcher (Ecole Polytechnique and Saclay Nuclear Research Center, France)

- Conducted molecular dynamics simulations to explore grain boundary dynamics on CRAY and IBM RISC systems.

Early Research: Random Walks in Disordered Solids (1988–1989)

Role: Undergraduate Researcher

- Studied diffusion properties in disordered solids using Monte Carlo simulations.

I.11. OTHER PROFESSIONAL EXPERIENCE

• **1-7-97 to 30-6-1998 and 1-12-98 to 5-9-2001** SHM LTD Electronic systems, sector of quality control of the electronic light signalling systems produced by the company at road junctions

•**27-7-02 to 31-8-05** Head of the Office of Studies and Research Assurance, Department of Mechanical Engineering, School of Engineering, University of Thessaly, Greece.

•**1-9-03 to 31-8-04** Participation in the project of Reform of the Undergraduate Curriculum of the Department of Mechanical Engineering of the University of Thessaly, Greece.

•**1-12-02 to 30-3-03** Participation in the project "Organization of an international scientific conference (Protection and Restoration of the Environment VI).

•**1-1-02 to 31-8-03** Participation in the EPEAEK II project "Reform of the Postgraduate Curiculaum of the Department of Mechanical Engineering of the University of Thessaly, Greece.

•**1-5-98 to 31-8-01** Project Manager of the Project of establishment of the Postgraduate Program of the Department of Mechanical Engineering of the University of Thessaly, Greece.

•**1-5-98 to 30-6-00** Project Manager of the Project "Upgrading the Undergraduate Program of Studies" of the Department of Mechanical Engineering of the University of Thessaly, Greece.

•**1-3-98 to 30-4-98** Participation in the project "Development of Work Packages of the Innovation Project".

I.12. TRAINING PROGRAMS

«Digital skills for remote work» (7/2022 – 12/2023), Greece 2.0, National recovery and Resilience Plan», Center for Vocational Training, University of Thessaly, Greece	Principal Investigator

«Modern computing environments and applications» (7/2022 – 12/2023), Greece 2.0, National recovery and Resilience Plan», Center for Vocational Training, University of Thessaly, Greece	Deputy Principal Investigator

I.13. ADMINISTRATIVE EXPERIENCE

Department of Physics, University of Thessaly

- **Chairman** (Sep 2022–Present):
    - Directed curriculum development for the new physics department.
    - Oversaw accreditation of the undergraduate curriculum, achieving one of the highest scores among Greek physics departments.
- **Deputy Chairman** (Nov 2019–Aug 2022):
    - Supported the establishment and strategic development of the department.

Department of Civil Engineering, University of Thessaly

- **Deputy Chairman** (2016–2018):
    - Coordinated preparations for curriculum accreditation by the Greek National Accreditation Authority.
    - Chaired the Curriculum Committee and led revisions to align with national and international standards.
- **Coordinator, Doctoral Studies Committee** (2018–2019):
    - Managed PhD program development and quality assurance processes.

Graduate Programs

- **Director, Postgraduate Program "Applied Physics"** (2021–Present):
    - Designed and promoted a competitive curriculum to attract national and international students.
    - Secured resources for accreditation and enhanced program visibility.
- **Director, Joint Graduate Program "Econophysics-Financial Forecasting"** (2017–2020):

- Developed interdisciplinary coursework integrating physics and economics.

Research and Quality Assurance

- **Lab Director, Condensed Matter Physics Laboratory** (2021–Present):
  - Founded and expanded the laboratory, including acquiring equipment and funding for PhD students.
  - Supervised international collaborations and student research projects.
- **Quality Assurance Officer** (2002–2005, Department of Mechanical Engineering):
  - Established quality metrics for teaching and research.
  - Developed a database system for monitoring and evaluating academic performance.

University Governance

- **Member, Research Committee** (2020–2023):
  - Represented the Department of Physics in university-wide research initiatives.
- **Senate Representative** (1997-1998, 2021-present):
  - Actively contributed to governance and strategic planning for the university.
- **Member, Central Committee for Quality Assurance** (2018–Present):
  - Participated in policy formulation and accreditation processes across departments.

Project Management

- **Project Manager** (1998–2001):
  - Managed projects funded by the EU and Greek Ministry of Education, including graduate program establishment (€500,000) and undergraduate curriculum reform (€250,000).

I.14. EXPERIENCE IN QUALITY ISSUES IN HIGHER EDUCATION

- Member of The Quality Assurance Unit of the University of Thessaly (2017 to present)
  - Participation in meetings of the body related to the Internal Quality Assurance System.

- Participation in the formulation of the regulations (indicatively MSc, PhD, bullying, etc.).
- Participation as representative of The Quality Assurance Unit of the University of Thessaly in Department Accreditations of University of Thessaly

- Coordination of the Accreditation Procedure of the Curriculum of Undergraduate Studies of the Department of Physics of the University of Thessaly (as a chairman of the Department and head of the internal quality assurance unit of the Department)
- Head of the Curriculum Committee of the Department of Civil Engineering, University of Thessaly, 2016-2018 (In this context, coordination of the teams for the preparation of material for the Accrediattion of the Undergraduate Program of the Department.
- Head of the Office of Studies and Research Assurance, Department of Mechanical Engineering, School of Engineering, University of Thessaly , Greece (27-7-02 ἑως 31-8-05)

  Participation in the establishment of procedures and systems for the collection and export of indicators related to teaching (Undergraduate and graduate Programs) and the research and implementation of relevant reports with associates of the office. Indicatively, the studies

  E. Tsironi, Th. Karakasidis, "Identity study of applicants and selected postgraduate students together with satisfaction and employment survey of graduates of the postgraduate program of studies of the Department of Mechanical Engineering of the University of Thessaly for the period 1998 – 2002", Volos 2003 (72 pages)-Office of Studies and Research Assurance Department of Mechanical Engineering UTH

  E. Tsironi, Th. Karakasidis, "Satisfaction and employment survey of graduates of the postgraduate program of studies of the Department of Mechanical Engineering of the University of Thessaly", Volos 2003 (44 pages).

Participation in HQA and HAHEA workshops on Quality issues

I.15. INTERNATIONAL COLLABORATIONS

- **Erasmus+ Collaborations**:
  - **University of Strathclyde, UK**: Facilitated student and faculty exchanges focused on advanced materials research and computational physics.
  - **NTNU University, Norway**: Collaborated on machine learning applications in materials science, fostering joint research outputs and curriculum development.
  - **Nazarbayev University, Kazakhstan**: Established partnerships for interdisciplinary workshops and joint graduate supervision.
- **Bilateral Collaboration with Ruhr-Universität Bochum, Germany**:
  - Conducted research visits and collaborative projects at the Interdisciplinary Centre for Advanced Materials Simulation (ICAMS), focusing on multiscale materials modeling and machine learning applications.
- **European COST Actions**:
  - Member of the Managing Committee for **COST Action CA22123**: Developed a Materials Acceleration Platform integrating AI and experimental methodologies for renewable energy applications.
  - Contributed to knowledge exchange workshops with researchers across Europe.
- **International Research Projects**:
  - Partnered with Brown University, USA, on **multiscale modeling of environmental and free surface flows**, combining machine learning with advanced computational fluid dynamics techniques.
  - Collaborated with the University of Cyprus on molecular dynamics simulations of peptides, addressing key questions in Alzheimer's and diabetes research.

I.16. ARTICLE REVIEWER FOR INTERNATIONAL JOURNALS

(representative list)

- Physical Review E
- Physics of Fluids
- MRS Communications
- Scientific Reports
- Computers in Biology and Medicine
- Current Applied Physics
- International Journal for Numerical Methods in Fluids
- International Journal of Emerging Technologies in Learning (iJET)
- International Journal of Heat and Mass Transfer
- Journal of Computational and Applied Mathematics
- Journal of Intelligent and Fuzzy Systems
- Journal of Mathematical Imaging and Vision
- Journal of Physics: Condensed Matter
- Materials Science and Engineering B
- Mechanics of Advanced Materials and Structures

- Modelling and Simulation in Materials Science and Engineering
- Molecular Simulation
- Nanotechnology
- Surface Science
- International Journal of Nanomedicine

I.17. GUEST EDITOR OF SPECIAL VOLUMES

1) Guest Editor, Desalination and Water Treatment Journal (Taylor and Francis) Special Issue "Managing water from its source, to the final user (and back to the environment) 2016 Volume 57, Issue 25, 2016

2) Guest Editor, Environmental Processes (Springer) (Volume 2, Issue 1 Supplement, November 2015.

3) Guest Editor, Fresenius Environmental Bulletin (PSP) Special Issue "Sustainable environmental design, planning, construction and management (under preparation).

4) Guest Editor, Computational Materials Science "Advances in Multiscale Materials Modeling" Selected papers from EUROMAT 2017 Conference

I.18. CONFERENCE CHAIRMAN

- Session Chairman: "Computational Physics II", International Conference of Computational methods in Sciences and Engineering (ICCMSE 2003) Kastoria, Greece 12-16 September 2003

- Session Chairman: "North American - European and South American Symposium on Science and Technology Education, "Science and Technology Literacy on the 21th Century", May 31 to June 4, 2006, Nicosia, Cyprus

- Chairman in the 1st Fatigue Workshop for Materials Used in Vascular Surgery organized in the frame of the Project FAMAVASU (funded by the program Excellence II), 24-27/2/2015, Volos, Greece.

- Chairman στη 2nd Fatigue Workshop for Materials Used in Vascular Surgery organized in the frame of the Project FAMAVASU (funded by the program Excellence II), 27-4-2015, Thessaloniki, Greece.

I.19. CONFERENCE – SYMPOSIUM ORGANIZING COMMITEES

- Member of the Local Organizing Committee of the 18th Summer School/Conference "Non Linear Science and Complexity", Volos, 18-30 July 2005
- Member of the scientific committee of the 2nd Educational National Conference «Building the School of Tomorrow», Greek Physical Society, Eretria, Evia, 29-31 January 2010
- Organization (with A. Liakopoulos) of the minisimposium “Atomistic and Hybrid Methodos in Fluid Mechanics” in the frame of the 10th HSTAM International Congress on Mechanics, May 25-27, 2013, Chania, Crete, GREECE
- Member of the organizing committee of the 12th International Conference “Protection and Restoration of the Environment”, Skiathos, Greece, 29 June-3 July 2014
- Member of the Local Organizing Committee of the 8th GRACM International Congress on Computational Mechanics 12th-15th July 2015, University of Thessaly, Volos GREECE
- Member of the Organizing Committee of the 2nd EWaS International Conference: “Efficient & Sustainable Water Systems Management toward Worth Living Development” June 1-4 2016 Chania, Crete, Greece.
- Member of the Local Scientific Committee in the 23rd International Congress on Sound and Vibration (ICSV23), 10-14 July 2016, Athens Greece
- Session Chairman in the 23rd International Congress on Sound and Vibration (ICSV23), 10-14 July 2016, Athens Greece
- President of the Organizing Committee of the 24th Summer Scholl Conference “Dynamical Systems and Complexity”, Volos 12-21 July 2017
- Co-organization of the symposium “Multiscale Materials Modeling” in the frame of the International Conference EUROMAT2017, Thessaloniki, September 17-22/9/2017
- Program Committee member of EDUCON2017 (IEEE Gobal Engineering Education Conference) 25-28 April 2017, Athens, Greece

- Member of the organizing committee of the 3rd Econophysics International Conference, Volos, 28-30 September 2017
- Programme Committee member International Conference Complex Systems 2018, 23-28 September, Thessaloniki, Greece
- **Invited speaker**
- Workshop Computational Materials Science, organized by the Hellenic Society for the Science and Technology of Condensed Matter under the auspices of the School of Physics of the Aristotle University of Thessaloniki on December 14 & 15,2019 at the Faculty of Sciences.

I.20. PROPOSAL EVALUATOR

- Evaluator for the Greek General Secretariat of Research
- Evaluator for the Hellenic Foundation for Innovation and Research
- Member of the National Committee of Evaluation in the domain of Nanotechnology for bilateral proposals of the Greek General Secretariat of Research.
- Evaluator for King Fahd University of Petroleum & Minerals (KFUPM), Saudi Arabia
- Evaluator for the Czech Science Foundation 2025
- Evaluator for Marie Curie Doctoral Networks, European Commission 2024
- Evaluator for the Austrian Research Promotion Agency (FFG) 2025

I.21. DISTINCTIONS OF PAPERS

Top-Cited Recognition:

- The paper *"Use of fuzzy clustering technique and matrices to classify amino acids and its impact on Chou's pseudo amino acid composition"* (*Journal of Theoretical Biology*, 2009) was ranked among the **5 most-cited papers** in the journal between 2009–2013.

High Download Metrics:

- The paper *"Multiscale modeling in nanomaterials science"* (*Materials Science & Engineering C*, 2007) was listed among the 25 most-downloaded articles of the journal in 2007.

- The paper *"Current Trends in Fluid Research in the era of Artificial Intelligence: A Review, Fluids (2022)*" was listed among the Most downloaded - Most viewed articles in Fluids for 36 months (2022-24)

Best Paper Award:

- The paper *"An Optimized Method for 3D Magnetic Navigation of Nanoparticles inside Human Arteries"* presented at the **XV International Conference on Drug Delivery Nanosystems for Biomedical Engineering Applications (ICDDNBEA 2021)** was awarded **Best Paper**.
- The contributing PhD candidate, Christos Liosis, received the **Young Researcher Award** for this work.
- The paper Sofos, F., Stavrogiannis, C., Exarchou-Kouveli, K. K., Akabua, D., Charilas, G., & Karakasidis, T. E. (2022). Current trends in fluid research in the era of artificial intelligence: A review. Fluids, 7(3), 116. received the 2023 Best paper award of Fluids journal

Featured Publication:

- The paper *"Application of the visual boundary recurrence plots to magnetohydrodynamic turbulence channel flow"* (*Physics of Fluids*, 2023) was selected as a **featured article**, emphasizing its innovative approach to turbulence analysis.
- The paper "*Fiber-Reinforced Polymer Confined Concrete: Data-Driven Predictions of Compressive Strength Utilizing Machine Learning Techniques (Applied Sciences 2023)* was selected as a **featured article**, emphasizing its innovative approach to property prediction using Machine Learning Techniques.

I.22. COMPUTER SKILLS

Teaching and Educational Tools

- Proficient in using **Blackboard**, **WebCT**, **E-Class**, and **Banner** for curriculum delivery, online learning management, and student engagement.
- Skilled in leveraging interactive tools like **smartboards** for dynamic teaching environments.

Programming Languages

- **FORTRAN**: Extensive experience in program development and optimization.
- **Python**: Proficient in data analysis, simulation scripting, and machine learning applications.
- **C**: Experienced in structured and procedural programming for numerical methods and simulations.

Parallel and High-Performance Computing

- Expertise in **MPI/MPICH protocols** for parallel processing under Linux environments.
- Skilled in optimizing computational workflows on **UNIX** and **Linux** clusters for large-scale simulations.

Data Analysis and Visualization

- Advanced user of **Matlab**/**Octave** for numerical computation, data visualization, and algorithm prototyping.
- Competent in machine learning frameworks for symbolic regression and predictive modeling.

Scientific Computing

- Experience in designing and implementing molecular dynamics simulations for materials science and fluid dynamics.
- Familiar with tools for statistical analysis, nonlinear system modeling, and time series analysis.

General Computing Skills

- Proficient in **Microsoft Office Suite** for documentation, presentations, and project management.
- Adept at managing online research profiles (e.g., **Google Scholar**, **Scopus**, **ResearchGate**) for academic outreach and networking.

I.23. LANGUAGES

English : Excellent

French : Excellent

German: Basic

Greek: Mother tongue

I.24. SOCIETY MEMBERSHIPS

• American Physical Society

• European Physical Society

• Materials Research Society

• IEEE Computer Society

• American Nano Society

I.25. SCIENCE POPULARIZATION

Outreach Activities

- **FameLab Competition Organizer (2017):**
    - Led a team of five undergraduate students (three female and two male) from the Department of Civil Engineering, University of Thessaly, to participate in the FameLab Science Communication Competition.
    - Two participants achieved top honors: **Doxa Psychogiou** was selected among the **ten Greek finalists**, and **Ioanna Skyrianou** was named runner-up.

School Presentations and Workshops

- Delivered engaging presentations to school audiences, introducing complex scientific concepts in accessible ways to inspire interest in physics and materials science.

Authorship:

- **"Roulis the Science Cat" (2015):**
    - Authored a popular science book that introduces fundamental scientific concepts through the perspective of a curious cat interacting with a professor and other animals.
    - Successfully used in educational workshops and science outreach events to make physics and scientific thinking relatable to younger audiences.

I.26. SCIENTIFIC PUBLICATIONS

A. THESES

A1. «Molecular Dynamics Simulation of Diffusion and Grain Boundaries in ionic compounds», Ph.D Thesis, University Pierre et Marie Curie (PARIS 6), Paris France, (1995). (in French)

A2. «Study of Dynamical Properties of Calcium Fluoride by Computer Simulations», Master Thesis, University Pierre et Marie Curie (PARIS 6), Paris France,, (1991). (in French)

A3. «Correlated random walks on perfect and disordered lattices», Diploma Thesis, Department of Physics, Aristotle University of Thessaloniki, Greece (1989).

A4. «Investigation of the use of virtual and Remote labs in the distant learning of physical sciences in Higher Education» Master Thesis in Education, Greek Open University, Greece (2009) (in Greek)

B. PUBLICATIONS IN INTERNATIONAL PEER REVIEWED JOURNALS

B.1) Nickolas D. Polychronopoulos, Konstantinos Moustris, **Theodoros Karakasidis**, Janusz Sikora, Volodymyr Krasinskyi, Ioannis E. Sarris, John Vlachopoulos Machine learning for screw design in single-screw extrusion, Polymer Engineering and Science, 1-17 (2025) https://doi.org/10.1002/pen.27170

B.2) Dimitrios Angelis, Filippos Sofos, Serafeim Misdanitis, Christos Dritselis, **Theodore E Karakasidis**, Dimitris Valougeorgis, Victoria Haak, Dirk Naujoks, Georg Schlisio, Sergey A Bozhenkov, Data driven prediction of the neutral gas pressure in the stellarator Wendelstein 7-X, Plasma Physics and Controlled Fusion, Accepted Manuscript online 10 June 2025 https://iopscience.iop.org/article/10.1088/1361-6587/ade33e

B.3) E. Tsoutsoumanos, D. Tzeli, A. Avramopoulos , N. Laskaris, P.G. Konstantinidis, E. Travlou, N. Korakis, N. Lathiotakis, G. Kitis, G.S. Polymeris, **T. Karakasidis**, Thermoluminescence characteristics of BeO doped with Si, Mg, and Cr: Density Functional Theory calculations and One Trap – One Recombination Center model simulations, Physica B, Condensed Matter, **697**, 416700 (2025) https://doi.org/10.1016/j.physb.2024.416700

B.4) Afridi, M. I., Karakasidis, T. E., & Alhushaybari, A. (2025). Chaotic Analysis and Wave Photon Dynamics of Fractional Whitham–Broer–Kaup Model with β Derivative. *Fractal and Fractional*, *9*(5), 287. https://doi.org/10.3390/fractalfract9050287

B.5) Liosis, C., Sofiadis, G., Karvelas, E., **Karakasidis, T**., & Sarris, I. (2024). Inverse Tesla Valve as Micromixer for Water Purification. Micromachines, 15(11), 1371. https://doi.org/10.3390/mi15111371

B.6) Sofia Karakasidou, Athanasios Fragkou, Loukas Zachilas and **Theodoros Karakasidis**, Exploring Price Patterns of Vegetables with Recurrence Quantification Analysis, *AppliedMath* **2024**, *4*(3), 1012-1046; https://doi.org/10.3390/appliedmath4030055

B.7) Charakopoulos, A., **Karakasidis, T**., Ziliaskopoulos, K., C. Laspidou. Complex network analysis of climate and landscape satellite data to explore spatio-temporal patterns in urban environment: the case of Athens. *Appl Netw Sci* **9**, 42 (2024). https://doi.org/10.1007/s41109-024-00652-0

B.8) G Vontzos, V Laitsos, A Charakopoulos, D Bargiotas, **TE Karakasidis**, Estimating Spatio-Temporal Building Power Consumption Based on Graph Convolution Network Method, Dynamics 4 (2), 337-356 (2024), https://doi.org/10.3390/dynamics4020020

B.9) Sofos, F., Rouka, E., Triantafyllia, V., Andreakos E., Gourgoulianis K.I., Karakasidis E. & **Karakasidis T**. Development and validation of a symbolic regression-based machine learning method to predict COVID-19 in-hospital mortality among vaccinated patients. *Health Technol.* (2024). https://doi.org/10.1007/s12553-024-00886-z

B.10) I. Andreadis, AD Fragkou, **TE Karakasidis**, A Serletis, The credit card-augmented Divisia monetary aggregates: an analysis based on recurrence plots and visual boundary recurrence plots, Financial Innovation 10 (1), 106, https://doi.org/10.1186/s40854-024-00611-9

B.11) F Sofos, G Sofiadis, E Chatzoglou, A Palasis, **TE Karakasidis**, A. Liakopoulos, From Sparse to Dense Representations in Open Channel Flow Images with Convolutional Neural Networks, Inventions 9 (2), 27 (2024) https://doi.org/10.3390/inventions9020027

B.12) D Angelis, F Sofos, **TE Karakasidis**, Reassessing the transport properties of fluids: A symbolic regression approach, Physical Review E 109 (1), 015105 (2024), https://doi.org/10.1103/PhysRevE.109.015105

B.13) E. Tsoutsoumanos, **T. Karakasidis**, N. Laskaris, P.G. Konstantinidis, G.S. Polymeris, G. Kitis Simulation study of a nanomaterial interacting with ionizing radiation through

OTOR and IMTS models for different particle sizes, Materials Research Bulletin, 170, 112566 (2024) https://doi.org/10.1016/j.materresbull.2023.112566

B.14) Athanasios D. Fragkou, **Theodoros E. Karakasidis**, Ioannis E. Sarris, Application of the visual boundary recurrence plots to magnetohydrodynamic turbulence channel flow **featured paper,** Physics of Fluids v.35 105108 (2023) https://doi.org/10.1063/5.0168876

B.15) Sofos, F., Dritselis, C., Misdanitis, S., **T. Karakasidis** & D. Valougeorgis, Computation of flow rates in rarefied gas flow through circular tubes via machine learning techniques. Microfluid Nanofluid 27, 85 (2023). https://doi.org/10.1007/s10404-023-02689-6

B.16) Andreadis, AD Fragkou, **TE Karakasidis**, A Serletis, Nonlinear dynamics in Divisia monetary aggregates: an application of recurrence quantification analysis, Financial Innovation 9 (1), 1-17, 2023, https://doi.org/10.1186/s40854-022-00419-5

B.17) D Angelis, F Sofos, **TE Karakasidis**, Artificial Intelligence in Physical Sciences: Symbolic Regression Trends and Perspectives, Archives of Computational Methods in Engineering, 1-21, 2023, https://doi.org/10.1007/s11831-023-09922-z

B.18) EG Karvelas, SN Doulkeridis, **TE Karakasidis**, IE Sarris, Focus: Fluids: Investigation of Inlet Conditions in The Mixing Process of Nanoparticles and Blood in a T-Shaped Microfluidic Reactor with Small Rectangular Cavities, The Yale Journal of Biology and Medicine 96 (1), 43, 2023, 10.59249/FUAH2942

B.19) F Sofos, CG Papakonstantinou, M Valasaki, **TE Karakasidis**, Fiber-Reinforced Polymer Confined Concrete: Data-Driven Predictions of Compressive Strength Utilizing Machine Learning Techniques, Applied Sciences 13 (1), 567, 2022, https://doi.org/10.3390/app13010567S Koutsoumpos, M Chronaki, C Tsonos, **T Karakasidis**, L Guazzelli, On the application of the Wildman-Crippen model to ionic liquids, Results in Materials 16, 100350, 2022, https://doi.org/10.1016/j.rinma.2022.100350MI Afridi, ZM Chen, **TE Karakasidis**, (2022) M Qasim, Local Non-Similar Solutions for Boundary Layer Flow over a Nonlinear Stretching Surface with Uniform Lateral Mass Flux: Utilization of Third Level of Truncation, Mathematics 10 (21), 4159, https://doi.org/10.3390/math10214159

B.22) A Charakopoulos, **T Karakasidis**, (2022) Backward Degree a new index for online and offline change point detection based on complex network analysis, Physica A: Statistical Mechanics and its Applications 604, 127929, DOI: 10.1016/j.physa.2022.127929

B.23) **TE Karakasidis**, F Sofos, C Tsonos (2022),The Electrical Conductivity of Ionic Liquids: Numerical and Analytical Machine Learning Approaches, Fluids 7 (10), 321 https://doi.org/10.3390/fluids7100321C Liosis, G Sofiadis, E Karvelas, **T Karakasidis**, I Sarris, (2022) A Tesla Valve as a Micromixer for Fe3O4 Nanoparticles, Processes 10 (8), 1648, https://doi.org/10.3390/pr10081648

B.25) AD Fragkou, I Andreadis, **TE Karakasidis**, The Visual Boundary Recurrence Plot: A Closer Look into the Dynamics of Recurrence Plots (2022), International Journal of Bifurcation and Chaos 32 (09), 2250131, https://doi.org/10.1142/S0218127422501310

B.26) EG Karvelas, NK Lampropoulos, **TE Karakasidis**, IE Sarris, (2022) Blood flow and diameter effect in the navigation process of magnetic nanocarriers inside the carotid artery, *Computer Methods and Programs in Biomedicine*, 106916 https://doi.org/10.1016/j.cmpb.2022.106916

B.27) F Sofos, A Charakopoulos, K Papastamatiou, **TE Karakasidis** (2022), A combined clustering/symbolic regression framework for fluid property prediction, *Physics of Fluids* https://doi.org/10.1063/5.0096669

B.28) C Liosis, E Karvelas, **T Karakasidis**, I Sarris, Mixing of Fe3O4 nanoparticles under electromagnetic and shear conditions for wastewater treatment applications, (2022) *Journal of Water Supply: Research and Technology-Aqua* https://doi.org/10.2166/aqua.2022.080

B.29) Sofos, F., Stavrogiannis, C., Exarchou-Kouveli, K. K., Akabua, D., Charilas, G., & **Karakasidis, T. E.** (2022). Current Trends in Fluid Research in the Era of Artificial Intelligence: A Review. Fluids, 7(3), 116. https://doi.org/10.3390/fluids7030116

B.30) Papastamatiou, K., Sofos, F., & **Karakasidis, T. E**. (2022). Machine learning symbolic equations for diffusion with physics-based descriptions. AIP Advances, 12(2), 025004. https://doi.org/10.1063/5.0082147

B.31) Zaitouny, A., Fragkou, A. D., Stemler, T., Walker, D. M., Sun, Y., **Karakasidis, T**., Nathanail E. & Small, M. (2022). Multiple sensors data integration for traffic incident detection using the quadrant scan. Sensors, 22(8), 2933. https://doi.org/10.3390/s22082933

B.32) Sofos, F., **Karakasidis, T. E**., & Sarris, I. E. (2022). Effects of channel size, wall wettability, and electric field strength on ion removal from water in nanochannels. Scientific reports, 12(1), 1-12. https://doi.org/10.1038/s41598-021-04620-x

B.33) Tsoutsoumanos, E., Konstantinidis, P. G., Polymeris, G. S**., Karakasidis, T**., & Kitis, G. (2022). Electron trap filling and emptying through simulations: Studying the shift of the maximum intensity position in Thermoluminescence and Linearly Modulated Optically Stimulated Luminescence curves. Radiation Measurements, 153, 106735. https://doi.org/10.1016/j.radmeas.2022.106735

B.34) Papastamatiou, K., & **Karakasidis, T.** (2022). Bubble detection in Greek Stock Market: A DS-LPPLS model approach. Physica A: Statistical Mechanics and its Applications, 587, 126533. https://doi.org/10.1016/j.physa.2021.126533

B.35) Fragkou, A., Charakopoulos, A., **Karakasidis, T.,** & Liakopoulos, A. (2022). Non-Linear Analysis of River System Dynamics Using Recurrence Quantification Analysis. AppliedMath, 2(1), 1-15. https://doi.org/10.3390/appliedmath2010001

B.36) Sofos F., **Karakasidis, T**., (2021) "Nanoscale slip length prediction with machine learning tools, *Scientific Reports*,**11**, 12520 https://doi.org/10.1038/s41598-021-91885-x

B.37) Stergiou, K; **Karakasidis T.**; (2021) "Application of deep learning and chaos theory for load forecasting in Greece", *Neural Computing and Applications*, **33**, pages 16713–16731 (2021) https://doi.org/10.1007/s00521-021-06266-2

B.38) Karvelas E., Liosis C, Theodorakakos A., Sarris I, **Karakasidis T.**, (2021) "An Optimized Method for 3D Magnetic Navigation of Nanoparticles inside Human Arteries", *Fluids*, ***6***(3), 97; https://doi.org/10.3390/fluids6030097

B.39) Sofos, F., **Karakasidis, T**. (2021) "Machine Learning Techniques for Fluid Flows at the Nanoscale", *Fluids, 6*(3), 96; https://doi.org/10.3390/fluids6030096

B.40) Lemonakis P., Eliou N., **Karakasidis T**. (2021) "Investigation of speed and trajectory of motorcycle riders at curved road sections of two-lane rural roads under diverse lighting conditions", *Journal of Safety Research*. 78, 138-145 https://doi.org/10.1016/j.jsr.2021.05.009

B.41) Katsarou E., Katsafadou, A.; **Karakasidis T.**, Chatzopoulos, D.; Vasileiou, N.; Lianou, D.; Mavrogianni, V.; Petinaki, E.; Fthenakis G., (2021) "Growth of Staphylococcus epidermidis on the Surface of Teatcups from Milking Parlours", *Microorganisms*, ***9***(4), 852; https://doi.org/10.3390/microorganisms9040852

B.42) Charakopoulos, A., **Karakasidis, T.,** Sarris, I. (2021) "Analysis of magnetohydrodynamic channel flow through complex network analysis", *Chaos* **31**, 043123 https://doi.org/10.1063/5.0043817

B.43) Myrovali, G., **Karakasidis, T.**, Morfoulaki, M., Ayfantopoulou, G. (2021) "Representativeness of Taxi GPS-Enabled Travel Time Data Using Gamma Generalized Linear Model", I*nternational Journal of Decision Support System Technology (IJDSST)*,13(3), 36-53. https://doi:10.4018/IJDSST.2021070103

B.44) Sofos F., **Karakasidis T**., Sarris I., (2020) "Molecular Dynamics Simulations of Ion Drift in Nanochannel Water Flow", *Nanomaterial*s, **10**, 2373, https://doi:10.3390/nano10122373

B.45) Andreadis I., Fragkou A., **Karakasidis, T**. (2020) "On a topological criterion to select a recurrence threshold", *Chaos*:, **30**, 013124 https://doi.org/10.1063/1.5116766

B.46) Liosis, C., Karvelas, E., **Karakasidis T.**, Sarris, I. (2020) "Numerical study of magnetic particles mixing in waste water under an external magnetic field", *Journal of Water Supply: Research and Technology-Aqua,* ***69***(3), 266-275 https://doi.org/10.2166/aqua.2020.090

B.47) Karvelas, E., Liosis, C., **Karakasidis, T.**, Sarris, I., (2020) "Micromixing Nanoparticles and Contaminated Water Under Different Velocities for Optimum Heavy Metal Ions Adsorption", Environmental Sciences Proceedings, ***2***(1), 65; https://doi.org/10.3390/environsciproc2020002065

B.48) Karvelas, E; Lampropoulos, N; Benos, L; **Karakasidis,** T; Sarris, IE; (2020) "On the magnetic aggregation of Fe3O4 nanoparticles", *Computer Methods and Programs in Biomedicine*, ***198***, 105778. https://doi.org/10.1016/j.cmpb.2020.105778

B.49) **Karakasidis, T**., Andreadis, I., Fragkou, A., (2019) "On a topological classification of recurrence plots: Application to noise perturbed molecular dynamics time series", *Chaos*, **29**, 023113 https://doi.org/10.1063/1.5054396

B.50) Fragkou, AD; **Karakasidis, TE**; Sarris, IE; (2019) "Recurrence quantification analysis of MHD turbulent channel flow", Physica A, 531, 121741 https://doi.org/10.1016/j.physa.2019.121741

B.51) Charakopoulos, A., **Karakasidis, T.**, Sarris, I., (2019) "Pattern identification for wind power forecasting via complex network and recurrence plot time series analysis", *Energy Policy*,***133***,110934, https://doi.org/10.1016/j.enpol.2019.110934

B.52) Sofos F., Liakopoulos A., **Karakasidis T.,** (2019) "Particle-based modeling and meshless simulation of flows with smoothed particle hydrodynamics", *Global NEST Journal*, Vol 21, No 4, pp 513-518 https://doi.org/10.30955/gnj.003052

B.53) Sofos, F., **Karakasidis, T. E.**, & Spetsiotis, D. (2019). "Molecular dynamics simulations of ion separation in nano-channel water flows using an electric field". *Molecular Simulation*, *45*(17), 1395-1402. https://doi.org/10.1080/08927022.2019.1637520

B.54) A.D. Fragkou, **T.E. Karakasidis**, I.E. Sarris, (2019) "Recurrence quantification analysis of MHD turbulent channel flow", *Physica A*, 531, 121741, https://doi.org/10.1016/j.physa.2019.121741

B.55) E Karvelas, C Liosis, L Benos, **T Karakasidis**, I Sarris,(2019) "Micromixing Efficiency of Particles in Heavy Metal Removal Processes under Various Inlet Conditions", *Water* 11 (6), 1135 https://doi.org/10.3390/w11061135

B.56) **Karakasidis, T. E.**, Andreadis, I., & Fragkou, A. D. (2019). "On a topological classification of recurrence plots: Application to noise perturbed molecular dynamics time series". *Chaos*, 29(2), 023113. https://doi.org/10.1063/1.5054396

B.57) Charakopoulos, A.K., Katsouli, G.A., **Karakasidis, T.E**, (2018) "Dynamics and causalities of atmospheric and oceanic data identified by complex networks and Granger causality analysis", *Physica A: Statistical Mechanics and its Applications*, 495, pp. 436-453, https://doi.org/10.1016/j.physa.2017.12.027

B.58) Fragkou A.D., **T.E. Karakasidis** and E. Nathanail, (2018) "Detection of traffic incidents using Nonlinear Time series analysis", *Chaos*, 28(6), 063108. https://doi.org/10.1063/1.5024924

B.59) D. Spetsiotis, F. Sofos, D. Kassiteropoulou, **T.E. Karakasidis**, Liakopoulos A, (2018) "Multi-parameter analysis of water flows in nanochannels", *Desalination and Water Treatment*, 125, 8-15, https://doi: 10.5004/dwt.2018.22961

B.60) E. Karvelas, **T. Karakasidis**, I. Sarris, (2018) "Computational analysis of paramagnetic spherical Fe3O4 nanoparticles under permanent magnetic fields", *Computational Materials Science*, 154, 464-471. https://doi.org/10.1016/j.commatsci.2018.07.047

B.61) Liakopoulos, A., Sofos, F., **Karakasidis, T.E.**, (2017) "Darcy-Weisbach friction factor at the nanoscale: From atomistic calculations to continuum models", *Physics of Fluids*, 29 (5), art. no. 052003, https://doi.org/10.1063/1.4982667

B.62) Karvelas, E.G., Lampropoulos, N.K., Papadimitriou, D.I., **Karakasidis, T.E.**, Sarris, I.E., (2017) "Computational study of the effect of gradient magnetic field in navigation of

spherical particles", *Journal of Physics: Conference Series*, 931 (1), art. no. 012014, https://doi.org/10.1088/1742-6596/931/1/012014

B.63) E. Karvelas, N. Lampropoulos, **T. Karakasidis**, I. Sarris, (2017) "A computational tool for the estimation of the optimum gradient magnetic field for the magnetic driving of the spherical particles in the process of cleaning water", *Desalination and Water Treatment*, 99, 27-33 https://doi.doi: 10.5004/dwt.2017.21545

B.64) Sofos, F., **Karakasidis, T.E**., Giannakopoulos, A.E., Liakopoulos, A., (2016) "Molecular dynamics simulation on flows in nano-ribbed and nano-grooved channels", *Heat and Mass Transfer*, 52 (1), pp. 153-162. https://doi.org/10.1007/s00231-015-1601-8

B.65) Liakopoulos, A., Sofos, F., Karakasidis, T.E., (2016) "Friction factor in nanochannel flows", *Microfluidics and Nanofluidics*, 20, 24, https://doi.org/10.1007/s10404-015-1699-5

B.66) Sofos, F., **Karakasidis, T.E.,** Liakopoulos, A. (2016) Fluid structure and system dynamics in nanodevices for water desalination", *Desalination and Water Treatment*, 57 (25), pp. 11561-11571. https://doi.org/10.1080/19443994.2015.1049966

B.67) Kasiteropoulou, D., **Karakasidis, T.,** Liakopoulos, A. (2016) "Study of fluid flow in grooved micro and nano-channels via dissipative particle dynamic: A tool for desalination membrane design", *Desalination and Water Treatment*, 57 (25), 11675-11684. https://doi.org/10.1080/19443994.2016.1141118

B.68) Karvelas, E.G., Lampropoulos, N.K., **Karakasidis, T.E.,** Sarris, I.E. (2016), "Computational Study of the Optimum Gradient Magnetic Field for the Navigation of the Spherical Particles in the Process of Cleaning the Water from Heavy Metals", *Procedia Engineering,* 162, pp. 77-82. https://doi.org/10.1016/j.proeng.2016.11.017

B.69) Kefou, N., Karvelas, E., Karamanos, K., **Karakasidis, T.,** Sarris, I.E., (2016) "Water Purification in Micromagnetofluidic Devices: Mixing in MHD Micromixers", *Procedia Engineering,* 162, pp. 593-600. https://doi.org/10.1016/j.proeng.2016.11.105

B.70) Georgiou, D.N., **Karakasidis, T.E**., Megaritis, A.C., Nieto, J.J., Torres, A., (2015) "An extension of fuzzy topological approach for comparison of genetic sequences", *Journal of Intelligent and Fuzzy Systems,* 29 (5). 2259-2269. https://doi.org/10.3233/IFS-151701

B.71) Andreadis, I., **Karakasidis, T.E**., (2015) "On a numerical approximation of the boundary structure and of the area of the Mandelbrot set", *Nonlinear Dynamics*, 80 (1-2), pp. 929-935. https://doi.org/10.1007/s11071-015-1917-4

B.72) Fragkou, A.D., **Karakasidis, T.E**., Sarris, I.E., Liakopoulos, A., (2015) "Spatiotemporal Time Series Analysis Methods for the Study of Turbulent Magnetohydrodynamic Channel Flows", *Environmental Processes*, 2, pp. S141-S158. https://doi.org/10.1007/s40710-015-0095-1

B.73) Charakopoulos, A.K., **Karakasidis, T.E.**, Liakopoulos, A., (2015) "Spatiotemporal Analysis of Seawatch Buoy Meteorological Observations", *Environmental Processes*, 2, pp. S23-S39, https://doi.org/10.1007/s40710-015-0088-0

B.74) A. Charakopoulos, **T.E. Karakasidis**, P. Papanicolaou, A Liakoopoulos, (2014) "The application of complex network time series analysis in turbulent heated jets", *Chaos* 24, 024408 (2014); https://doi.org/10.1063/1.4875040

B.75) A.E. Giannakopoulos, F. Sofos, **T.E. Karakasidis**, A. Liakopoulos, (2014) "A quasi-continuum multi-scale theory for self-diffusion and fluid ordering in nanochannel flows", *Microfluidics Nanofluidcs* 17(6) 1011-1023, https://doi.org/10.1007/s10404-014-1390-2

B.76) A. Charakopoulos, **T.E. Karakasidis**, P. Papanicolaou, A. Liakopoulos, (2014) "Non-linear time series analysis and clustering for jet axis identification in vertical turbulent heated jets", *Physical Review E*, 89, 032913 https://doi.org/10.1103/PhysRevE.89.032913

B.77) F. Sofos, **T. Karakasidis** and A. Liakopoulos, (2013) "Fluid Flow at the Nanoscale: How Fluid Properties Deviate from the Bulk", *Nanoscience and Nanotechnology Letters* 5, 1–4. https://doi.org/10.1166/nnl.2013.1555

B.78) F. Sofos, **T. Karakasidis** and A. Liakopoulos, (2013) "Parameters Affecting Slip Length at the Nanoscale", *Journal of Computational and Theoretical Nanosc*ience, 10, 1–3. https://doi.org/10.1166/jctn.2013.2749

B.79) D. Kasiteropoulou, **T.E. Karakasidis**, A. Liakopoulos, (2013) "Mesoscopic simulation of fluid flow in periodically grooved microchannels", *Computers and Fluids,* 74, 91–101. https://doi.org/10.1016/j.compfluid.2013.01.010

B.80) F Sofos, **TE Karakasidis**, A Liakopoulos, (2013) "How wall properties control diffusion in grooved nanochannels: a molecular dynamics study", *Heat and Mass Transfer*, 49(8), 1081-1088. https://doi.org/10.1007/s00231-013-1152-9

B.81) I Andreadis, **TE Karakasidis**, "On numerical approximations of the area of the generalized Mandelbrot sets", *Applied Mathematics and Computation* 219 (23), 10974-10982 https://doi.org/10.1016/j.amc.2013.04.052

B.82) PV Lemonakis, NE Eliou, GN Botzoris, **TE Karakasidis**, (2014) "Contribution to the Investigation of Motorcyclists' Speed Prediction Equations for Two-Lane Rural Roads", *Journal of Transportation Technologies* 3, 204-213 **DOI:** 10.4236/jtts.2013.33021

B.83) Lemonakis, P.V., Eliou, N.E., **Karakasidis, T.** Botzoris, G., (2014) "A new methodology for approaching motorcycle riders' behavior at curved road sections", *J European Transport Research Review*, **6**, 303–314 https://doi.org/10.1007/s12544-014-0132-6

B.84) D.N.Georgiou, **T.E. Karakasidis**, A.C.Megaritis, (2013) "A Short Survey on Genetic Sequences, Chou's Pseudo Amino Acid Composition and its Combination with Fuzzy Set Theory", *The Open Bioinformatics Journal* 7, (Supp-1, M4) 41-48 **DOI:** 10.2174/1875036201307010041

B.85) A. Charakopoulos, **T.E. Karakasidis**, P.N. Papanicolaou, (2012) "Detection of jet axis in a horizontal turbulent jet via nonlinear analysis of minimum/maximum temperature time series", *Chaotic Modeling and Simulation CMSIM* 1: 205-217.

B.86) F. Sofos, **T.E. Karakasidis** and A. Liakopoulos, (2012) "Surface wettability effects on flow in rough wall nanochannels", *Microfluidics Nanofluidics*, 12, pp 25-31 https://doi.org/10.1007/s10404-011-0845-y

B.87) I. Andreadis, **T. E. Karakasidis**: (2012) "On a Closeness of the Julia Sets of noise-perturbed Complex quadratic Maps", *International Journal of Bifurcation and Chaos* 22, 1250221 https://doi.org/10.1142/S0218127412502215

B.88) A.E. Giannakopoulos, F. Sofos, **T.E. Karakasidis**, A. Liakopoulos, (2012) "Unified description of size effects of transport properties of liquids flowing in nanochannels", *International Journal of Heat and Mass Transfer*, 55, pp. 5087–5092 https://doi.org/10.1016/j.ijheatmasstransfer.2012.05.008

B.89) **Karakasidis, T.E**., Georgiou, D.N., Nieto, J.J. (2012) "Fuzzy regression analysis: An application on tensile strength of materials and hardness scales", *Journal of Intelligent and Fuzzy Systems*, 23, 177-186

B.90) D. Kasiteropoulou, **T. Karakasidis**, A. Liakopoulos,(2012) "A Dissipative Particle Dynamics study of flow in periodically grooved nanochannels", *Journal of Numerical methods in Fluids* 68, 1156-1172, https://doi.org/10.1002/fld.2599

B.91) **T.E. Karakasidis**, C.A. Charitidis, (2011) "Influence of nano-inclusions' grain boundaries on crack propagation modes in materials", *Materials Science and Engineering*: *B*, 176(6), pp. 490-493 https://doi.org/10.1016/j.mseb.2010.04.013

B.92) Andreadis, I., **Karakasidis, T.E**., (2010) "On a topological closeness of perturbed Mandelbrot sets", *Applied Mathematics and Computation* 215, pp. 3674-3683. https://doi.org/10.1016/j.amc.2009.11.006

B.93) F. Sofos, **T. Karakasidis**, A. Liakopoulos, (2010) "Effect of wall roughness on shear viscosity and diffusion in nanochannels", *International Journal of Heat and Mass Transfer*, 53, pp. 3839-3846. https://doi.org/10.1016/j.ijheatmasstransfer.2010.04.037

B.94) I. Andreadis, **T. Karakasidis**, (2010) "On a topological closeness of perturbed Julia sets", *Applied Mathematics and Computa*tion, 217(6), pp. 2883-2890. https://doi.org/10.1016/j.amc.2010.08.024

B.95) D.N. Georgiou, **T.E. Karakasidis**, Juan J. Nieto, A. Torres, (2010) "A study of entropy/clarity of genetic sequences using metric spaces and fuzzy sets", *Journal of Theoretical Biology*, 267(1), pp 95-105. https://doi.org/10.1016/j.jtbi.2010.08.010

B.96) F. Sofos, **T. E. Karakasidis**, A. Liakopoulos, (2010) ''Effect of wall roughness on shear viscosity and diffusion in nanochannels'', *International Journal of Heat & Mass Transfer*, 53, pp. 3839-3846. https://doi.org/10.1016/j.ijheatmasstransfer.2010.04.037

B.97) Andreadis I., **Karakasidis T.E**., (2009) "On probabilistic Mandelbrot maps", *Chaos, Solitons and Fractals*, 42 (3), 1577-1583 https://doi.org/10.1016/j.chaos.2009.03.033

B.98) F. Sofos, **T. Karakasidis**, A. Liakopoulos, (2009) "Transport properties of liquid argon in krypton nanochannels: Anisotropy and non-homogeneity introduced by the solid walls", *International Journal of Heat and Mass Transfer* 52, 735. https://doi.org/10.1016/j.ijheatmasstransfer.2008.07.022

B.99) F. Sofos, **T. Karakasidis**, A. Liakopoulos, (2009) “Effects of wall roughness on flow in nanochannels”, *Physical Review E* 79, 026305. https://doi.org/10.1103/PhysRevE.79.026305

B.100) F. Sofos, **T. Karakasidis**, A. Liakopoulos, (2009) "Non-Equilibrium Molecular Dynamics investigation of parameters affecting planar nanochannel flows" *Contemporary Engineering Sciences* 2, 283.

B.101) Andreadis, I., **Karakasidis, T.E.,** (2009) “On probabilistic Mandelbrot maps”, *Chaos, Solitons and Fractals*, 42 1577. https://doi.org/10.1016/j.chaos.2009.03.033

B.102) **T.E. Karakasidis**, A. Liakopoulos, A. Fragkou, P. Papanicolaou, (2009) “Recurrence Quantification Analysis of Temperature Fluctuations in a Horizontal Round Heated Jet”, *International Journal of Bifurcation and Chaos* 19, 2487. https://doi.org/10.1142/S0218127409024268

B.103) Georgiou, D.N., ***Karakasidis, T.E.***, Nieto, J.J., Torres (2009), A., “Use of fuzzy clustering technique and matrices to classify amino acids and its impact to Chou's pseudo amino acid composition”, *Journal of Theoretical Biology*, 257, 17. https://doi.org/10.1016/j.jtbi.2008.11.003

B.104) D. Vavougios, **T. Karakasidis**, (2008) “Application of ICT technology in physics education: teaching and learning elementary oscillations with the aid of simulation software”, *International Journal of Emerging Technologies in Learning*, 3, 53. https://online-journals.org/index.php/i-jet/article/view/204

B.105) **T.E. Karakasidis**, A. Charakopoulos, (2008) “Detection of low-dimensional chaos in wind time series”, *Chaos, Solitons and Fractals*, *41*(4), 1723-1732.

B.106) **T.E. Karakasidis** and C.A. Charitidis, (2007) “Multiscale modeling in nanomaterials science”, *Materials Science & Engineering C* 27, 1082. https://doi.org/10.1016/j.msec.2006.06.029

B.107) C. Charitidis, **T.E. Karakasidis**, P. Kavouras, Th. Karakostas, (2007) “Size effect of crystalline inclusions on the fracture modes in glass-ceramic materials”, *Journal of Physics Condensed Matter* 19, 266209. https://doi.org/10.1088/0953-8984/19/26/266209

B.108) **T.E. Karakasidis**, A. Fragkou, A. Liakopoulos (2007) "System dynamics revealed by recurrence quantification analysis: Application to molecular dynamics simulations", *Physical Review E* 76, 021120. https://doi.org/10.1103/PhysRevE.76.021120

B.109) **T.E. Karakasidis**, C.A. Charitidis, D. Skarakis, F. Chouliaras, (2007) "Elastic properties of nanostructured materials with layered grain boundary structure", *Surface Science* 601, 3521. https://doi.org/10.1016/j.susc.2007.06.066

B.110) **T.E. Karakasidis** and E. Vamvakopoulos (2006) "Ni3+ adsorbate dynamics on a NiO (001) surface", *Surface Science* 600, 1952. https://doi.org/10.1016/j.susc.2006.02.024

B.111) **T.E. Karakasidis**, (2006) "Vibrational and topological properties of selected NiO surfaces", *Surface Science* 600, 4089. https://doi.org/10.1016/j.susc.2006.01.126

B.112) J.J. Nieto, A. Torres, D.N. Georgiou, **T.E. Karakasidis**, (2006) "Fuzzy Polynucleotide Spaces and Metrics" *Bulletin of Mathematical Biology* 68, 703. https://doi.org/10.1007/s11538-005-9020-5

B.113) **T.E. Karakasidis**, N.S. Cholevas, A.L. Liakopoulos, (2005) "Parallel Short Range Molecular Dynamics Simulations on Computer Clusters: Performance Evaluation and Modeling", *Mathematical and Computer Modelling*, 42 783. https://doi.org/10.1016/j.mcm.2005.09.007

B.114) **T.E. Karakasidis** and D.N. Georgiou, (2004) "Partitioning elements of the Periodic Table via fuzzy clustering technique", *Soft Computing* 8, 231. https://doi.org/10.1007/s00500-003-0301-3

B.115) **T.E. Karakasidis** and A.B. Liakopoulos, (2004) "Two regime dynamical behaviour in Lennard-Jones Systems: Spectral and rescaled range analysis", *Physica A: Statistical Mechanics and its Applications* 333, 225. https://doi.org/10.1016/j.physa.2003.11.001

B.116) I.A. Andreadis and **T.E. Karakasidis**, (2004) "Noise perturbation of the thermostat in constant temperature molecular dynamics simulations", *Chaos, Solitons & Fractals*, 20, 1165. https://doi.org/10.1016/j.chaos.2003.09.013

B.117) **T.E. Karakasidis**, I. Andreadis, (2003) "A homogeneous random fractal model for time series produced by constant energy molecular dynamics simulations", *Chaos Solitons and Fractals*, 15, 87. https://doi.org/10.1016/S0960-0779(02)00111-X

B.118) **T.E. Karakasidis**, (2002) "Vibrational properties of a Σ5(310)[001] NiO grain boundary as a function of temperature: A molecular dynamics study", *Computer Physics Communications* 147, 198. https://doi.org/10.1016/S0010-4655(02)00383-1

B.119) D.G. Papageorgiou, **T.E. Karakasidis** and G.A. Evangelakis, (2002) "Oxygen adatom diffusion on the NiO(001) surface by molecular dynamics simulation", *Physica B*, 318, 211. https://doi.org/10.1016/S0921-4526(02)00517-3

B.120) **T.E. Karakasidis**, (2002) "Vibrational Properties of a Σ5(310)[001] NiO grain boundary: a local analysis by molecular dynamics simulation", *Surface Science,* 515, 1. https://doi.org/10.1016/S0039-6028(02)01919-2

B.121) J. Argyris, **T.E. Karakasidis** and I. Andreadis, (2002) "On the Julia sets of a noise perturbed Mandelbrot map", *Chaos, Solitons and Fractals* 13, 245. https://doi.org/10.1016/S0960-0779(00)00257-5

B.122) **T.E. Karakasidis** and I. Andreadis, (2002) "A fractional Brownian Motion model for time series produced by constant temperature molecular dynamics simulations", *International Journal of Bifurcation and Chaos* 12, 377. https://doi.org/10.1142/S0218127402004383

B.123) **T.E. Karakasidis**, D.G. Papageorgiou G.A. Evangelakis, (2001) *"Molecular dynamics study of the Ni^{+2} adatom diffusion on the NiO(001) surface"*, *Defects and Diffusion Forum* 194-199, 1387. https://doi.org/10.4028/www.scientific.net/DDF.194-199.1387

B.124) P. Samaras, A. Kungolos, **T. Karakasidis**, D. Georgiou and K. Perakis, (2001) "Statistical evaluation of PCDD/F emission data during solid waste combustion by fuzzy clustering techniques", *Journal of Environmental Science and Health – Part A* 36, 153. https://doi.org/10.1081/ESE-100102614

B.125) **T.E. Karakasidis**, D.G. Papageorgiou and G.A. Evangelakis, (2001) "Cation adatom diffusion on the NiO(001) surface by molecular dynamics simulation", *Surface Science* 486, 46 https://doi.org/10.1016/S0039-6028(01)01063-9

B.126) **T. Karakasidis**, D. Papageorgiou and G. Evangelakis, (2000) "Structure and dynamics of NiO(001) and Ni/NiO(001) surfaces by molecular dynamics simulation", *Applied Surface Science* 162-163, 233. https://doi.org/10.1016/S0169-4332(00)00197-5

B.127) **T.E. Karakasidis** and M. Meyer, (2000). "Molecular dynamics simulation of the atomic structure of a NiO tilt grain boundary at high temperature", *Modelling and Simulation in Materials Science and Engineering* 8, 117 https://doi.org/10.1088/0965-0393/8/2/303

B.128) J. Argyris, I. Andreadis and **T.E. Karakasidis**, (2000) "On perturbations of the Mandelbrot map", *Chaos, Solitons and Fractals* 11, 1131. https://doi.org/10.1016/S0960-0779(99)00017-X

B.129) J. Argyris, **T.E. Karakasidis** and I. Andreadis, (2000) "On the Julia set of the perturbed Mandelbrot map", *Chaos, Solitons and Fractals* 11, 2067. https://doi.org/10.1016/S0960-0779(99)00101-0

B.130) **T.E. Karakasidis**, G.A. Evangelakis, (1999) "Cation vacancy diffusion on the NiO(001) surface by molecular dynamics simulations", *Surface Science* 436, 193. https://doi.org/10.1016/S0039-6028(01)01063-9

B.131) **T. Karakasidis** and M. Meyer, (1997) "Grain boundary diffusion of cation vacancies in nickel oxide: a molecular dynamics study", *Physical Review B*, 55, 13853. https://doi.org/10.1103/PhysRevB.55.13853

B.132) M. Meyer, **T. Karakasidis** and C. Waldburger, (1996) "High Temperature Diffusion in a NiO Tilt Grain Boundary: a Molecular Dynamics Study", *Materials Science Forum*, 207-209, 525.

B.133) **T. Karakasidis** and P. J. D. Lindan, (1994) "A comment on a rigid-ion potential for UO_2", *J. Phys.: Condens. Matter* 6, 2965. https://doi.org/10.1088/0953-8984/6/15/019

C. PUBLICATIONS IN INTERNATIONAL CONFERENCES WITH REVIEW

C1. . Dritselis, D. Aggelis, F. Sofos, K. Ritos, **T. Karakasidis**, D. Valougeorgis, Machine learning scattering kernels of neutrals reflected from plasma facing components, 26th PSI conference, Marseille May 2024, FR.

C2. F. Sofos, V. Bartzis, **T.E. Karakasidis**, I. Sarris, Electric field-driven water desalination across scales, 10th International Conference on Micro-Nanoelectronics, Nanotechnology and MEMS - Micro Nano 2023, 2-5 November 2023, Athens, GR.

C3. F. Sofos, C. Dritselis, S. Misdanitis, **T.E. Karakasidis**, D. Valougeorgis, Data driven closed form expressions for computing the rarefied gas flow rate through circular tubes via

machine learning techniques, Proceedings of the 4th European Conference on Non-equilibrium Gas Flows - NEGF23, 29-31 March, 2023, Eindhoven, the Netherlands.

C4. K. Papastamatiou, K.K. Exarhou-Kouveli, C. Stavrogiannis, F. Sofos, T.E. Karakasidis, From Lennard-Jones to real fluids: property extraction with symbolic regression, Materials Science and Engineering (MSE) 2022, 27-29 September 2022, Darmstadt, Germany.

C5. Myrovali, G**., Karakasidis, T**., Ayfantopoulou, G., & Morfoulaki, M. (2022). Spatio-Temporal Causal Relations at Urban Road Networks; Granger Causality Based Networks as an Insight to Urban Traffic Dynamics. In Proceedings of Sixth International Congress on Information and Communication Technology (pp. 791-804). Springer, Singapore. https://link.springer.com/chapter/10.1007/978-981-16-2377-6_73

C6. Myrovali G., **Karakasidis T**., Morfoulaki, M., Ayfantopoulou, G. (2020), "Clustering of Urban Road Paths Identifying the Optimal Set of Linear and Nonlinear Clustering Features", *Conference on Sustainable Urban Mobility*,1107-1116, 2020,Springer

C7. Myrovali, G., **Karakasidis, T**., Charakopoulos, A., Tzenos, P., Morfoulaki, M., Aifadopoulou, G., (2019) Exploiting the Knowledge of Dynamics, Correlations and Causalities in the Performance of Different Road Paths for Enhancing Urban Transport Management (2019) Lecture Notes in Business Information Processing, 348, pp. 28-40.

C8. E.G Karvelas, C. Liosis, **T.E. Karakasidis** and I.E. Sarris, Mixing of Particles in Micromixers under Different Angles and Velocities of the Incoming Water, MDPI Proceedings, 2(11), 577 (2018)

C9. E.G. Karvelas, **T.E. Karakasidis** and I.E Sarris, 'A computational method for optimum mixing of nanoparticles in micromixers by using external magnetic fields', 3nd EWaS International Conference, 27-30 June 2018, Lefkada, Greece (2018).

C10. E.G. Karvelas, 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, Journal of Physics: Conference Series 931(1),012014 (2017).

C11. A.K. Charakopoulos, G. Katsouli and **T. Karakasidis**, Capturing system dynamics using complex networks and granger causality analysis: application to environmental data, 23rd International Congress on Sound and Vibration, 10-14 July 2016, Athens, Greece

C12. Kasiteropoulou, D., **Karakasidis, T**., Liakopoulos, A. Particle based simulation of fluid flow in periodically grooved channels (2016) ECCOMAS Congress 2016 - Proceedings of the 7th European Congress on Computational Methods in Applied Sciences and Engineering, 2, pp. 3026-3044.

C13. E.G. Karvelas, 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 the water from heavy metals, Procedia Engineering, vol. 162 pp. 77-82 (2016)

C14. N. Kefou, E.G. Karvelas, K. Karamanos, **T. Karakasidis** and I.E. Sarris, Water Purification in Micromagnetofluidic Devices: Mixing in MHD Mircromixers, Procedia Engineering, vol. 162 pp. 593-600 (2016).

C15. Charakopoulos, **T.E. Karakasidis** and I. Sarris, Application of recurrence quantification analysis in wind time series from wind farms, Proceedings of the Conference "SCience in TEchnology SCinTE 2015, 5-7 November, Athens, Greece

C16. A.D.Fragkou, **T.E. Karakasidis** and E. Nathanail, Non-linear Time series Methods Applications on Transport Data, Proceedings of the Conference "SCience in TEchnology SCinTE 2015, 5-7 November, Athens, Greece

C17. A.K. Charakopoulos, **T.E. Karakasidis**, P.N. Papanicolaou, A. Liakopoulos, Application of complex network time series analysis in the study of spatiotemporal phenomena, International Conference on Topology and its Applications, July 3-7, 2014, Nafpaktos, Greece.

C18. D. Kasiteropoulou, **T. Karakasidis**, A. Liakopoulos, Roughness effect on flows in micro and nano-channels, 12th International Conference on Protection and Restoration of the Environment, Skiathos, GR, June/July 2014

C19. F. Sofos, **T.E. Karakasidis**, A. Liakopoulos, Flows over hydrophobic/hydrophilic surfaces at the nanoscale, 12th International Conference on Protection and Restoration of the Environment, Skiathos, GR, June/July 2014

C20. F. Sofos, **T.E. Karakasidis**, A. Liakopoulos, Transport properties of fluids in hydrophobic/hydrophilic nanochannels, Proceedings of 4th Micro and Nanoflows Conference, London, UK, September 2014

C21. F. Sofos, A. Liakopoulos, **T.E. Karakasidis**, Darcy friction factor in nanoscale channel flows: a molecular dynamics study,10th HSTAM International Congress on Mechanics May 2013, Chania, Crete, Greece

C22. **Karakasidis, T**. (2013, March). Virtual and remote labs in higher education distance learning of physical and engineering sciences. In Global Engineering Education Conference (EDUCON), 2013 IEEE (pp. 798-807). IEEE.

C23. Charakopoulos, **T.E. Karakasidis**, P.N. Papanicolaou, Detection of jet axis in a horizontal turbulent jet via nonlinear analysis of minimum/maximum temperature time series, Chaotic Modeling and Simulation CMSIM) 1: 205-217, 2012

C24. **T.E. Karakasidis**, Incorporation of Nanotechnology in the curriculum of Civil Engineering Education, EUCEET Aoosciation Conference, “New Trends and Challenges in Civil Engineering Education”, Patras, Greece (2011)v

C25. F. Sofos, **T. Karakasidis**, A.E. Giannakopoulos, A. Liakopoulos, ''Transport properties of fluids in confined nanochannels: bridging nano to macro'', 3rd Micro and Nano Flows Conference (MNF2011), Thessaloniki, Greece, August 22-24, 2011.

C26. D. Kasiteropoulou, **T. Karakasidis**, and A. Liakopoulos, ‘‘Dissipative Particle Dynamics Simulation of Flow in Periodically Grooved Three-Dimensional Nano- and Microchannels’’, 3rd Micro and Nano Flows International Conference, Thessaloniki -Greece, 22-24 August 2011.

C27. F. Sofos, **T.E. Karakasidis** and A. Liakopoulos, Fluid flow at the nanoscale: how fluid properties deviate from the bulk, 8th International Conference on Nanosciences & Nanotechnologies – NN11, 12-15 July 2011, Thessaloniki, Greece

C28. D. Kasiteropoulou, **T.E. Karakasidis**, A. Liakopoulos, ‘‘Dissipative Particle Dynamics Simulation of Flow in Periodically Grooved Three-Dimensiomal Nanochannels’’, 4th ICSC, July 7-10, Athens, 2010.

C29. D. Kasiteropoulou, **T. Karakasidis**, and A. Liakopoulos, ‘‘Investigation of Parameters Affecting Planar Nanochannel Flows by Dissipative Particle Dynamics’’, 7th International Conference on Nanosciences and Nanotechnologies, Halkidiki, Greece, July 2010.

C30. D. Kasiteropoulou, **T. Karakasidis**, and A. Liakopoulos, ‘‘Microfluidics Simulations in Periodically Grooved Channels using Dissipative Particle Dynamics’’, 2nd European Conference on Microfluidics, Toulouse, December 2010.

C31. F. Sofos, **T. Karakasidis**, and A. Liakopoulos, ‘‘Fluid properties in rough-wall nanochannels, 2nd European Conference on Microfluidics’’, Toulouse, December 2010

C32. **T E Karakasidis**, C A Charitidis, “Nanoscale tailoring of crack propagation modes in glass-ceramic materials” symposium J: Interfacial nanostructures in ceramics: a multiscale approach of the E-MRS 2007 Spring Meeting, Strasbourg (France) from May 28 to June 1, 2007

C33. **T.E. Karakasidis**, N. Skoulidis, and H.M. Polatoglou “A molecular dynamics study of NiO deposited on Ag(001)”, Submitted to symposium J : Interfacial nanostructures in ceramics: a multiscale approach of the E-MRS 2007 Spring Meeting, May 28 to June 1, 2007.

C34. F. Sofos, **T. Karakasidis** and A. Liakopoulos: ‘‘Variation of transport properties accross nanochannels: a study by non-equilibrium Molecular Dynamics”, IUTAM Symposium on Advances in Micro and Nanofluidics, Dresden, Germany, 6-8 September 2007.

C35. **T.E. Karakasidis**, C.A. Charitidis, D. Skarakis, "The effect of point defects on the elastic properties of layered structured nanomaterials", Conference MESOMECHANICS 2007, 13-17 May 2007, Giens Peninsula, France

C36. **T. Karakasidis**, D. Vavougios, "Promoting science literacy through understanding of novel technological materials", North American - European and South American Symposium on Science and Technology Education, "Science and Technology Literacy on the 21th Century", May 31 to June 4, 2006, Nicosia, Cyprus

C37. **T.E. Karakasidis**, A. Fragkou, A. Liakopoulos, "Binary Lennard-Jones Fluids: A look through tme series analysis", March Meeting της American Physical Society (Baltimore 13-17 March 2006).

C38. **T. Karakasidis** , A. Fragkou , A. Liakopoulos, "Recurrence Analysis of Fluid Molecular Dynamics Simulation", 59th Annual Meeting of the APS Division of Fluid Dynamics, November 19–21, 2006; Tampa Bay, Florida

C39. **T.E. Karakasidis** "Time series analysis of a fluid at the microscale", Workshop Heat transfer simulation at the atomic scale: new challenges for the future, Centre Européen de Calcul Atomique et Moléculaire, Lyon, France , 14-16/09/2006

C40. **T.E. Karakasidis**, G. Palamitzoglou, P. Papanicolaou, A. Liakopoulos "Temperature fluctuations in a horizontal round heated jet :a look through time series analysis", Workshop "Towards the Future of Complex Dynamics" Dresden, May 30 - June 1, 2005

C41. **T.E. Karakasidis** "Vibrational and topological properties of selected NiO surfaces", European Conference on Surface Science (ECOSS23) Berlin 4-8 September 2005

C42. **T.E. Karakasidis**, "*Vibrational properties of NiO(110) by molecular dynamics simulation*", International Conference of Computational Methods in Sciences and Engineering 2003 (ICCMSE 2003) Kastoria, Greece 12-16/9/2003.

C43. **T.E. Karakasidis** and A. B. Liakopoulos, "*Characteristic scale extraction in continuum and atomistic fluid simulations*", Conference on the Influence of Traditional Mathematics and Mechanics on Modern Science and Technology, Messini, Greece, 24-28/5/2004.

C44. **T.E. Karakasidis** and A. B. Liakopoulos, "*Revealing short-time atomic dynamics in fluids: linear and non-linear methods*", έγινε δεκτό στο 7th National Congress on Mechanics, Chania, Crete, Greece, 24-26/6/2004.

C45. **T.E. Karakasidis** and A. B. Liakopoulos, "*Short-time Dynamical Behavior of Fluids at the atomic Scale*", υποβλήθηκε στο XXI International Congress of Theoretical and Applied Mechanics (organised by IUTAM), 2004, Warsaw, Poland, 15–21/8/2004.

C46. **T.E. Karakasidis**, A. Liakopoulos, N. Cholevas, "*Parallel molecular dynamics simulation of Lennard-Jones liquids on a small Beowulf Cluster*", International Conference of

Computational Methods in Sciences and Engineering 2003 (ICCMSE 2003) Kastoria, Greece, 12-16/9/2003.

C47. **T. Karakasidis**, A. Liakopoulos "Multiscale Modelling and Simulation in Fluids" *International Symposium of Multiscaling in Materials,* Messini, Greece, 2-6/9/2002.

C48. **T. Karakasidis** "Vibrational Properties of a Σ5(310)[001] NiO grain boundary as a function of temperature: a molecular dynamics simulation" *Conference on Computational Physics CCP2001,* Aachen, Germany, 5-8/9/2001.

C49. **T. Karakasidis**, N. Cholevas, A. Liakopoulos "Performance analysis of parallel molecular dynamics simulation of Lennard-Jones liquids on a small Beowulf cluster" *Conference on Computational Physics CCP2001,* Aachen, Germany, 5-8/9/2001.

C50. **T. Karakasidis**, D.G. Papageorgiou G.A. Evangelakis "A molecular dynamics study of the Ni^{+2} adatom diffusion on the NiO(001) surface", *Fifth International Conference Diffusion in Materials 2000*" Paris, France, 17-21/7/2000.

C51. **T.E. Karakasidis** and G. A. Evangelakis, "Vibrational Properties of the Nio(001) face with and without cationic adatoms", *18th Greek-Bulgarian Symposium on Semiconductor Physics,* Thessaloniki, Greece, 15-19/2/1999.

C52. **T.E. Karakasidis**, G.A. Evangelakis "Molecular Dynamics Simulation of the vibrational and transport properties of the NiO(001) surface with and without cationic adatoms", *Fifth International Conference on Atomically Controlled Surfaces, Interfaces and Nanostructures,* Aix-en-Provence, France, 6-9/7/1999.

C53. **T. Karakasidis**, G. Evangelakis "Cationic vacancy diffusion on NiO(001) surface : a molecular dynamics study", *XXth IUPAP International Conference on Statistical Physics (STATPHYS20)* Paris, France, 20-25/7/1998.

D. ABSTRACTS IN INTERNATIONAL CONFERENCES AFTER REVIEW

D1. **T. Karakasidis**, E. Karvelas, S. Doulkeridis, and I. Sarris, "Investigation of topology effect on the mixing process between the nanoparticles and the biological fluid inside T shaped micromixers", International Conference on Topology and its applications, Nafpaktos Greece, 3-7 July 2023.

D2. A.D. Fragkou, T**.E. Karakasidis**, I. Andreadis and I. Sarris, Contemporary Phase Space Methods applied on Magnetohydrodynamic flow data, International Conference on Topology and its applications, Nafpaktos Greece, 3-7 July 2023.

D3. Athanasios D. Fragkou, **Theodoros E. Karakasidis**, Ioannis Sarris and Ioannis Andreadis, «Application of the visual boundary recurrence plots to magnetohydrodynamic turbulence channel flow", International Conference on Recent Advances in Fluid Mechanics and

Nanoelectronics (ICRAFMN – 2023), 12-14 July 2023, Manipal Institute of Technology Bengaluru, India

D4. Ioannis Sarris, Christos Liosis, George Sofiadis, Evangelos Karvelas and **Theodoros Karakasidis**, Title : TESLA VALVE AS MICROMIXER FOR WATER PURIFICATION WITH MAGNETIC Fe3O4 NANOPARTICLES, International Conference on Recent Advances in Fluid Mechanics and Nanoelectronics (*ICRAFMN* – 2023) 12-14 July 2023, Manipal Institute of Technology Bengaluru, India

D5. K. Anagnostopoulos, N. Nasikas, **T. Karakasidis** "Multi-scale modeling of crack propagation in a matrix ofinclusions" European Congress and Exhibition on Advanced Materials and Processes (EUROMAT2019), Symposium D8. Multiscale and Multiphysics Modelling of Materials, Processes and Devices, (1-5 September, 2019, Sweden)

D6. E.G. Karvelas, 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 2017), 17-22 September 2017, Thessaloniki, Greece (Oral presentation).

D7. A.K. Charakopoulos, **T.E.Karakasidis**, P.N. Papanicolaou and A. Liakopoulos, Testing the complex networks from multivariate time series: Application to turbulent flow, 8th GRACM International Congress on Computational Mechanics 12^{th}-15^{th} July 2015, University of Thessaly, Volos, GREECE

D8. Joan Bech, Gilles Molinie, **Theodoros Karakasidis**, Sandrine Anquentin, Jean Dominique Creutin, Jean-Pierre Pinty, and Juan Escobar, Analysis of the observed and forecast rainfall intensity structure in a precipitation event, Geophysical Research Abstracts, Vol. 16, EGU2014-15301-1, 2014, EGU General Assembly 2014

D9. Gilles Molinie, **Theodoros Karakasidis**, Athanasios Triantafyllou, Jean Dominique Creutin, and Sandrine Anquetin, The role of the non-linear relief-rain interaction in the rainfall intensity structure, Geophysical Research Abstracts, Vol. 15, EGU2013-10228, 2013, EGU General Assembly 2013

D10. A.Livaniou, **T. E. Karakasidis**, Applications of Nanomaterials and Nanotechnology in Civil Engineering: An Overview, 9th International Conference on Nanosciences & Nanotechnologies - NN12, 12-15 July 2012, Thessaloniki, Greece

D11. F. Sofos, **T.E. Karakasidis**, A. Liakopoulos, Fluid/wall interactions in a nanofluidic system: the interface region, 9th International Conference on Nanosciences & Nanotechnologies - NN12, 12-15 July 2012, Thessaloniki, Greece

D12. D. Kasiteropoulou, **T.E. Karakasidis**, A. Liakopoulos, Parameters Affecting Planar Grooved Nanochannel Flows Via Dissipative Particle Dynamics Simulations. 9th

International Conference on Nanosciences & Nanotechnologies - NN12, 12-15 July 2012, Thessaloniki, Greece

D13. A. Charakopoulos, **T.E. Karakasidis**, P. Papanicolaou, Detection Of Jet Axis In A Horizontal Turbulent Jet Via Nonlinear Analysis Of Minimum/Maximum Temperature Time Series, 4th Chaotic Modeling and Simulation International Conference, Agios Nikolaos, Crete, Greece, May 31 - June 3, 2011.

D14. F. Sofos, **T.E. Karakasidis** and A. Liakopoulos, Fluid flow at the nanoscale: how fluid properties deviate from the bulk, 8th International Conference on Nanosciences & Nanotechnologies - NN11, 12-15 July 2011, Thessaloniki, Greece

D15. D. Kasiteropoulou, **T.E. Karakasidis**, A. Liakopoulos, Investigation of Parameters Affecting Planar Nanochannel Flows by Dissipative Particle Dynamics, 7th International Conference on Nanosciences & Nanotechnologies -– NN10, Ouranoupolis, Halkidiki, Greece, July 2010

D16. **T.E. Karakasidis**, M. Peristeropoulou, Application of phase space reconstruction methods in system identification, 2010 International Conference on Topology and its Applications, Nafpaktos, Greece 26-30 July, 2010

D17. M. Morfoulaki , **T.E. Karakasidis** , Cluster and time series models applied in traffic data analysis, 2010 International Conference on Topology and its Applications, Nafpaktos, Greece 26-30 July, 2010

D18. I. Andreadis and **T. E. Karakasidis**, On a topological closeness of noise perturbed julia sets, , Nonlinear Dynamics and Complexity: Theory, Methods and Applications in honor of Tassos Bountis on the occasion of his 60th birthday, Thessaloniki, Greece 12 - 16 July 2010

D19. X. Karatza and **T. E. Karakasidis**, Time-series analysis of temperature time series from a turbulent elliptical heated jet, Nonlinear Dynamics and Complexity:Theory, Methods and Applications in honor of Tassos Bountis on the occasion of his 60th birthday, Thessaloniki, Greece 12 - 16 July 2010

D20. **T.E. Karakasidis**, S. Biziaki, I.E. Sarris, A. Liakopoulos, «Nonlinear time series analysis in a turbulent channel flow», 21st International Conference/Summer School NONLINEAR SCIENCE AND COMPLEXITY, Athens, July 21 – August 2, 2008

D21. **T.E. Karakasidis**, C.A. Charitidis, "The effect of impurities on the elastic properties of layered structured nanomaterials", Symposium J: Interfacial nanostructures in ceramics: a multiscale approach of the E-MRS 2007 Spring Meeting, Strasbourg (France) from May 28 to June 1, 2007

D22. **T E Karakasidis**, C A Charitidis, "Nanoscale tailoring of crack propagation modes in glass-ceramic materials" Symposium J: Interfacial nanostructures in ceramics: a multiscale

approach of the E-MRS 2007 Spring Meeting, Strasbourg (France) from May 28 to June 1, 2007

D23. **T.E. Karakasidis**, N. Skoulidis, and H.M. Polatoglou "A molecular dynamics study of NiO deposited on Ag(001)", Submitted to symposium J: Interfacial nanostructures in ceramics: a multiscale approach of the E-MRS 2007 Spring Meeting, which will be held at the Congress Center in Strasbourg (France) from May 28 to June 1, 2007.

D24. F.Sofos, **T. Karakasidis** and A. Liakopoulos, "Variation of transport properties accross nanochannels: a study by non-equilibrium molecular dynamics", IUTAM Symposium on Advances in Micro and Nanofluidics, Dresden, Germany, 6-8 September 2007.

D25. F. Sofos, **T. Karakasidis**, and A. Liakopoulos, Non-Equilibrium Molecular Dynamics Simulations of Channel Flows, Bulletin of the APS 52 (17), 2007.

D26. D.Kasiteropoulou, A. Liakopoulos, **T. Karakasidis**, "Friction laws for planar channels with idealized periodic roughness elements.", 60th Annual Meeting of the Divison of Fluid Dynamics, APS, Salt Lake City, Utah, USA, November 18–20, 2007

D27. **T.E. Karakasidis**, A. Fragkou, A. Liakopoulos, "Binary Lennard-Jones Fluids: A look through tme series analysis", March Meeting of the American Physical Society (Baltimore 13-17 March 2006).

D28. **Theodoros Karakasidis**, Athanasios Fragkou , Antonios Liakopoulos, "Recurrence Analysis of Fluid Molecular Dynamics Simulation", 59th Annual Meeting of the APS Division of Fluid Dynamics, November 19–21, 2006; Tampa Bay, Florida

D29. **T.E. Karakasidis** "Time series analysis of a fluid at the microscale", Workshop Heat transfer simulation at the atomic scale: new challenges for the future, Centre Européen de Calcul Atomique et Moléculaire, Lyon, France , 14-16/09/2006

D30. **T.E. Karakasidis**, G. Palamitzoglou, P. Papanicolaou, A. Liakopoulos "Temperature fluctuations in a horizontal round heated jet :a look through time series analysis", Workshop "Towards the Future of Complex Dynamics" Dresden, May 30 - June 1, 2005

D31. **T.E. Karakasidis** "Vibrational and topological properties of selected NiO surfaces", European Conference on Surface Science (ECOSS23) Berlin 4-8 September 2005

D32. **T.E. Karakasidis**, "*Temperature dependence of vibrational properties of a Σ5(310)[001] NiO grain boundary: a molecular dynamics simulation*", Conference on Computational Physics CCP2001, Aachen, Germany, 5-8/9/2001.

D33. **T.E. Karakasidis**, N. Cholevas, A. Liakopoulos, "*Performance analysis of parallel molecular dynamics simulation of Lennard-Jones liquids on a small Beowulf cluster*" Conference on Computational Physics CCP2001, Aachen, Germany, 5-8/9/2001.

D34. **T.E. Karakasidis**, D.G. Papageorgiou G.A. Evangelakis, "*A molecular dynamics simulation study of the Ni^{+2} adatom diffusion on the NiO(001) surface*", Fifth International Conference Diffusion in Materials DIMAT2000, Paris, France, 17-21/7/2000.

D35. **T.E. Karakasidis**, G.A. Evangelakis, "Molecular Dynamics Simulation of the vibrational and transport properties of the NiO(001) surface with and without cationic adatoms", Fifth International Conference on Atomically Controlled Surfaces, Interfaces and Nanostructures, Aix-en-Provence, France, 6-9/7/1999.

D36. **T. Karakasidis**, G. Evangelakis, *"Cationic vacancy diffusion on NiO(001) surface: a molecular dynamics study"*, XXth IUPAP International Conference on Statistical Physics (STATPHYS20) Paris, 20-25/7/1998.

E. BOOK CHAPTERS

E1. **T. Karakasidis** and A. Liakopoulos, Chapter 17 Understanding slip at the nanoscale in fluid flows using atomistic simulations, in "Detection of pathogens using micro- and nano-technology", IWA Publishing (2012)

E2. F. Sofos, **T. Karakasidis**, and A. Liakopoulos, «Variation of transport properties along nanochannels: a study by non-equilibrium molecular dynamics, IUTAM Symposium on Advances in Micro- and Nanofluidics», IUTAM Bookseries 15, Springer Science + Business Media B.V., 2009.

E3. **T.E. Karakasidis**, CA. Charitidis and D. Skarakis, Particle and Continuum Aspects ofMesomechanics, Edited by George C. Sih, Moussa Nan-Abdelaziz, Toan Vu-Khanh, ISTE (2007) Point defects of the elastic properties of layered structured nano-materials,. pp. 183-190

E4. P. V. Lemonakis, G.N. Botzoris, N.E.Eliou, **T.E. Karakasidis**, Evaluations of Motorcycle Riders's behavior with Global Positioning System Technology, Chapter 3, in Transportation Issues, Policies and R & D, Nova Publishers, 2016

E5. Myrovali G., **Karakasidis T**., Charakopoulos A., Tzenos P., Morfoulaki M., Aifadopoulou G. (2019) Exploiting the Knowledge of Dynamics, Correlations and Causalities in the Performance of Different Road Paths for Enhancing Urban Transport Management. In: Freitas P., Dargam F., Moreno J. (eds) Decision Support Systems IX: Main Developments and Future Trends. EmC-ICDSST 2019. Lecture Notes in Business Information Processing, vol 348. Springer, Cham

E6. PF Papalexopoulos, V Karra, **T Karakasidis**, D Vavougios, "Differentiated Teaching Practices of Physics in Inclusion Classes for Students With Learning Disabilities" in Childhood Developmental Language Disorders: Role of Inclusion, Families, and Professionals, Pages 32-48, Publisher IGI Global (2024)

F. TEXTBOOKS (IN GREEK)

1. I. Sarris, **T. Karakasidis**, “Numerical methods for engineers” (in Greek) Tziolas publishing, 1st edition 2012. 212p.. 25x17.
2. J.2 E. Evdoridou, **T. Karakasidis**, “Academic writing” (in Greek, with examples in English, French, Italian), Tziolas publishing, 1st edition 2013, 614p. 25x17
3. E. Evdoridou, **T. Karakasidis** – Art and Science, Galileo Galilei, Umberto Eco, Italo Calvino / 2nd Edition, University of Thessaly publishing, 108p. · 24x17
4. Sarris I., **T. Karakasidis**, “Numerical methods for engineers” (in Greek) Tziolas publishing, 2nd edition 2014, 514p. · 24x17
5. Sarris I., **T. Karakasidis**, “Numerical methods for engineers” (in Greek) Tziolas publishing, 3rd edition 2015, 604p. · 24x17
6. E. Evdoridou, **T. Karakasidis**, “Academic writing” (in Greek, with examples in English, French, Italian), Tziolas publishing, 2nd edition, 2015, 764p, 24x17.
7. E. Evdoridou, **T. Karakasidis**, Writing, écriture, scrittura, Tziolas publishing, 2015. – 404p. 24x17.
8. Sarris I., **T. Karakasidis**, “Numerical methods for engineers” (in Greek) Tziolas publishing, 4th edition, 2017. 816p. 24x17
9. E. Evdoridou, **T. Karakasidis**, “Academic writing” (in Greek, with examples in English, French, Italian), Tziolas publishing, 3rd edition, 2017. 912p. · 24x17
10. Sarris I., **T. Karakasidis**, “Numerical methods for engineers” (in Greek) Tziolas publishing, 5th edition, 2025. 900 p. 24x17
11. E. Evdoridou, **T. Karakasidis**, “Academic writing” (in Greek, with examples in English, French, Italian), Tziolas publishing, 3rd edition, 2025. 912p. · 29x21

The textbooks are selected as suggested textbooks in more than 25 departments in Universities all over Greece.

G. POPULAR SCIENCE

1. “Roulis the Science Cat”, T. Karakasidis (in Greek) (a book for small children the main hero being a cat who lives with science professor) 2015, Diaforos editions, Volos, Greece

H. OTHER REPORTS

H1. E. Tsironi, **T. Karakasidis**, A study on the identity of applying and selected graduate students along with satisfaction and employment survey of the graduates of the postgraduate study

program of the Department of Mechanical Engineering of the University of Thessaly for the period 1998 – 2002, Volos 2003 (in Greek, 72 pages)

H2. E. Tsironi, **T. Karakasidis**, Satisfaction and employment survey of the graduates of the postgraduate study program of the Department of Mechanical Engineering of the University of Thessaly, Volos (Greece) 2003 (in Greek, 44 pages).

I.27. CITATIONS

(June 2025)

1. Scopus (without any self-citations): 2185, h factor =27

2. Google Scholar: total citations (from all sources) 3494, h factor =33