CURRICULUM VITAE

NAME AND SURNAME	**Panayiotis Vafeas** of Kyriakos
PROFESSIONAL TITLE	Professor (tenured position) of the Department of Chemical Engineering of the School of Engineering of the University of Patras (publication at the third issue of the Official Greek Government Gazette N^{o} 3832 / October 10, 2025) --- Former positions by Official Greek Government Gazettes - O.G.G.G. 2062 / November 4, 2019 - O.G.G.G. 371 / April 24, 2015 - O.G.G.G. 2018 / August 16, 2013 - O.G.G.G. 314 / May 17, 2011 - O.G.G.G. 64 / March 9, 2006
DATE OF BIRTH	1st September 1974 (identity number: AM742505)
CITIZENSHIP	Greek (military service, 2004 - 2005)
MARITAL STATUS	Married (31/8/13) to Athena Papargiri and two children with given names: Kyriakos (20/2/15) and Paraskevas (18/4/18)
PROFESSIONAL CARD	Section of Process & Environmental Engineering Department of Chemical Engineering School of Engineering University of Patras G.R. 265 04 Patras Greece Personal web page : Notis@ChemEngUP Fixed telephone : +30 2610 996 872 : +30 2610 969 581 Facsimile : +30 2610 996 872 E-mail : vafeas@chemeng.upatras.gr
HOME ADDRESS	49 Saint Dimitriou Avenue (street) G.R. 263 31 Patras Greece Fixed telephone : +30 2610 270 070 Mobile telephone : +30 6974 452 995 E-mail : vafeas@ath.forthnet.gr

BIOGRAPHICAL INFORMATION

STUDIES

- ✓ Diploma in Chemical Engineering (1997) from the Department of Chemical Engineering of the School of Engineering of the University of Patras (with grade "Very Good" 7,73 to 10).
- ✓ Postgraduate studies with attention and examination of eight (8) graduate lessons (1997 - 1999) in the Department of Chemical Engineering of the School of Engineering of the University of Patras:
  - *Mathematics of General Education* (grade 10 to 10).
  - *Physical Chemistry* (grade 10 to 10).
  - *Biochemical Processes* (grade 8,5 to 10).
  - *Separation Processes* (grade 9 to 10).
  - *L.A.S.E.R.S. and Applications* (grade 10 to 10).
  - *Special Chapters of Metallurgy* (grade 9,5 to 10).
  - *Theory of Wavelets* (grade 10 to 10).
  - *Partial Differential Equations* (grade 10 to 10).
- ✓ Postgraduate Master of Sciences (Master's) in Simulation, Optimization and Modulation of Processes (2003) from the Department of Chemical Engineering of the School of Engineering of the University of Patras (grade 9,70 to 10).
- ✓ Doctorate Diploma (Ph.D. Thesis) after completion of the Dissertation entitled "Theory of Differential Representations in Stokes Flow" (2003), under the supervision of *George Dassios*, from the Department of Chemical Engineering of the School of Engineering of the University of Patras.

FOREIGN LANGUAGES

- ✓ English - Excellent (Lower of Cambridge, 1990 and Proficiency of Michigan, 1997).
- ✓ French - Fair (Diploma of D.E.L.F. of the first (1^{st}) degree, unities A1, A2, A3 and A4, 2003).

POSITIONS & ATTRIBUTES

- ✓ Collaborating Teaching and Scientific Staff with project procurement contract at the studies program *Postgraduate Studies in Mathematics*, as teacher at the subject unit *Mathematical Models in Physical Sciences ΜΣΜ71* (2023 - 2024) and as supervisor of *Postgraduate Diploma Projects* (2020 - today) at the Hellenic Open University.
- ✓ Section Board Member of the section *Mathematical Physics* at the international scientific journal *Mathematics* of MDPI Publications, indexed from the Journal Citation Reports of the Clarivate Analytics (2023 - today).
- ✓ Academic Editor at the international scientific journal *Mathematical Problems in Engineering* of Hindawi Publications, indexed from the Journal Citation Reports of the Clarivate Analytics (2020 - 2024).
- ✓ Guest Editor of the special issue *Applications of Partial Differential Equations in Mathematical Physics* (1^{st} edition / 23 published papers and 2^{nd} edition 12 published papers) at the international scientific journal *Mathematics* of MDPI

Publications, indexed from the Journal Citation Reports of the Clarivate Analytics (2021 - 2025).

- ✓ Evaluator of the submitted proposals to the system ARIS of the National Network of Research & Technology (2016 - 2019).
- ✓ Member of the Scientific Committee of the international scientific conference *Numerical Analysis and Scientific Computation with Applications*, organized by the National and Kapodistrian University of Athens, Athens, Greece (3 - 6 July, 2023).

DISTINCTIONS & SCHOLARSHIPS

- ✓ Gradation third (3rd) up to ninth (9th) in class during the five-years of studies (1992 - 1997) and special award in the fourth (4th) year of studies (1996, third (3rd) in class) at the Department of Chemical Engineering of the School of Engineering of the University of Patras.
- ✓ Scholarship from the Research Institute ICE-HT/FORTH as a postgraduate student (candidate doctor the period 1997 - 2002) of the Department of Chemical Engineering of the School of Engineering of the University of Patras.
- ✓ Congratulation letter (22/11/2010) from the President of the Evaluation Committee of Teachers from Students of the Department of Chemical Engineering of the School of Engineering of the University of Patras for the classification of the teaching course *Linear Algebra* as the best of the year at the grading of the corresponding questionnaires filled by the students the academic years 2008 - 2009 and 2009 - 2010.
- ✓ Scholarship from the French Embassy and the project *Réseau Thématique de Recherche Avancée DIGITEO*, funding from French Research Centers and Institutes of École Supérieur, i.e. CentraleSupélec (Laboratoire des Signaux et Systèmes, CNRS CentraleSupélec - Université Paris Saclay) and Carnot CEA Tech (Laboratoire de Simulation et de Modélisation Électromagnétique, CEA Tech LIST - Université Paris Saclay) for research scientific collaboration (visitor Researcher for periods within 2001, 2003, 2005, 2007, 2009, 2010, 2011, 2012, 2015, 2016, 2017, 2019, 2023 and visitor Associate Professor for periods within 2013, 2014).

SKILLS & ACTIVITIES

- ✓ Basic knowledge on the operation and on the use of computers. Experience on the operation systems Windows and on the programs Word, Excel, Powerpoint, Origin and Mathematica, as well as satisfactory knowledge on programming with Fortran (*Fortran Power Station*).
- ✓ Sports abilities (running, basketball, etc. in sports centers and in the gym center of the University of Patras), as well as activation in the cultural life of the city and of the University of Patras.

TEACHING & ADMINISTRATIVE WORK

TEACHING DUTIES

- ✓ At 1997 - 2000 teaching of the exercises of the undergraduate courses *Transport Phenomena*, *Physical Processes* and *Flow of Fluids* as postgraduate student of the Department of Chemical Engineering of the School of Engineering of the University of Patras.
- ✓ At 2005 - 2006 (fall semester) self-teaching of the courses *Linear Algebra* at the Department of Chemical Engineering of the School of Engineering of the University of Patras, *Mathematics I* at the Department of Mechanical Engineering and Aeronautics of the School of Engineering of the University of Patras and *Economical Mathematics I* at the Department of Economics of the University of Patras.
  At 2005 - 2006 (spring semester) self-teaching of the course *Mathematics II* at the Department of Mechanical Engineering and Aeronautics of the School of Engineering of the University of Patras.
- ✓ At 2006 - 2007 (fall semester) self-teaching of the courses *Linear Algebra* at the Department of Chemical Engineering of the School of Engineering of the University of Patras, *Mathematics I* at the Department of Mechanical Engineering and Aeronautics of the School of Engineering of the University of Patras and Postgraduate course *Subjects of Mathematical Analysis and Linear Algebra* at the Faculty of Medicine of the School of Health Sciences of the University of Patras concerning the Postgraduate Program of Studies among the Departments "Informatics Life Sciences".
  At 2006 - 2007 (spring semester) self-teaching of the course *Mathematics II* at the Department of Mechanical Engineering and Aeronautics of the School of Engineering of the University of Patras.
- ✓ At 2007 - 2008 (fall semester) self-teaching of the courses *Linear Algebra* at the Department of Chemical Engineering of the School of Engineering of the University of Patras, *Mathematics I* at the Department of Mechanical Engineering and Aeronautics of the School of Engineering of the University of Patras and Postgraduate course *Subjects of Mathematical Analysis and Linear Algebra* at the Faculty of Medicine of the School of Health Sciences of the University of Patras concerning the Postgraduate Program of Studies among the Departments "Informatics Life Sciences".
  At 2007 - 2008 (spring semester) self-teaching of the course *Mathematics II* at the Department of Mechanical Engineering and Aeronautics of the School of Engineering of the University of Patras.
- ✓ At 2008 - 2009 (fall semester) self-teaching of the courses *Linear Algebra* at the Department of Chemical Engineering of the School of Engineering of the University of Patras, *Mathematics I* at the Department of Mechanical Engineering and Aeronautics of the School of Engineering of the University of Patras and Postgraduate course *Subjects of Mathematical Analysis and Linear Algebra* at the Faculty of Medicine of the School of Health Sciences of the University of Patras concerning the Postgraduate Program of Studies among the Departments "Informatics Life Sciences".
  At 2008 - 2009 (spring semester) self-teaching of the course *Mathematics II* at the Department of Mechanical Engineering and Aeronautics of the School of Engineering of the University of Patras.

- ✓ At 2009 - 2010 (fall semester) self-teaching of the courses *Linear Algebra* at the Department of Chemical Engineering of the School of Engineering of the University of Patras, *Mathematics I* at the Department of Mechanical Engineering and Aeronautics of the School of Engineering of the University of Patras and Postgraduate course *Subjects of Mathematical Analysis and Linear Algebra* at the Faculty of Medicine of the School of Health Sciences of the University of Patras concerning the Postgraduate Program of Studies among the Departments "Informatics Life Sciences".
  At 2009 - 2010 (spring semester) self-teaching of the course *Mathematics II* at the Department of Mechanical Engineering and Aeronautics of the School of Engineering of the University of Patras.
- ✓ At 2010 - 2011 (fall semester) self-teaching of the courses *Linear Algebra* at the Department of Chemical Engineering of the School of Engineering of the University of Patras, *Mathematics I* at the Department of Mechanical Engineering and Aeronautics of the School of Engineering of the University of Patras and Postgraduate course *Subjects of Mathematical Analysis and Linear Algebra* at the Faculty of Medicine of the School of Health Sciences of the University of Patras concerning the Postgraduate Program of Studies among the Departments "Informatics Life Sciences".
  At 2010 - 2011 (spring semester) self-teaching of the course *Mathematics II* at the Department of Mechanical Engineering and Aeronautics of the School of Engineering of the University of Patras.
- ✓ At 2011 - 2012 (fall semester) self-teaching of the course *Mathematics I* at the Department of Mechanical Engineering and Aeronautics of the School of Engineering of the University of Patras.
  At 2011 - 2012 (spring semester) self-teaching of the courses *Linear Algebra* at the Department of Chemical Engineering of the School of Engineering of the University of Patras and *Mathematics II* at the Department of Mechanical Engineering and Aeronautics of the School of Engineering of the University of Patras.
- ✓ At 2012 - 2013 (fall semester) self-teaching of the courses *Mathematics I* and *III* at the Department of Mechanical Engineering and Aeronautics of the School of Engineering of the University of Patras.
  At 2012 - 2013 (spring semester) self-teaching of the courses *Linear Algebra* at the Department of Chemical Engineering of the School of Engineering of the University of Patras and *Mathematics II* at the Department of Mechanical Engineering and Aeronautics of the School of Engineering of the University of Patras.
- ✓ At 2013 - 2014 (fall semester) self-teaching of the courses *Mathematics I* at the Department of Chemical Engineering of the School of Engineering of the University of Patras and *Mathematics I* at the Department of Mechanical Engineering and Aeronautics of the School of Engineering of the University of Patras.
  At 2013 - 2014 (spring semester) self-teaching of the courses *Linear Algebra* and *Mathematics II* at the Department of Chemical Engineering of the School of Engineering of the University of Patras and *Mathematics II* at the Department of Mechanical Engineering and Aeronautics of the School of Engineering of the University of Patras.
- ✓ At 2014 - 2015 (fall semester) self-teaching of the courses *Mathematics I* and *Applied Mathematics* at the Department of Chemical Engineering of the School of Engineering of the University of Patras.

At 2014 - 2015 (spring semester) self-teaching of the courses *Linear Algebra* and *Mathematics II* at the Department of Chemical Engineering of the School of Engineering of the University of Patras and *Mathematics II* at the Department of Mechanical Engineering and Aeronautics of the School of Engineering of the University of Patras.

- ✓ At 2015 - 2016 (fall semester) self-teaching of the courses *Single Variable Calculus and Linear Algebra* and *Applications of Partial Differential Equations* at the Department of Chemical Engineering of the School of Engineering of the University of Patras.
  At 2015 - 2016 (spring semester) self-teaching of the courses *Multivariable Calculus and Vector Analysis* and *Heat Transfer Phenomena* at the Department of Chemical Engineering of the School of Engineering of the University of Patras.
- ✓ At 2016 - 2017 (fall semester) self-teaching of the course *Single Variable Calculus and Linear Algebra* and co-teaching with *George Dassios* of the Postgraduate course *Applied Mathematics* at the Department of Chemical Engineering of the School of Engineering of the University of Patras.
  At 2016 - 2017 (spring semester) self-teaching of the courses *Multivariable Calculus and Vector Analysis* and *Partial Differential Equations* at the Department of Chemical Engineering of the School of Engineering of the University of Patras.
- ✓ At 2017 - 2018 (fall semester) self-teaching of the course *Single Variable Calculus and Linear Algebra* and co-teaching with *George Dassios* of the Postgraduate course *Applied Mathematics* at the Department of Chemical Engineering of the School of Engineering of the University of Patras.
  At 2017 - 2018 (spring semester) self-teaching of the courses *Multivariable Calculus and Vector Analysis* and *Partial Differential Equations* at the Department of Chemical Engineering of the School of Engineering of the University of Patras.
- ✓ At 2018 - 2019 (fall semester) self-teaching of the course *Single Variable Calculus and Linear Algebra* and co-teaching with *George Dassios* of the Postgraduate course *Applied Mathematics* at the Department of Chemical Engineering of the School of Engineering of the University of Patras.
  At 2018 - 2019 (spring semester) self-teaching of the courses *Multivariable Calculus and Vector Analysis* and *Partial Differential Equations* at the Department of Chemical Engineering of the School of Engineering of the University of Patras.
- ✓ At 2019 - 2020 (fall semester) self-teaching of the course *Single Variable Calculus and Linear Algebra* and co-teaching with *George Dassios* of the Postgraduate course *Applied Mathematics* at the Department of Chemical Engineering of the School of Engineering of the University of Patras.
  At 2019 - 2020 (spring semester) self-teaching of the courses *Multivariable Calculus and Vector Analysis* and *Partial Differential Equations* at the Department of Chemical Engineering of the School of Engineering of the University of Patras.
- ✓ At 2020 - 2021 (fall semester) self-teaching of the course *Single Variable Calculus and Linear Algebra* and co-teaching with *George Dassios* of the Postgraduate course *Applied Mathematics* at the Department of Chemical Engineering of the School of Engineering of the University of Patras.

At 2020 - 2021 (spring semester) self-teaching of the courses *Multivariable Calculus and Vector Analysis* and *Partial Differential Equations* at the Department of Chemical Engineering of the School of Engineering of the University of Patras.

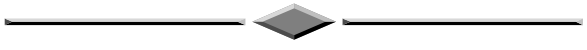
- ✓ At 2021 - 2022 (fall semester) self-teaching of the course *Single Variable Calculus and Linear Algebra* and co-teaching with *George Dassios* of the Doctorate course *Elements of Applied Mathematics* in English language at the Department of Chemical Engineering of the School of Engineering of the University of Patras.
  At 2021 - 2022 (spring semester) self-teaching of the courses *Multivariable Calculus and Vector Analysis* and *Partial Differential Equations* at the Department of Chemical Engineering of the School of Engineering of the University of Patras.
- ✓ At 2022 - 2023 (fall semester) self-teaching of the course *Single Variable Calculus and Linear Algebra* at the Department of Chemical Engineering of the School of Engineering of the University of Patras.
  At 2022 - 2023 (spring semester) self-teaching of the courses *Multivariable Calculus and Vector Analysis* and *Partial Differential Equations* at the Department of Chemical Engineering of the School of Engineering of the University of Patras.
- ✓ At 2023 - 2024 (fall semester) self-teaching of the course *Single Variable Calculus and Linear Algebra* at the Department of Chemical Engineering of the School of Engineering of the University of Patras.
  At 2023 - 2024 (spring semester) self-teaching of the courses *Multivariable Calculus and Vector Analysis* and *Partial Differential Equations* at the Department of Chemical Engineering of the School of Engineering of the University of Patras.
- ✓ At 2024 - 2025 (fall semester) self-teaching of the course *Single Variable Calculus and Linear Algebra* at the Department of Chemical Engineering of the School of Engineering of the University of Patras.
  At 2024 - 2025 (spring semester) self-teaching of the courses *Multivariable Calculus and Vector Analysis* and *Partial Differential Equations* at the Department of Chemical Engineering of the School of Engineering of the University of Patras.
- ✓ At 2025 - 2026 (fall semester) self-teaching of the course *Single Variable Calculus and Linear Algebra* at the Department of Chemical Engineering of the School of Engineering of the University of Patras.
  At 2025 - 2026 (spring semester) self-teaching of the courses *Multivariable Calculus and Vector Analysis* and *Partial Differential Equations* at the Department of Chemical Engineering of the School of Engineering of the University of Patras.

ADMINISTRATIVE DUTIES

- ✓ Member of the Assembly (2013 - today) and the General Assembly of Particular Synthesis (2013 - 2017) of the Department of Chemical Engineering of the School of Engineering of the University of Patras (2006 - 2013: member of the General Assembly and the General Assembly of Particular Synthesis of Department of Engineering Sciences of University of Patras).

- ✓ Member of the Assembly of Section of Process and Environmental Engineering (2013 - today) of the Department of Chemical Engineering of the School of Engineering of the University of Patras (2006 - 2013: member of the General Assembly of the Section of Applied Mathematics & Mechanics of Department of Engineering Sciences of University of Patras).
- ✓ Responsible (Director) of the Laboratory of Applied Mathematics (2013 - today) of the Department of Chemical Engineering of the School of Engineering of the University of Patras.
- ✓ Coordinator of the Committee of Health and Safety (2013 - today) of the Department of Chemical Engineering of the School of Engineering of the University of Patras with specific responsibility for the Fire Safety and Earthquake Protection (2006 - 2013: member of the Committee of Health and Safety of the Department of Engineering Sciences of the University of Patras).
- ✓ Coordinator of the Committee of Buildings and Infrastructure (2017 - today) of the Department of Chemical Engineering of the School of Engineering of the University of Patras with specific responsibility for the Building Infrastructure (2006 - 2013: member of the Committee of Building and Infrastructure of the Department of Engineering Sciences of the University of Patras).
- ✓ Member of the Committee of Undergraduate Studies Program (2016 - today) of the Department of Chemical Engineering of the School of Engineering of the University of Patras with specific responsibility for the Courses Timetable, for the Consulting Professor Institution and for the branch of the Coordinating Committee of Teaching Activities per study semester (2015 - today: coordinator and coach of the basketball team of the Department).
- ✓ Coordinator of the three-member Committee of Cleaning (2021 - today) of the Department of Chemical Engineering of the School of Engineering of the University of Patras.
- ✓ Member of the Coordinating Committee of Health and Safety (2020 - today) of the University of Patras.
- ✓ Member of the three-member Committee of the Reformation (construction of plan) of the Postgraduate Studies Program (2007 - 2008) of the Department of Engineering Sciences of the School of Engineering of the University of Patras.
- ✓ Member of the three-member Supervision Committee of the Transportation System for Students with Chartered Buses (2008 - 2010) of the University of Patras.
- ✓ Head of the three-member Committee for the evaluation of the offers of the competition (2014 - 2015) for the Supply of the Stationary for the Needs of the University of Patras.
- ✓ Head of the three-member Election Conducting Committee for the election of the Head and the Deputy Head (2024 - 2025) of the Department of Chemical Engineering of the School of Engineering of the University of Patras.

  – Participation to Electoral Bodies and/or three-member Introductory Committees (2006 - today) for the judgment of announced Academic positions at Departments of Schools of the Greek University Community as member of the University of Patras.



RESEARCH WORK

RESEARCH AREAS

- ✓ Partial differential equations of mathematical physics.
- ✓ Analytical and hybrid methods in physics and in engineering.
- ✓ Theory and applications of the ellipsoidal geometry.
- ✓ Fluid dynamics, creeping hydrodynamics and magnetic fluids.
- ✓ Electromagnetism and low frequency scattering.
- ✓ Electric and magnetic activity of the brain.
- ✓ Scattering of elastic waves from isotropic and anisotropic materials.
- ✓ Mathematical simulation of cancer tumour growth.
- ✓ Modeling of cold atmospheric pressure plasma jet systems.

UNDERGRADUATE DIPLOMA PROJECTS

- ✓ Supervisor and member of the three-member Consulting and Selection Committee of the Undergraduate Diploma Project of *Dafni Giannari* entitled "Effect of the Geometry of the Brain to the Magnetoencephalic Measurements" (start, September 2016) at the Department of Chemical Engineering of the School of Engineering of the University of Patras (2017).
- ✓ Supervisor and member of the three-member Consulting and Selection Committee of the Undergraduate Diploma Project of *Efthalia Preka* entitled "Analysis of Dependence of Electroencephalic Recordings from the Geometry of the Brain Tissue" (start, September 2016) at the Department of Chemical Engineering of the School of Engineering of the University of Patras (2018).
- ✓ Supervisor and rapporteur of the Undergraduate Diploma Project of *George Papadimitriou* entitled "Effect of Head Shape Variations to Electroencephalography in Spherical Geometry" (start, September 2017) at the Department of Chemical Engineering of the School of Engineering of the University of Patras (2019).
- ✓ Supervisor and rapporteur of the Undergraduate Diploma Project of *Konstantina Tsafara* entitled "Underground Low-Frequency Electromagnetic Wave Scattering in Spherical Geometry" (start, September 2017) at the Department of Chemical Engineering of the School of Engineering of the University of Patras (2020).
- ✓ Supervisor and rapporteur of the Undergraduate Diploma Project of *Dionysia Kaziki* entitled "Multilayer Spherical Geometrical Model on the Forward Problem of Electroencephalography" (start, September 2020) at the Department of Chemical Engineering of the School of Engineering of the University of Patras (2021).
- ✓ Supervisor and rapporteur of the Undergraduate Diploma Project of *George Tsirikos* entitled "Mathematical Modelling of the Growth of a Spherical Avascular Tumour in a Nutritive Environment" (start, July 2024) at the Department of Chemical Engineering of the School of Engineering of the University of Patras (2026, to appear).
- ✓ Supervisor and rapporteur of the Undergraduate Diploma Project of *Vassilis Giannopoulos* entitled "Mathematical Modelling of Stokes Flow for the Spherical Particle-in-Cell Happel formulation" (start, July 2024) at the Department of

Chemical Engineering of the School of Engineering of the University of Patras (2026, to appear).

- ✓ Supervisor and rapporteur of the Undergraduate Diploma Project of *Konstantina Kollia* entitled "Electromagnetic Activity of the Spherical Model with Multi-layer Structure of the Human Brain" (start, April 2025) at the Department of Chemical Engineering of the School of Engineering of the University of Patras (2026, to appear).
  - Member of the three-member Consulting and Selection Committee for the judgment of seventy nine (79) Undergraduate Diploma Projects.

POSTGRADUATE MASTER SCIENCES

- ✓ Supervisor and member of the two-member Consulting and Selection Committee for the judgment of the Postgraduate Master Science of *Eleni Stefanidou* entitled "Low-Frequency Magnetic Dipolar Electromagnetic Wave Scattering by Spherical Metallic Objects within Lossless Environment" (start, September 2020) at the School of Science and Technology of the Hellenic Open University (2021) / Funding.
  - Member of the three-member Consulting and Selection Committee for the judgment of one (1) Postgraduate Master Science.

DOCTORATE DISSERTATIONS

- ✓ Supervisor and member of the three-member Consulting and seven-member Selection Committee for the judgment of the Doctorate Dissertation of *George Fragoyiannis* entitled "Boundary Value Problems in Ellipsoidal Geometry" (start, September 2014) at the Department of Chemical Engineering of the School of Engineering of the University of Patras (2019).
- ✓ Supervisor and member of the three-member Consulting and seven-member Selection Committee for the judgment of the Doctorate Dissertation of *Dimitra Labropoulou* entitled "Mathematical Properties of Linear Elasticity" (start, February 2019) at the Department of Chemical Engineering of the School of Engineering of the University of Patras (2024).
- ✓ Co-supervisor and member of the three-member Consulting and seven-member Selection Committee for the judgment of the Doctorate Dissertation of *Eleni Stefanidou* entitled "Mathematical Modelling of the Underground Electromagnetic Wave Scattering in the Low-Frequency Regime" (start, April 2022) at the School of Science and Technology of the Hellenic Open University (2026, to appear).
- ✓ Co-supervisor and member of the three-member Consulting and seven-member Selection Committee for the judgment of the Doctorate Dissertation of *Thanasis Labropoulos* entitled "Spherical Representation of the Navier Equation Solutions in Anisotropic Elasticity" (start, July 2022) at the School of Applied Mathematical and Physical Sciences of the National Technical University of Athens (2027, to appear).
  - Member of the seven (and/or three)-member Consulting and Selection Committee for the judgment of twenty six (26) Doctorate Dissertations.

INTERNATIONAL & NATIVE COLLABORATIONS

- ✓ Research collaboration with *Dominique Lesselier* and colleagues (with invitation) at the French Research Center CentraleSupélec (Laboratoire des Signaux et Systèmes, CNRS CentraleSupélec - Université Paris Saclay) with funding for research during the time periods:
  - 1 April 2001 - 30 June 2001.
  - 7 October 2003 - 8 December 2003.
  - 12 April 2005 - 14 June 2005.
  - 15 December 2007 - 23 December 2007.
  - 15 July 2009 - 28 July 2009.
  - 6 July 2010 - 20 July 2010.
  - 5 July 2011 - 19 July 2011.
  - 18 June 2012 - 17 July 2012.
  - 18 June 2013 - 19 July 2013.
  - 26 June 2014 - 29 July 2014.
  - 18 June 2015 - 21 July 2015.
- ✓ Research collaboration with *Anastassios Skarlatos*, *Christophe Reboud* and colleagues (with invitation) at the French Research Institute Carnot CEA Tech (Laboratoire de Simulation et de Modélisation Électromagnétique, CEA Tech LIST - Université Paris Saclay) with funding for research during the time periods:
  - 23 June 2016 - 8 July 2016.
  - 22 June 2017 - 24 July 2017.
  - 27 June 2019 - 16 July 2019.
  - 5 April 2023 - 18 April 2023.
- ✓ Research collaboration with several distinguished scientists from Universities of Greece and abroad.

INVITED LECTURES

- ✓ Scientific lecture entitled “Low-Frequency Electromagnetic Scattering with Applications to the Identification of Objects with Dipolar Excitation” at the Department of Engineering Sciences of the School of Engineering of the University of Patras (2010).
- ✓ Scientific lecture entitled “Low-Frequency Electromagnetic Scattering by Perfectly Conducting Bodies in Conductive Media with Magnetic Dipolar Excitation” at the Research Center CentraleSupélec of the University Paris Saclay (2012).
- ✓ Scientific lecture entitled “Electromagnetic Scattering by Impenetrable Metal Bodies within Conductive Media at Low-Frequency with Magnetic Dipole Excitation” at the Department of Chemical Engineering of the School of Engineering of the University of Patras (2013).
- ✓ Scientific lecture entitled “Electromagnetic Scattering by Impenetrable Metal Bodies within Conductive Media at Low-Frequency with Magnetic Dipole Excitation” at the Department of Mathematics of the School of Natural Sciences of the University of Patras (2015).
- ✓ Scientific lecture entitled “Three-Dimensional Spatial Anisotropy and Applications” at the Department of Chemical Engineering of the School of Engineering of the University of Patras (2019).

- ✓ Scientific lecture entitled "Three-Dimensional Spatial Anisotropy and Applications" at the Research Institute Carnot CEA Tech of the University Paris Saclay (2023).
- ✓ Scientific lecture entitled "Ellipsoidal Coordinate System and Physical Applications" at the School of Science and Technology of the Hellenic Open University (2023).
- ✓ Scientific lecture entitled "Mathematical Study of the Effect of Geometrical Perturbations on the Electric and Magnetic Activity of the Brain" at the Department of Chemical Engineering of the School of Engineering of the University of Patras (2025).

INTERNATIONAL SCIENTIFIC JOURNALS REFEREE

- ✓ Referee in the journal *Acta Mechanica* since January 2007.
- ✓ Referee in the journal *Journal of Mathematical Analysis and Applications* since September 2007.
- ✓ Referee in the journal *Progress in Electromagnetics Research* since January 2009.
- ✓ Referee in the journal *Canadian Journal of Physics* since September 2009.
- ✓ Referee in the journal *Heat and Mass Transfer* since March 2011.
- ✓ Referee in the journal *Meccanica* since November 2011.
- ✓ Referee in the journal *Acta Mechanica Sinica* since April 2013.
- ✓ Referee in the journal *Computers in Biology and Medicine* since July 2013.
- ✓ Referee in the journal *British Journal of Applied Science & Technology* since August 2013.
- ✓ Referee in the journal *The Scientific World Journal* since October 2013.
- ✓ Referee in the journal *Journal of Computational Methods in Sciences and Engineering* since December 2014.
- ✓ Referee in the journal *Renewable Energy* since April 2015.
- ✓ Referee in the journal *Applied Mathematics and Computation* since December 2015.
- ✓ Referee in the journal *Inverse Problems* since June 2016.
- ✓ Referee in the journal *Journal of Numerical Analysis, Industrial and Applied Mathematics* since April 2017.
- ✓ Referee in the journal *Journal of Physics D: Applied Physics* since May 2017.
- ✓ Referee in the journal *Physics of Fluids* since September 2017.
- ✓ Referee in the journal *IEEE Transactions on Plasma Science* since October 2017.
- ✓ Referee in the journal *Results in Physics* since October 2017.
- ✓ Referee in the journal *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences* since February 2018.
- ✓ Referee in the journal *Mathematical Problems in Engineering* since August 2018.
- ✓ Referee in the journal *Radio Science* since November 2018.
- ✓ Referee in the journal *European Journal of Physics* since January 2019.
- ✓ Referee in the journal *Journal of Quantitative Spectroscopy & Radiative Transfer* since May 2019.
- ✓ Referee in the journal *Applied Sciences* since November 2019.
- ✓ Referee in the journal *Coatings* since March 2020.

- ✓ Referee in the journal *Journal of Mathematical Sciences: Advances and Applications* since June 2020.
- ✓ Referee in the journal *International Journal of Physics Research and Applications* since October 2020.
- ✓ Referee in the journal *Inventions* since March 2021.
- ✓ Referee in the journal *Asian Research Journal of Mathematics* since December 2021.
- ✓ Referee in the journal *Journal of Global Optimization* since February 2022.
- ✓ Referee in the journal *Journal of Vibration Testing and System Dynamics* since June 2022.
- ✓ Referee in the journal *International Journal of Modern Physics B: Condensed Matter Physics; Statistical Physics; Atomic, Molecular and Optical Physics* since November 2022.
- ✓ Referee in the journal *La Matematica* since January 2023.
- ✓ Referee in the journal *Magnetochemistry* since July 2023.
- ✓ Referee in the journal *Micromachines* since October 2023.
- ✓ Referee in the journal *Computers & Mathematics with Applications* since November 2023.
- ✓ Referee in the journal *Mathematical Methods in the Applied Sciences* since November 2023.
- ✓ Referee in the journal *Fluid Dynamics & Materials Processing* since February 2024.
- ✓ Referee in the journal *Annals of Mathematics and Physics* since May 2024.
- ✓ Referee in the journal *Contemporary Mathematics* since June 2024.
- ✓ Referee in the journal *Thermal Science* since June 2024.
- ✓ Referee in the journal *Chemical Engineering Journal Advances* since July 2024.
- ✓ Referee in the journal *Evolution Equations and Control Theory* since July 2024.
- ✓ Referee in the journal *Compendium of Optics and Photonics* since August 2024.
- ✓ Referee in the journal *Communications Physics* since November 2024.
- ✓ Referee in the journal *Applied Chemical Engineering* since January 2025.
- ✓ Referee in the journal *Medical & Biological Engineering & Computing* since January 2025.
- ✓ Referee in the journal *Plasma Physics and Controlled Fusion* since February 2025.
- ✓ Referee in the journal *Journal of Applied Mathematics and Physics* since April 2025.

FUNDED SCIENTIFIC PROJECTS

- ✓ Participation as a postgraduate researcher of the Department of Chemical Engineering of the School of Engineering of the University of Patras at the research programs with scholarship “Operational Program for Education and Initial Professional Training” (during the period 01/01/1998 - 31/12/1998) and “Inverse Problems of Electroencephalography and Comparison Study of Representations for Stokes Flows” of the Research Institute ICE-HT/FORTH (during the period 01/03/2000 - 31/12/2002).

- ✓ Principal Investigator in research project *K. Karatheodoris 2009* entitled "Mathematical and Computational Development of 3-D Models for the Magnetohydrodynamic Flow of Magnetic Fluids" (project code: C.922) and triennial (01/02/2010 - 31/01/2013) funding from the Research Committee of the University of Patras with postgraduate scholar student (candidate doctor) *Panteleimon Bakalis* and scientific co-researchers *Polycarpos Papadopoulos* and *Pavlos Hatzikonstantinou*.
- ✓ Participation as a co-researcher in research project *Life+ Environment Policy and Government 2010* entitled "Sustainable Management via Energy Exploitation of End-of-Life Dairy Products in Cyprus" (project acronym: DAIRIUS) and triennial (01/02/2012 - 31/01/2015) funding from the Commission of the European Union.
- ✓ Participation as a co-researcher in research project *Erasmus+ Capacity Building in Higher Education - Joint Projects 2020* entitled "A new Master Course in Applied Computational Fluid Dynamics" (project acronym: CBHE-JP) and annual (05/02/2020 - 31/12/2020) funding from the Commission of the European Union.
- ✓ Participation as a co-researcher in research project *Hellenic Open University* entitled "Mathematical Modelling of the Flow in Curved Blood Cells and Applications" (project acronym: MAMORO) and triennial (01/09/2021 - 30/08/2024) funding from the Hellenic Open University.
  - Submitted as Principal Investigator and as participant co-researcher at zero (0) and zero (0) research projects, respectively.
  - Failure as Principal Investigator and as participant co-researcher at four (4) and eleven (11) research projects, respectively.

AUTHORSHIP / EDITING BOOKS & VOLUME CHAPTERS

- ✓ Book (Teaching / Authorship), "Linear Algebra and Ordinary Differential Equations" (with *George Dassios* and *Foteini Kariotou*), subject unit *General Mathematics II*, studies program *Studies in Natural Sciences*, Hellenic Open University (2005) / Funding.
- ✓ Book (Teaching / Partial Editing), "Linear Algebra and Applications", D.C. Lay, S.R. Lay και J.J. MacDonald (with *Emmanouil Kritikos*, *Nikos Labropoulos*, *Manolis Vavalis*, *Panagiotis Vlamos* and *Ioannis Papanastasiou*), Broken Hill Publishers Ltd, Nicosia, Cyprus (2022) / Funding.
- ✓ Book (Teaching / Authorship), "Partial Differential Equations" (with *George Dassios* and *Kiriakie Kiriaki*), subject area *Mathematics and Computer Science*, Academic Electronic Textbooks, Kallipos (2023) / Funding.
- ✓ Book (Teaching / Translation & General Editing), "Infinitesimal and Vector Calculus", R.A. Adams and C. Essex (with *V. Kalantonis* and *A. Perdiou* / partial editing *Colleagues*), Broken Hill Publishers Ltd, Nicosia, Cyprus (2023) / Funding.
- ✓ Book (Teaching / Translation & General Editing), "Differential Equations - Applications and Modern Methods", D.G. Zill (partial editing *Colleagues*), Broken Hill Publishers Ltd, Nicosia, Cyprus (2024) / Funding.
- ✓ Book (Teaching / Translation & General Editing), "Single Variable Functions Calculus and Linear Algebra", R. Larson and B. Edwards (with *V. Kalantonis* and *A. Perdiou* / partial editing *Colleagues*), Broken Hill Publishers Ltd, Nicosia, Cyprus (2025) / Funding.

NATIONAL & INTERNATIONAL CONFERENCES ATTENDANCE

- ✓ *First National Chemical Engineering Scientific Conference*, Patras, Greece (1997).
- ✓ *Fifth National Congress of Mechanics*, Ioannina, Greece (1998).
- ✓ *Twelfth Summer School / National Conference on Non-Linear Dynamic: Chaos and Complexity*, Patras, Greece (1999).
- ✓ *Fourth International Workshop on Scattering Theory and Biomedical Engineering Modeling and Applications*, Perdica, Thesprotia, Greece (1999).
- ✓ *Second International Conference on Experiments, Process, System Modeling, Simulation and Optimization*, Athens, Greece (2007).

INTERNATIONAL CONFERENCES & SCIENTIFIC JOURNALS

***International Conferences** (Yearly Increasing Classification)*

1. "Correlation of differential representations Papkovich - Neuber and Boussinesq - Galerkin for Stokes flow in spherical geometry", *Second National Chemical Engineering Scientific Conference*, proceedings volume B, pp. 795-798, Thessaloniki, Greece (1999).
2. "Connection formulae for differential representations in Stokes flow" (with *G. Dassios*), *Fifth International Symposium on Orthogonal Polynomials, Special Functions and their Applications* (in honor of *Theodore Chihara*), book of abstracts pp. 89, Patras, Greece (1999).
3. "Correlation between Stokes and Papkovich - Neuber eigenforms for Stokes flow in spheroidal geometry", *Third National Chemical Engineering Scientific Conference*, proceedings volume B, pp. 849-852, Athens, Greece (2001).
4. "Interrelation between Stokes and Papkovich - Neuber eigenmodes for spheroidal Stokes flow" (with *M. Hadjinicolaou*), *Sixth National Congress of Mechanics*, book of abstracts pp. 14, proceedings volume I, pp. 58-65, Thessaloniki, Greece (2001).
5. "The Kuwabara model for a spheroid via Papkovich - Neuber representation" (with *G. Dassios*), *Fifth International Workshop on Mathematical Methods in Scattering Theory and Biomedical Technology*, book of abstracts pp. 36, proceedings World Scientific, *Scattering and Biomedical Engineering Modeling and Applications*, pp. 44-54, Corfu, Greece (2001).
6. "Low-frequency electromagnetic modeling and retrieval of simple orebodies in a conductive Earth" (with *G. Perrusson*, *D. Lesselier*, *G. Dassios* and *G. Kamvyssas*), *Third Congress of International Society for Analysis, Applications and Computation*, book of abstracts pp. 221-222, proceedings World Scientific, *Progress in Analysis*, 2, pp. 1413-1422, Berlin, Germany (2001).
7. "Low-frequency models and characterization of an ellipsoidal body in the context of Earth's exploration" (with *G. Perrusson*, *D. Lesselier* and *G. Dassios*), *Progress in Electromagnetics Research Symposium*, proceedings Cambridge, pp. 337, Massachusetts, USA (2002).
8. "Comparison of differential representations for radially symmetric Stokes flow" (with *G. Dassios*), *International Conference on Differential, Difference Equations and Applications*, book of abstracts pp. 64, proceedings pp. 93-106, Patras, Greece (2002).

9. "The Happel cell model for three-dimensional Stokes flow", *Fourth National Chemical Engineering Scientific Conference*, proceedings pp. 785-788, Patras, Greece (2003).
10. "The 3D Happel model for complete isotropic Stokes flow" (with *G. Dassios*), *Eighth International Conference on Difference Equations and Applications*, book of abstracts pp. 65, Brno, Czech Republic (2003).
11. "The Happel model for an ellipsoid via Papkovich - Neuber representation" (with *G. Dassios*), *Sixth International Workshop on Mathematical Methods in Scattering Theory and Biomedical Engineering*, book of abstracts pp. 42, proceedings World Scientific, *Advances in Scattering and Biomedical Engineering*, pp. 277-285, Tsepelovo, Greece (2003).
12. "Low-frequency modeling of the interaction of magnetic dipoles and ellipsoidal bodies in a conductive medium" (with *G. Perrusson* and *D. Lesselier*), *International Symposium on Electromagnetic Theory*, proceedings pp. 1017-1019, Pisa, Italy (2004).
13. "Distribution of singularities in Stokes eigenflows" (with *G. Dassios* and *M. Hadjinicolaou*), *Tenth National Conference in Mathematical Analysis*, book of abstracts pp. 5, proceedings pp. 17-22, Athens, Greece (2004).
14. "Spheroidal semiseparation in Stokes flow revisited" (with *G. Dassios*), *Seventh International Workshop on Mathematical Methods in Scattering Theory and Biomedical Engineering*, book of abstracts pp. 17, proceedings World Scientific, pp. 136-143, Nymphaio, Greece (2005).
15. "Low-frequency interaction of magnetic dipoles and perfectly conducting ellipsoidal bodies in a conductive medium" (with *G. Perrusson* and *D. Lesselier*), *Symposium on the Scattering Theory and Related Problems*, Patras, Greece (2006).
16. "Low-frequency interaction of magnetic dipoles and perfectly conducting spheroidal bodies in a conductive medium" (with *G. Perrusson* and *D. Lesselier*), *Eighth International Workshop on Mathematical Methods in Scattering Theory and Biomedical Engineering*, book of abstracts pp. 51, proceedings World Scientific, *Advanced Topics in Scattering and Biomedical Engineering*, pp. 107-114, Lefkada, Greece (2007).
17. "Numerical study of a new model for the magnetohydrodynamic flow of micropolar magnetic fluids in straight square ducts" (with *P. Hatzikonstantinou* and *P. Papadopoulos*), *Sixth International Conference on Engineering Computational Technology*, book of abstracts pp. 96, proceedings Civil-Comp Press Proceedings, paper 96, pp. 1-19, Athens, Greece (2008).
18. "Micropolar flow under the effect of a magnetic dipole" (with *P. Hatzikonstantinou* and *P. Papadopoulos*), *Sixth International Conference on Computational Methods in Sciences and Engineering*, proceedings American Institute of Physics Conference Proceedings, volume 1148, pp. 566-570, Crete, Greece (2008).
19. "Low-frequency modeling of the interaction of a magnetic dipole and two metallic spherical bodies in a conductive medium" (with *D. Lesselier*), *Ninth International Workshop on Mathematical Methods in Scattering Theory and Biomedical Engineering*, book of abstracts pp. 9, proceedings World Scientific, *Advanced Topics in Scattering Theory and Biomedical Engineering*, pp. 20-27, Patras, Greece (2009).
20. "Low-frequency electromagnetic scattering by two PEC spheres in conductive medium" (with *P. Papadopoulos* and *D. Lesselier*), *Progress Electromagnetics Research Symposium*, book of abstracts pp. 256, Marrakech, Morocco (2011).

21. "Magnetohydrodynamic flow of a liquid metal between vertical isothermal rotating cylinders" (with *P. Bakalis* and *P. Hatzikonstantinou*), *Fourth International Conference on Experiments, Process, System Modeling, Simulation, Optimization*, proceedings 4th IC-EpsMsO, volume II, pp. 351-357, Athens, Greece (2011).
22. "Numerical methodology for the study of the MHD and thermal flow in an annular channel for high Hartmann numbers" (with *P. Bakalis* and *P. Hatzikonstantinou*), *Fifth International Conference from Scientific Computing to Computational Engineering*, proceedings 5th IC-SCCE, volume II, pp. 357-364, Athens, Greece (2012).
23. "On the anisotropic effect of an orthotropic pressure field on the avascular tumour growth" (with *A. Graikou* and *F. Kariotou*), *Modern Mathematical Methods in Science and Technology 2012*, book of abstracts pp. 39-40, Kalamata, Greece (2012).
24. "Magnetohydrodynamic flow of a liquid metal in a curved circular duct subject to the effect of an external magnetic field" (with *P. Bakalis* and *P. Hatzikonstantinou*), *Eighth International Conference on Engineering Computational Technology*, book of abstracts pp. 85, proceedings Civil-Comp Press Proceedings, paper 85, pp. 1-14, Dubrovnik, Croatia (2012).
25. "On the nutrient distribution in an oblate spheroidal cancer tumour growing inside an inhomogeneous environment" (with *F. Kariotou* and *P. Papadopoulos*), *Tenth HSTAM International Congress on Mechanics*, book of abstracts pp. 82, proceedings 10th HSTAM Conference, paper 80, Chania, Greece (2013).
26. "Mathematical modeling of the evolution of the exterior boundary in spheroidal tumour growth" (with *F. Kariotou* and *P. Papadopoulos*), *The 2014 International Conference on Pure Mathematics - Applied Mathematics*, proceedings PM-AM 2014 Europment Conferences, *Recent Advances in Mathematics, Statistics and Economics*, pp. 49-56, Venice, Italy (2014).
27. "Magnetofluidynamic flow of liquid metal in curved ring pipes of toroidal geometry" (with *P. Bakalis* and *P. Hatzikonstantinou*), *Ninth National Conference Fluid Transport Phenomena*, proceedings FLOW 2014 (9th meeting), *Research Activities in Fluid Transport Phenomena in Greece*, pp. 1-10, Athens, Greece (2014).
28. "Correlation between Stokes and Papkovich-Neuber eigenforms for Stokes flow in spherical geometry" (with *C. Georgantopoulos* and *C. Giannopoulos*), *Tenth National Chemical Engineering Scientific Conference*, book of abstracts, extended abstract P094, proceedings, paper P094, Patras, Greece (2015).
29. "Developing an algorithmic framework tackling boundary value problems in ellipsoidal geometry: the case of EEG" (with *M. Doschoris*, *G. Dassios*, *F. Kariotou* and *I. Chatjigeorgiou*), *International Conference on Recent Advances in Pure and Applied Mathematics*, book of abstracts pp. 132, Istanbul, Turkey (2015).
30. "Comparison of two electro-hydrodynamic force models for the interaction between helium jet flow and an atmospheric-pressure "plasma jet"" (with *D. Logothetis*, *P. Papadopoulos* and *P. Svarnas*), *Twelfth International Conference of Computational Methods in Sciences and Engineering*, proceedings American Institute of Physics Conference Proceedings, volume 1790 (150019), pp. 1-5, Athens, Greece (2016).
31. "On the avascular evolution of an ellipsoidal tumour" (with *G. Fragoyiannis* and *F. Kariotou*), *Fourteenth International Conference of Numerical Analysis*

and Applied Mathematics, proceedings American Institute of Physics Conference Proceedings, volume 1863 (560064), pp. 1-4, Rhodes, Greece (2017).

32. "Mathematical modeling of the brain activity" (with *D. Giannari* and *E. Preka*), *Eleventh National Chemical Engineering Scientific Conference*, book of abstracts, extended abstract P1-22, proceedings, paper P1-22, Thessaloniki, Greece (2017).
33. "An innovative tool for the identification of the accuracy of modeling phenomena of engineering interest: the case of flow through granular media" (with *G. Gavriil* and *F. Coutelieris*), *Fifteenth International Conference of Numerical Analysis and Applied Mathematics*, proceedings, pp. 1-4, Thessaloniki, Greece (2018).
34. "Heat transfer analysis of capillary-DBD source" (with *K. Sklias, D. Athanasopoulos, P. Papadopoulos, P. Svarnas* and *K. Gazeli*), *Twenty-Second International Conference on Gas Discharges and Their Applications*, proceedings, pp. 1-4, Novi Sad, Serbia (2018).
35. "Effect of cold atmospheric pressure plasma to hydrodynamic flow: the model of remaining charges" (with *P. Papadopoulos, D. Athanasopoulos, K. Sklias* and *P. Svarnas*), *Eleventh National Conference Fluid Transport Phenomena*, proceedings, pp. 1-9, Kozani, Greece (2019).
36. "On a mixed-boundary value problem related to the electrostatics of plasma jet reactors" (with *P. Papadopoulos* and *P. Svarnas*), *Mathematics and Computers in Science & Engineering 2020*, proceedings IEEE Computer Society Conference Publishing Services, pp. 149-154, Madrid, Spain (2020).
37. "Low-frequency magnetic dipolar electromagnetic wave scattering by spherical impenetrable objects within environment without losses" (with *E. Stefanidou*), *Scientific Bulletin of School of Sciences and Technology of Hellenic Open University*, proceedings Scientific Bulletin, volume B, pp. 39-42, Patras, Greece (2020).
38. "Effect of head-shape variations on a three-shell forward electroencephalographic spherical model" (with *A. Papargiri, V. Kalantonis, M. Doschoris, F. Kariotou* and *G. Fragoyiannis*), *Eighteenth International Conference of Numerical Analysis and Applied Mathematics*, proceedings American Institute of Physics Conference Proceedings, volume 2425 (420018), pp. 1-4, Rhodes, Greece (2022).
39. "Fundamental principles in anisotropic elasticity and harmonic functions" (with *D. Labropoulou*), *Thirteenth National Chemical Engineering Scientific Conference*, book of abstracts, extended abstract P-018, proceedings, paper P-018, Patras, Greece (2022).
40. "Anisotropic elastostatics and displacement field in Cartesian representation" (with *D. Labropoulou* and *G. Dassios*), *Nineteenth International Conference of Numerical Analysis and Applied Mathematics*, proceedings American Institute of Physics Conference Proceedings, volume 2849 (450017), pp. 1-4, Rhodes, Greece (2023).
41. "Heat transfer effect on the ferrofluid flow in a curved cylindrical annular duct under the influence of a magnetic field" (with *P. Bakalis* and *P. Papadopoulos*), *Numerical Analysis and Scientific Computation with Applications*, book of abstracts, extended abstract, Athens, Greece (2023).
42. "A mathematical model for studying the Red Blood Cell magnetic susceptibility" (with *M. Hadjinicolaou* and *E. Protopapas*), *Numerical Analysis and Scien-*

tific Computation with Applications, book of abstracts, extended abstract, Athens, Greece (2023).

43. "The Rayleigh approximation of the low-frequency dipolar magnetic field scattered by a penetrable spherical cavity in the conductive Earth" (with *E. Stefanidou, E. Protopapas* and *M. Hadjinicolaou*), *Thirteenth International Conference on Mathematical Modeling in Physical Sciences*, proceedings Journal of Physics: Conference Series, volume 3027 (012003), pp. 1-12, Kalamata, Greece (2025).
44. "Application of the Rayleighian approach to the magnetic hysteresis problem" (with *A Skarlatos*), *Tenth International Workshop on Nonequilibrium Thermodynamics*, Syros, Greece (2025).

***International Scientific Journals** (Yearly Increasing Classification)*

1. "Connection formulae for differential representations in Stokes flow" (with *G. Dassios*), *Journal of Computational and Applied Mathematics*, vol. 133, pp. 283-294 (2001).
2. "On the connection between Stokes and Papkovich - Neuber spherical eigenfunctions in Stokes flow", *Bulletin of the Greek Mathematical Society*, vol. 47, pp. 59-73 (2003).
3. "Comparison of differential representations for radially symmetric Stokes flow" (with *G. Dassios*), *Abstract and Applied Analysis*, vol. 4, pp. 347-360 (2004).
4. "Interrelation between Papkovich - Neuber and Stokes general solutions of the Stokes equations in spheroidal geometry" (with *G. Dassios* and *A.C. Payatakes*), *Quarterly Journal of Mechanics and Applied Mathematics*, vol. 57, pp. 181-203 (2004).
5. "Low-frequency solution for a perfectly conducting sphere in a conductive medium with dipolar excitation" (with *G. Perrusson* and *D. Lesselier*), *Progress in Electromagnetics Research*, vol. 49, pp. 87-111 (2004).
6. "Maximal elements for binary relations on compact spaces" (with *A. Andrikopoulos*), *Italian Journal of Pure and Applied Mathematics*, vol. 19, pp. 85-90 (2006).
7. "The 3D Happel model for complete isotropic Stokes flow" (with *G. Dassios*), *International Journal of Mathematics and Mathematical Sciences*, vol. 46, pp. 2429-2441 (2004).
8. "Distribution of spheroidal focal singularities in Stokes flow", *International Journal of Pure and Applied Mathematics*, vol. 22, pp. 329-339 (2005).
9. "Stokes flow in ellipsoidal geometry" (with *G. Dassios*), *Journal of Mathematical Physics*, vol. 47 (093102), pp. 1-38 (2006).
10. "2D elastic scattering of a plane dyadic wave by a small rigid body and cavity" (with *V. Sevroglou*), *ZAMM - Journal of Applied Mathematics and Mechanics*, vol. 88, pp. 227-238 (2008).
11. "On the spheroidal semiseparation for Stokes flow" (with *G. Dassios*), *Research Letters in Physics*, vol. 2008 (135289), pp. 1-4 (2008).
12. "Low-frequency scattering from perfectly conducting spheroidal bodies in a conductive medium with magnetic dipole excitation" (with *G. Perrusson* and *D. Lesselier*), *International Journal of Engineering Science*, vol. 47, pp. 372-390 (2009).
13. "A general theoretical model for the magnetohydodynamic flow of micropolar magnetic fluids. Application to Stokes flow" (with *P. Hatzikonstantinou*), *Mathematical Methods in the Applied Sciences*, vol. 33, pp. 233-248 (2010).

14. "Low-frequency dipolar excitation of a perfect ellipsoidal conductor" (with *G. Perrusson* and *D. Lesselier*), *Quarterly of Applied Mathematics*, vol. 68, pp. 513-536 (2010).
15. "On the perturbation of the three-dimensional Stokes flow of micropolar fluids by a constant uniform magnetic field in a circular cylinder" (with *P. Papadopoulos* and *P. Hatzikonstantinou*), *Mathematical Problems in Engineering*, vol. 2011 (659691), pp. 1-41 (2011).
16. "Electromagnetic low-frequency dipolar excitation of two metal spheres in a conductive medium" (with *P. Papadopoulos* and *D. Lesselier*), *Journal of Applied Mathematics*, vol. 2012 (628261), pp. 1-37 (2012).
17. "The avascular tumour growth in the presence of inhomogeneous physical parameters imposed from a finite spherical nutritive environment" (with *F. Kariotou*), *International Journal of Differential Equations*, vol. 2012 (175434), pp. 1-25 (2012).
18. "Ferrofluid pipe flow under the influence of the magnetic field of a cylindrical coil" (with *P. Papadopoulos* and *P. Hatzikonstantinou*), *Physics of Fluids*, vol. 24 (122002), pp. 1-13 (2012).
19. "Invariant vector harmonics. The ellipsoidal case" (with *G. Dassios* and *F. Kariotou*), *Journal of Mathematical Analysis and Applications*, vol. 405, pp. 652-660 (2013).
20. "Investigation on streamers propagating into a helium jet in air at atmospheric pressure: Electrical and optical emission analysis" (with *K. Gazeli, P. Svarnas, P. Papadopoulos, A. Gkelios* and *F. Clément*), *Journal of Applied Physics*, vol. 114 (103304), pp. 1-12 (2013).
21. "On the transversally isotropic pressure effect on avascular tumor growth" (with *F. Kariotou*), *Mathematical Methods in the Applied Sciences*, vol. 37, pp. 277-282 (2014).
22. "Mathematical modeling of tumour growth in inhomogeneous spheroidal environment" (with *F. Kariotou* and *P. Papadopoulos*), *International Journal of Biology and Biomedical Engineering*, vol. 8, pp. 132-141 (2014).
23. "Interpretation of the gas flow field modification induced by guided streamer ('plasma bullet') propagation" (with *P. Papadopoulos, P. Svarnas, K. Gazeli, P. Hatzikonstantinou, A. Gkelios* and *F. Clément*), *Journal of Physics D: Applied Physics*, vol. 47 (425203), pp. 1-16 (2014).
24. "Influence of atmospheric pressure guided streamers (plasma bullets) on the working gas pattern in air" (with *P. Svarnas, P. Papadopoulos, A. Gkelios, F. Clément* and *A. Mavon*), *IEEE Transactions on Plasma Science*, vol. 42, pp. 2430-2431 (2014).
25. "Connection formulae between ellipsoidal and spherical harmonics with applications to fluid dynamics and electromagnetic scattering" (with *M. Doschoris*), *Advances in Mathematical Physics*, vol. 2015 (572458), pp. 1-12 (2015).
26. "Analytical integro-differential representation of flow fields for the micropolar Stokes flow of a conducting ferrofluid" (with *P. Papadopoulos* and *P. Hatzikonstantinou*), *IMA Journal of Applied Mathematics*, vol. 80, pp. 839-864 (2015).
27. "Low-frequency on-site identification of a highly conductive body buried in Earth from a model ellipsoid" (with *G. Perrusson, D. Lesselier* and *I. Chatjigeorgiou*), *IMA Journal of Applied Mathematics*, vol. 80, pp. 963-980 (2015).

28. "MFD formulations for the liquid metal flow in a curved pipe of circular cross section" (with *P. Bakalis* and *P. Hatzikonstantinou*), *Computers & Fluids*, vol. 119, pp. 1-12 (2015).
29. "Estimates for the low-frequency electromagnetic fields scattered by two adjacent metal spheres in a lossless medium" (with *D. Lesselier* and *F. Kariotou*), *Mathematical Methods in the Applied Sciences*, vol. 38, pp. 4210-4237 (2015).
30. "Revisiting a numerical implementation of the EEG problem in ellipsoidal geometry" (with *M. Doschoris, G. Dassios, F. Kariotou* and *I. Chatjigeorgiou*), *Pioneer Journal of Advances in Applied Mathematics*, vol. 14, pp. 35-51 (2015).
31. "Mathematical and numerical analysis of low-frequency scattering from a PEC ring torus in a conductive medium" (with *P. Papadopoulos, P.-P. Ding* and *D. Lesselier*), *Applied Mathematical Modelling*, vol. 40, pp. 6477-6500 (2016).
32. "Low-frequency electromagnetic scattering by a metal torus in a lossless medium with magnetic dipolar illumination", *Mathematical Methods in the Applied Sciences*, vol. 39, pp. 4268-4292 (2016).
33. "Numerical simulation of the interaction between helium jet flow and an atmospheric-pressure "plasma jet"" (with *D. Logothetis, P. Papadopoulos* and *P. Svarnas*), *Computers & Fluids*, vol. 140, pp. 11-18 (2016).
34. "Theoretical development of elliptic cross-sectional hyperboloidal harmonics and their application to electrostatics" (with *J.-E. Sten, G. Fragoyiannis, P. Koivisto* and *G. Dassios*), *Journal of Mathematical Physics*, vol. 58 (053505), pp. 1-19 (2017).
35. "Revisiting the low-frequency dipolar perturbation by an impenetrable ellipsoid in a conductive surrounding", *Mathematical Problems in Engineering*, vol. 2017 (9420658), pp. 1-16 (2017).
36. "On the integro-differential general solution for the unsteady micropolar Stokes flow of a conducting ferrofluid", *Quarterly of Applied Mathematics*, vol. 76, pp. 19-37 (2018).
37. "The influence of surface deformations on the forward magnetoencephalographic problem" (with *M. Doschoris* and *G. Fragoyiannis*), *SIAM Journal on Applied Mathematics*, vol. 78, pp. 963-976 (2018).
38. "Dipolar excitation of a perfectly electrically conducting spheroid in a lossless medium at the low-frequency regime", *Advances in Mathematical Physics*, vol. 2018 (9587972), pp. 1-20 (2018).
39. "Parametric study of thermal effects in a capillary dielectric-barrier discharge related to plasma jet production: Experiments and numerical modelling" (with *P. Svarnas, P. Papadopoulos, D. Athanasopoulos, K. Sklias* and *K. Gazeli*), *Journal of Applied Physics*, vol. 124 (064902), pp. 1-13 (2018).
40. "Semi-analytical method for the identification of inclusions by air-cored coil interaction in ferromagnetic media" (with *A. Skarlatos, T. Theodoulidis* and *D. Lesselier*), *Mathematical Methods in the Applied Sciences*, vol. 41, pp. 6422-6442 (2018).
41. "Validation method for the systematization of results based on a similarity concept" (with *G. Gavriil, A. Kanavouras* and *F. Coutelieris*), *Mathematical Methods in the Applied Sciences*, vol. 42, pp. 656-666 (2019).
42. "Generic residual charge based model for the interpretation of the electrohydrodynamic effects in cold atmospheric pressure plasmas" (with *P. Papadopoulos, D. Athanasopoulos, K. Sklias, P. Svarnas, N. Mourousias* and *K. Vratsi-nis*), *Plasma Sources Science and Technology*, vol. 28 (065005), pp. 1-17 (2019).

43. "Effect of the magnetic field on the ferrofluid flow in a curved cylindrical annular duct" (with *P. Bakalis* and *P. Papadopoulos*), *Physics of Fluids*, vol. 31 (117105), pp. 1-15 (2019).
44. "On the avascular ellipsoidal tumour growth model within a nutritive environment" (with *G. Fragoyiannis* and *F. Kariotou*), *European Journal of Applied Mathematics*, vol. 31, pp. 111-142 (2020).
45. "Modelling the electric field in reactors yielding cold atmospheric-pressure plasma jets" (with *P. Papadopoulos, G. Vafakos, P. Svarnas* and *M. Doschoris*), *Scientific Reports*, vol. 10 (5694), pp. 1-15 (2020).
46. "Low-frequency dipolar electromagnetic scattering by a solid ellipsoid in lossless environment", *Studies in Applied Mathematics*, vol. 145, pp. 217-246 (2020).
47. "On the electrostatic potential for the two-hyperboloid and double-cone of a single sheet with elliptic cross-section" (with *J.-E. Sten* and *I. Chatjigeorgiou*), *Quarterly Journal of Mechanics and Applied Mathematics*, vol. 74, pp. 117-135 (2021).
48. "Heat transfer study of the ferrofluid flow in a vertical annular cylindrical duct under the influence of a transverse magnetic field" (with *P. Bakalis* and *P. Papadopoulos*), *Fluids*, vol. 6 (120), pp. 1-11 (2021).
49. "Consideration of a mixed-type boundary value problem on the electrostatics of cold plasma jet reactors based on dielectric barrier discharge" (with *P. Papadopoulos* and *P. Svarnas*), *International Journal of Applied Mathematics and Computer Science*, vol. 31, pp. 233-245 (2021).
50. "Application of boundary perturbations on medical monitoring and imaging techniques" (with *M. Doschoris, A. Papargiri* and *V. Kalantonis*), *Nonlinear Analysis, Differential Equations, and Applications* (Springer book series *Optimization and Its Applications*), vol. 173, pp. 101-130 (2021).
51. "Revisiting an analytical solution for the three-shell spherical human head model in electroencephalography" (with *A. Papargiri, V. Kalantonis, D. Kaziki* and *G. Fragoyiannis*), *Partial Differential Equations in Applied Mathematics*, vol. 4 (100178), pp. 1-6 (2021).
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