

Vasilios M. Dimitriou**Detailed Academic Curriculum Vitae**

October 2026

1. Personal Information

Date of birth: 25.10.1976
 Place of birth: Mytilene – Lesbos
 Marital status: Married, with one child
 Nationality – Citizenship: Greek
 Contact address: Department of Music Technology and Acoustics, School of Music and Optoacoustic Technologies, Hellenic Mediterranean University, E. Daskalaki 1, 74133 & Institute of Plasma Physics and Lasers, Tria Monastiria, 74150. Rethymno, Crete, Greece
 e-mail: dimvasi@hmu.gr
 Web: https://scholar.google.gr/citations?user=_ayB_eAAAAAJ&hl=en
<https://www.scopus.com/authid/detail.uri?authorId=57216872170>
<https://mta.hmu.gr/prosopiko/melh-d-e-p/>
<https://ipp1.hmu.gr/prosopiko/esoterika/>
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2. Education / Academic Degrees

- 12.2000 - 08.2004** **Doctoral Dissertation, School of Mechanical Engineering, National Technical University of Athens. Title: "Adaptive Finite Elements and Related Meshes".**
 - The Doctoral Dissertation deals with the research on the use of Coons method in a daptive numerical methods for solving engineering and physics problems. It constitutes a continuation of my Postgraduate Thesis entitled: "The Coons Method for Mesh Generation". I used the Coons method for the generation of unstructured finite element meshes in solution domains of spatial surfaces (2D and/or 3D) and solids of any type of geometry, even of triangular form, enabling its application to any adaptive finite element method. I developed and studied new "large" elements that were tested in engineering and physics problems. The innovation of the PhD expands the theory of Zienkiewicz, who proposed the use of boundary elements and the introduction of finite elements in the remaining solution domain in areas or points of the solution domain where there is a high concentration/variation of stresses, potential function, etc. The boundary elements can be placed after an initial analysis or even a priori in the critical regions, achieving a satisfactory (accurate) solution in 2 and 1 steps respectively ("one step adaptivity"). This is the main subject of my Doctoral Dissertation under the supervision of Prof. Andreas Kanarachos, which focuses on the use of "large" finite elements based on global Coons' interpolation instead of the classical Boundary Elements. For the new method to be competitive, the interpolation I developed uses degrees of freedom not only on the boundaries of the special element, but also in the interior. In addition to the known quadrilateral and hexahedral elements, I developed and programmed large triangular (2D) and pentahedral (3D) Coons' elements with multiple internal and boundary degrees of freedom. The implemented applications cover problems of mechanics and physics in general. The new elements are used embedded in algorithms of finite element methods and adaptive numerical approaches. The extension to Finite Difference and Finite Volume methods as well as Particle numerical approaches (FD/FV/DEM/SPH/PIC) in hydrodynamics and/or magnetohydrodynamics (HD/MHD) follows the same philosophy and remains one of my primary research interests to date.
 - Writing and editing of articles for publication, preparation and presentation of lectures and poster presentations in scientific conferences and inter-university symposia.
- 10.1999 - 09.2000** **Interdepartmental Postgraduate Program of Studies in "Automation Systems" in the direction of "Manufacturing & Production Systems", National Technical University of Athens, School of Mechanical Engineering. Grade: 8.17. Postgraduate Thesis title: "The Coons Method for Mesh Generation". Grade: 10**
 - I.K.Y. (State Scholarships Foundation) Scholarship for the top-ranking postgraduate student (Grade 8.17) during the academic year 1999-2000 of the Postgraduate Program of the Department of Mechanical Engineering of the National Technical University of Athens, regardless of direction.
 - Successful attendance of a cycle of theoretical and laboratory postgraduate courses in solid mechanics, materials and optomechanics, computational mechanics and dynamic behavior and analysis of mechanical problems and phenomena.

- 09.1995-09.1999 School of Sciences, University of Crete, Department of Mathematics, Heraklion, Crete. Grade: 7.03**
 - Parallel completion of the core curriculum of the Undergraduate Program of Studies of the Department of Computer Science, University of Crete.
 - Specialization in programming, numerical analysis and applied computational mathematics, through the successful attendance of advanced mathematics courses and the implementation of projects and seminars.

3. Academic & research positions

- 05.2023 - Today Full Professor, Department of Music Technology and Acoustics, Hellenic Mediterranean University.**
 - Finite Elements in Engineering and Optoacoustic Applications
 - Autonomous teaching, curriculum design and development of course material for undergraduate & postgraduate levels, writing of instructional material, and development, evolution and implementation of laboratory course exercises. Supervision / co-supervision of undergraduate students within the framework of bachelor theses, internships and seminars. Supervision / co-supervision / evaluation of postgraduate students within the framework of master's theses of specialization (as main supervisor, member of advisory and examination committees). Main supervisor of PhD candidates, member of three-member PhD advisory committees, member of seven-member PhD examination and evaluation committees.
 - Research work within the framework of research and development projects/programs (Principal Investigator, Co-Principal Investigator, Core Research Team Member). Writing and co-authoring of proposals, monitoring and management of competitive research programs. Development and maintenance of parallel processing computing systems for numerical problems.
 - Administrative and research positions of responsibility.
- 06.2019 – 05.2023 Associate Professor, Department of Music Technology and Acoustics, Hellenic Mediterranean University.**
 - Finite Elements in Engineering and Optoacoustic Applications
 - Autonomous teaching, curriculum design and development of course material for undergraduate & postgraduate levels, writing of instructional material, and development, evolution and implementation of laboratory course exercises. Supervision / co-supervision of undergraduate students within the framework of bachelor theses, internships and seminars. Supervision / co-supervision / evaluation of postgraduate students within the framework of master's theses of specialization (as main supervisor, member of advisory and examination committees). Main supervisor of PhD candidates, member of three-member PhD advisory committees, member of seven-member PhD examination and evaluation committees.
 - Research work within the framework of research and development projects/programs (Principal Investigator, Co-Principal Investigator, Core Research Team Member). Writing and co-authoring of proposals, monitoring and management of competitive research programs. Development and maintenance of parallel processing computing systems for numerical problems.
 - Administrative and research positions of responsibility.
- 12.2014 – 06.2019 Assistant Professor, Department of Natural Resources and Environmental Engineering T.E., School of Applied Sciences, TEI of Crete.**
 - Finite Elements in Engineering and Optoacoustic Applications
 - Autonomous teaching, curriculum design and development of course material for undergraduate & postgraduate levels, writing of instructional material, and development, evolution and implementation of laboratory course exercises; supervision / co-supervision of undergraduate students within the framework of bachelor theses, internships and seminars. Supervision / co-supervision / evaluation of postgraduate students within the framework of master's theses of specialization (as main supervisor, member of advisory and examination committees).
 - Research work within the framework of research and development programs in various capacities (Principal Investigator, Core Research Team Member). Co-authoring of proposals, monitoring and management of competitive research programs. Head of Sector, Laboratory Director. Development and maintenance of mechanical machining systems and their simulations. Co-authoring of publications, technical reports and scientific reviews.
 - Administrative and research positions of responsibility.
- 10.2007 - 12.2014 Lecturer, TEI of Crete-Chania, Department of Natural Resources and Environment.**
 - Finite Elements in Engineering Applications
 - Autonomous teaching, curriculum design and development of course material for undergraduate & postgraduate levels, writing of instructional material, and development, evolution and implementation of laboratory course exercises; supervision / co-supervision of undergraduate students within the framework of bachelor theses, internships and seminars. Supervision / co-supervision / evaluation of postgraduate students within the framework of master's theses of specialization (as main supervisor, member of advisory and examination committees).

- Research work within the framework of research and development programs in various capacities (Principal Investigator, Core Research Team Member). Co-authoring of proposals, monitoring and management of competitive research programs.
- Administrative and research positions of responsibility. Development and maintenance of mechanical machining systems and corresponding simulations. Co-authoring of publications, technical reports and scientific reviews. Head of Sector, Director of the Interdepartmental Laboratory of Simulations Machining and Manufacturing Lab.
- SMM. Development and maintenance of mechanical machining systems. Co-authoring of publications, technical reports and scientific reviews.

09.2005 - 10.2007 Adjunct Professor (P.D. 163), TEI of Crete, Chania Branch, Department of Natural Resources and Environment.

- Autonomous teaching, for undergraduate levels, writing of instructional material, and development, evolution and implementation of laboratory course exercises; supervision / co-supervision of undergraduate students within the framework of bachelor theses, internships and seminars.
- Research within the framework of research programs. Co-authoring of proposals, monitoring and management of competitive research programs. Development, maintenance and management of parallel processing computing systems, programming and development of finite element models. Physics and engineering simulations of "large" coupled-field models on computer clusters. Co-authoring of publications, technical reports and scientific reviews.

4. Academic and research positions

During my tenure as an Adjunct Professor, Assistant Professor, Associate Professor and Full Professor, I have served in various administrative and research positions of responsibility. Indicatively Committees (in the capacity of Chair or Member) for evaluations, tenders, procurement, curriculum reform and accreditation, study guide formulation, postgraduate study programs, placement examinations, examination scheduling, academic tutoring, temporary faculty evaluation committees, etc., the drafting of technical specifications and official reports, as well as active participation in bodies of the Department (Assemblies, Boards), the School (Deanery) and the Institution (Committees, Assemblies, Senate). Extensively detailed below are only the major positions of responsibility, administrative and research, in which I have served:

- 01.2008-06.2020- Present** Steering Committee of the Institute of Plasma Physics & Lasers of the University Research Center of the Hellenic Mediterranean University, (F.E.K.) 347 Y.O.D.D./07.05.2020. Among the founding members of the Research Group of the Center of Plasma Physics and Lasers of the T.E.I. of Crete (2008), subsequently Institute of Plasma Physics and Lasers (F.E.K. 70/t. A/07-05-2019). Head of the computational modeling & simulations team.
- 04.2024-08.2025** Elected Dean of the School of Music and Optoacoustic Technologies and member of the Senate of the Hellenic Mediterranean University, 51/25.04.2024 ADA: Ψ70346MH2I-Γ6Λ, (FEK) 713 Y.O.D.D./15.07.2024
- 01.9.2021-04.2024** Elected Head of the Department of Music Technology and Acoustics in Rethymno, Chair of the OMEA (Internal Evaluation Group), member of the Deanery of the School of Music and Optoacoustic Technologies and member of the Senate of the Hellenic Mediterranean University, (F.E.K.) 532 Y.O.D.D./09.07.2021
- 02.2021 – 05.2023** Director of the Postgraduate Program "Sound and Music Technologies" of the Department of Music Technology and Acoustics based in Rethymno, School of Music and Optoacoustic Technologies of the Hellenic Mediterranean University, 2, 1-2-2021 and instructor in the course Optoacoustics
- 09.2019-31.8.2021** Deputy Head of the Department of Music Technology and Acoustics based in Rethymno, School of Music and Optoacoustic Technologies of the Hellenic Mediterranean University, (F.E.K.) 744/t. Y.O.D.D./17-09-2019
- 11.2010-11.2015- Present** Founder (2010) and Director of the Interdepartmental Laboratory "Simulations Machining & Manufacturing – SMM Lab" of the Departments of Natural Resources & Environment and Electronics of the TEI of Crete, Chania Branch. 69/12.11.2010, which since 16-11-2015 is part of the institutionalized infrastructure of the Center of Plasma Physics & Lasers - CPPL of the TEI of Crete, which evolved into the IPPL of HMU (www.ippl.hmu.gr). The research activities and objects of the SMM laboratory evolve and continue to be executed until today at the IPPL of the HMU.
- 09.2016 - 09.2018** Director of the Renewable Energy Resources Division of the Department of Natural Resources and Environmental Engineering T.E. of the School of Applied Sciences of the T.E.I. of Crete. 54/20.12.2017 and (F.E.K.) 559/t.Y.O.D.D./12-03-2018, for two consecutive terms.
- 02.2021 - Present** Elected Member of the Five-Member Research and Management Committee of the Hellenic Mediterranean University, 90/17.02.2021 and 168/ 11.05.2022
- 2013-2015** Member of the coordinating committee and Instructor of the Postgraduate Program of Studies entitled "Geoenvironmental Resources & Risks - GEORR", which was re-established in 2018, of the Department of Natural Resources and Environmental Engineering T.E. of the School of Applied Sciences of the T.E.I. of Crete. 703, 30.9.13, 59/13.3.18. Instructor of: a. Research Methodology Computing & Practice, b. Environmental Physics

- Continuum Mechanics and c. Geostatistics & Numerical Methods, and after the re-establishment: Numerical modeling of environmental problems and structures

2013 - Present Founding member and Instructor of the Postgraduate Program of Studies entitled "PLaPa", which was re-established in 2018 under the title "LaPIA" of the Department of Electronic Engineering T.E. of the School of Applied Sciences of the T.E.I. of Crete. Instructor of: a. Principles of Scientific Computing, b. Modeling and Numerical Methods for Plasma Physics and c. Plasma Kinetics, and after the re-establishment: a. Principles of computational modelling, b. Lasers and plasma simulations and c. Modern Topics of Lasers and Plasma.

Relevant professional positions

11.2000 - 01.2006 Freelancer: Programmer – Analyst.

5. Evaluator / Reviewer

Electoral Bodies

- 2010** Regular Member – Electoral Body for the election of a faculty member of the Department of Music Technology and Acoustics of the TEI of Crete. Adjunct Professor in "Sound Acoustic Technology"
- 2017** Regular Member – Electoral Body for the election of a faculty member of the Department of Music Technology and Acoustics of the TEI of Crete. Assistant Professor in "Applied Acoustics"
- 2019** Regular Member – Electoral Body for the election of a faculty member of the Department of Electronic Engineering of the T.E.I. of Crete. Assistant Professor in "Optoelectronic plasma metrology of pulsed power electronic devices".
- 2019** Regular Member – Electoral Body for the election of a faculty member of the Department of Natural Resources and Environmental Engineering of the TEI of Crete. Assistant Professor in "Applied Environmental Engineering"
- 2020** Regular Member – Electoral Body for the election of a faculty member Associate Professor in "Applied Mathematics, with Emphasis on Quantum Physics" in the Department of Mechanical Engineering of the School of Engineering of the Hellenic Mediterranean University, Member of the Three-Member Rapporteur Committee.
- 2020** Regular Member – Electoral Body for the election of a faculty member of the Department of Music Technology and Acoustics of the Hellenic Mediterranean University of Associate Professor in "Computational ethnomusicology".
- 2020** Regular Member and Chair of the Electoral Body for the tenure review of a faculty member of the Department of Music Technology and Acoustics of the Hellenic Mediterranean University of Assistant Professor in "Applied Acoustics".
- 2022** Chair - Electoral Body for filling a faculty position in the Department of Music Technology and Acoustics of the Hellenic Mediterranean University of Associate Professor in "Artificial Intelligence in Music".
- 2022** Chair - Electoral Body for filling a faculty position in the Department of Music Technology and Acoustics of the Hellenic Mediterranean University of Professor in "Electronic and optoelectronic motion and vibration detection devices".
- 2022** Regular Member – Electoral Body for the tenure review of a faculty member in the Department of Environment of the School of Environment of the Ionian University of Assistant Professor in "Wave Physics and Numerical Methods in Acoustic and/or Optical Properties of Materials and Structures".
- 2022** Member of the three-member evaluation committee for the promotion review of a member of the Laboratory Teaching Staff of the Department of Music Technology and Acoustics of the Hellenic Mediterranean University (HMU).
- 2023** Chair and Regular Member of the Electoral Body for filling a faculty position in the Department of Music Technology and Acoustics of the Hellenic Mediterranean University of Assistant Professor in "Vibroacoustic simulations with applications to musical instruments". Member of the Three-Member Rapporteur Committee.
- 2023** Regular Member – Electoral Body for the tenure review of a faculty position of Assistant Professor, Department of Mechanical Engineering, School of Engineering, Hellenic Mediterranean University in "Simulation and analysis of Mechanical structures with composite plastic materials".
- 2023** Chair and Regular Member - Electoral Body for filling a faculty position in the Department of Music Technology and Acoustics of the Hellenic Mediterranean University at the rank of Assistant Professor in "Musical Acoustics and Room Acoustics" of the Department of Music Technology and Acoustics of the School of Music & Optoacoustic Technologies. Member of the Three-Member Rapporteur Committee.
- 2024** Chair - Electoral Body for filling a position of Associate Professor in "Networked Music Performance" of the Department of Music Technology and Acoustics of the School of Music & Optoacoustic Technologies of HMU.

- 2024** Regular Member – Electoral Body for the election of an Associate Professor in "Optoelectronic Plasma Metrology of Pulsed Electronic Power Devices" of the Department of Electronic Engineering of the Hellenic Mediterranean University.
- 2024** Alternate Member – Electoral Body for the election of an Associate Professor in "Development of Advanced Finite Element Methods for Microstructural Materials with Applications in Aerospace" of the Department of Aerospace Science and Technology of the School of Science, National & Kapodistrian University of Athens.
- 2025** Regular Member – Electoral Body for filling an Assistant Professor position of the Department of Electronic Engineering HMU in "Modeling and Simulation in Electronic-Electrical Engineering Sciences".
- 2025** Alternate Member – Electoral Body for the election of an Associate Professor of the Department of Electronic Engineering of the Hellenic Mediterranean University, in "Low-Frequency Electronic Systems for Telecommunications and Sensors".
- 2026** Alternate Member – Electoral Body for filling a faculty position at the rank of Professor in "Analysis of Mechanical Structures with Computational Methods with emphasis on Finite Element Applications in Micro/Nano-Mechanics" of the Department of Aerospace Science and Technology of the School of Science, National & Kapodistrian University of Athens.
- 2026** Regular Member – Electoral Body for the election of an Associate Professor in "Wave Physics and Numerical Methods in Acoustic and Elastic Properties of Materials and Structures", of the Department of Environment of the School of Environment of the Ionian University.
- 2026** Regular Member – Electoral Body for filling a faculty position at the rank of Assistant Professor following a faculty member's promotion/tenure review request with the academic subject "Vibroacoustic simulations with applications to musical instruments". of the Department of Music Technology and Acoustics of the Hellenic Mediterranean University.

Reviewer and evaluator of national and international research proposals

- 2015** Reviewer for the European organization COST Association (www.cost.eu) in the field of Computational Methods and Simulations, with comprehensive evaluation in Computational Simulations and Applied Mathematics, Physics and Engineering.
- 2016** Reviewer for the European organization COST Association (www.cost.eu) in the field of Computational Methods and Simulations, with comprehensive evaluation in Computational Simulations and Applied Mathematics, Physics and Engineering.
- 2017** Member of the Registry of Evaluators under the Call EDBM34. Evaluator of eleven (11) proposals submitted under the Call "Support for researchers with emphasis on young researchers" with code EDBM34.
- 2018** Evaluator within the framework of the action entitled "Strengthening human research potential through the implementation of doctoral research - 2nd Cycle, NSRF 2014-2020" of the IKY, for one proposal.
- 2019** Evaluator for the European Organization PRACE – Partnership for Advanced Computing in Europe in the PRACE - DECI 15 call with one comprehensive review in the field of stellarator simulations.
- 2019** Evaluator for the IKY within the framework of the action entitled: "Support of Postdoctoral Researchers", 2nd Cycle, under the operational program "Human resources development, education and lifelong learning", for six (6) proposals.
- 2020** Invited Reviewer for the National Science Centre Poland, Funding scheme: OPUS-19, in the subject of modeling and simulation of multi-scale computational problems (multiscale modeling).
- 2020** Evaluator for the European Organization PRACE – Partnership for Advanced Computing in Europe in the PRACE - DECI 16 call with one comprehensive review in the field of turbulent flow simulations in plasma.
- 2017-Present** Member of the Certified Evaluators Registry of the General Secretariat for Research and Technology - GSRT (ΓΓΕΤ)
- 2017-Present** Member of the Certified Evaluators Registry of the Research Promotion Foundation's (RPF) Innovation and Research Information System (IRIS) - Cyprus Research Promotion Foundation (RPF), equivalent to the GSRT Evaluators Registry.
- 2021** Reviewer with participation as an independent expert of H.F.R.I. (ΕΛ.ΙΔ.Ε.Κ.), in the Scientific Area "Engineering and Technology Sciences" under the "3rd Call for Research Projects for the Support of Postdoctoral Researchers", with review of one proposal.
- 2021-Present** Reviewer of three (3) Proposals, Invited by the National Science Centre Poland, Funding scheme: PRELUDIUM-20 (1), SONATA-17 (2) and OPUS-23 (3,4) in the subjects of modeling and simulation of computational

- engineering problems: (1) multiscale modeling, (2) mathematical modeling, (3) computational acoustics, (4) optoacoustic degradation.
- 2025** Invited reviewer of the Czech Science Foundation GACR, in the subject of conducting simulations and experiments in the field of condensed matter and materials, plasma physics and low temperatures, of the public call for project support for basic research grants.
- 2025** Certifier of physical object of intermediate and final reports for projects submitted under the Action framework of the call with prot.no. 53810 - 08-07-2024 ADA:6MΨ846NΛΣΞ-M8O "Participation in the Joint Undertaking (JU) of the Partnership for European High Performance Computing– European High Performance Computing /EuroHPC JU" Action ID: 16618, MIS TA: 5161691, for two International Projects.
- 2026** Invited Evaluator of the National Science Centre, Poland (NCN) to the Expert's Panel evaluating the proposals submitted within the scheme “SONATA” in the Physical Sciences and Engineering ST8 Panel (Production and processes engineering) at CNR Poland in NCN headquarters in Krakow.

Member of scientific committees and organizations

- 2018** Member of the Scientific Committee for the organization of the International Conference 35th European Conference on Laser Interaction with Mater – ECLIM 2018 (eclim2018.org). (<http://www.eclim2018.org/>). “Advanced modeling & simulation methods for lasers and plasma”, Rethymno, Greece
- 2019 - Present** Member of the Scientific Committee of the Greek branch of the International Organization Modern Technologies in Industrial Engineering from 2019 to present (modtech.ro). (https://modtech.ro/professional-association/Greece_Branch.php).
- 2020 - Present** Member of the International Scientific Committee of the International Organization IManEE - Innovative Manufacturing Engineering & Energy imane.ro since 2020 <https://imane.ro/committees/>
- 2021 - Present** Member of the International Scientific Committee of the International Organization Physics Sciences and Engineering Technology icpset.com and its International Committee since 2021 <http://icpset.com/Committee.html>
- 2014 - Present** Member of the Scientific Committee European Physical Society – EPS Conferences on Plasma Physics ciemates since 2014 <http://plasma.ciemat.es/eps/>
- 2020 - Present** Member of the Reviewer Board of :
 1. Applied Sciences (https://www.mdpi.com/journal/applsci/submission_reviewers)
 2. Mathematics (https://www.mdpi.com/journal/mathematics/submission_reviewers)
- 2020 - Present** Topic Editor of the Internationally recognized Journal Mathematics, MDPI AG Publishing House (https://www.mdpi.com/journal/mathematics/topic_editors)
- 2020 - Present** Member of the Early Career Editorial Board for the international journal High Power Laser Science and Engineering (HPLSE) [5.943 IF], Cambridge University Press (<https://www.cambridge.org/core/journals/high-power-laser-science-and-engineering/hplse-early-career-editorial-board>)
- 2023** Member of the Scientific Committee of the European Conference on Plasma Diagnostics, (ECPD), 23-29 April 2023 <https://ecpd2023.eventsadmin.com/i/committee>
- 2024 - Present** Member of the Hellenic Institute of Acoustics – HEL.IN.A (EA.IN.A), helina.gr, <https://helina.gr/gr/>
- 2024** Vice-Chair of the Organizing Committee of the 12th Panhellenic Acoustics Conference (helina.gr) and member of the Scientific Committee. Organized by the Department of Music Technology and Acoustics HMU, Rethymno, 17-19 October, 2024. (<https://conferences.helina.gr/2024/gr/>)
- 2026- Present** Member of the Management Committee of the COST Association for the Action: CA25144, Inertial fusion energy: supply Chain of laser-targets from Exploration to Delivery (ICED)

Scientific journals reviewer

Zentralblatt MATH - Reviewer in: i) Numerical analysis, ii) Ordinary differential equations, ii) Partial differential equations, over 100 completed reviews.

Elsevier - Simulation Modelling Practice and Theory, Optics Communications, Optics and Laser Technology, Applied Acoustics

Springer Nature - Scientific Reports, Applied Physics A, Advances in Manufacturing, Waste and Biomass Valorization Waste and Biomass Valorization, Journal of Zhejiang University - SCIENCE A, European Journal of Wood and Wood Products, Discover Metals

2007 - Present

Wiley – Rare Metals

Taylor & Francis - Wood Material Science and Engineering

Cambridge University Press - High Power Laser Science and Engineering

IOP Science - Smart Materials and Structures, Physica Scripta

AIP Publishing – Physics of Fluids

SAGE Journals - International Journal of Damage Mechanics

MDPI – Acoustics, Computation, Mathematics, Algorithms, Machines, Energies, Applied Sciences, Symmetry, Coatings, Materials, Sensors, Technologies, Nanomaterials

Journals of Polish Academy of Sciences (PAN) – Archive of Mechanical Engineering

6. Teaching & Education

Undergraduate Programs	
- Finite Elements in Acoustics - Applications & Metrology of Optoacoustics - Structural Acoustics - Scientific Computing - Technical Mechanics & Structures - Manufacturing Technologies - Fluid Mechanics in the Environment - Transport Phenomena	- Informatics I & II - Mathematics for Engineers I & II - CAD - Materials Science - Mechanisms and Introduction to Machine Design - Analysis of Mechanical Structures I & II - Mechanisms and Robotic Systems
Postgraduate Programs	
- Lasers and Plasma Simulations (LAPLA) - Principles of Computational Modeling (LAPLA) - Modeling & Numerical Methods for Plasma Physics (PLAPA) - Principles of Scientific Computing (PLAPA) - Plasma Kinetics (PLAPA) - Modern Topics in Lasers and Plasmas (LAPLA)	- Optoacoustics (MTA) - Research Methodology Computing & Practice (GEORR) - Environmental Physics - Continuum Mechanics (GEORR) - Geostatistics & Numerical Methods (GEORR) - Numerical modeling of environmental problems and structures (GEORR)

7. Supervision & evaluation of Theses**Supervision of undergraduate theses**Completed undergraduate bachelor theses

1. "Modeling of a conventional car and preliminary study of conversion into an eco-friendly car", by student Lympieropoulos Georgios, Department of Natural Resources and Environment, TEI of Crete, 2010
2. "Digital guidance of a CNC machining center using programming", by student Petros A. Zografos, Department of Natural Resources and Environment, TEI of Crete, 2011
3. "CAD/CAM-CAE computational design, analysis and manufacturing of a wind turbine blade mold", by student Papadoulis Theodoros, Department of Natural Resources and Environment, TEI of Crete, 2011
4. "Modeling and manufacturing of a vertical axis wind turbine blade mold assembly", by student Nikolaos G. Fialas, Department of Natural Resources and Environment, TEI of Crete, 2013
5. "Simulation of behavior & vibrational characteristics of a drum", by student Kokkinakis Manolis, Department of Music Technology and Acoustic Technology, TEI of Crete, 2013
6. "Development of a dynamic & multimedia website for the optimal presentation and highlighting of research activities in interaction with users and administrators", by student Tatarakis Markos, Department of Informatics Engineering, TEI of Crete, 2014

7. *"Design study and mechanical manufacturing of a sedimentation tank"*, by student Tyrkos Nektarios, Department of Natural Resources and Environmental Engineering, TEI of Crete, 2015
 8. *"Material removal machining processes and simulations. Modeling of turning with API-VB programming in a CAD environment"*, by student Fragkakis Dimitrios, Department of Natural Resources and Environmental Engineering, TEI of Crete, 2015
 9. *"Research and selection of most suitable materials for the manufacturing of a vertical axis wind turbine blade by casting in a split mold"*, by student Kapadoukaki Eleftheria, Department of Natural Resources and Environmental Engineering, TEI of Crete, 2015
 10. *"Optimization of a Computer Cluster System in Hardware and Software, in a LINUX Environment, for Parallel Processing of High-Demand Simulation Problems"*, by student Baroutsos Andreas, Department of Natural Resources and Environmental Engineering, TEI of Crete, 2016
 11. *"Measurement of cutting conditions influence on the quality of final parts with the help of roughness measurements"*, by student Konstantakis Michalis, Department of Natural Resources and Environmental Engineering, TEI of Crete, 2016
 12. *"Modeling and simulation of building seismic vibrations using finite elements and Matlab ANSeismic"*, by student Kolliou Mary, Department of Natural Resources and Environmental Engineering, TEI of Crete, 2017
 13. *"Simulation of material removal in machining processes reduced to orthogonal cutting with finite elements and use of the ALE formulation"*, by student Variantza Eleni, Department of Natural Resources and Environmental Engineering, TEI of Crete, 2018
 14. *"Modeling & simulation of fluid flow in conduits"* by student Malliaris Alexandros, Department of Electronic Engineering, HMU, 2019
 15. *"Three-dimensional modeling and analysis of a functional single-cylinder engine under scale"*, by student Lethiotakis Emmanouil, Department of Electronic Engineering, HMU, 2019
 16. *"Modeling and simulation of orthogonal cutting machining with FEM-SPH finite element methods"* by student Papadakis Christos, Department of Electronic Engineering, HMU, 2019
 17. *"Guidance of matter in extreme plasma states with the help of Lasers"*, by student Gerasimos Vlachos, National and Kapodistrian University of Athens, Department of Physics, Sector of Astrophysics, Astronomy and Mechanics, in collaboration with the Institute of Plasma Physics and Lasers - URC HMU, Athens 2020 (Co-supervised with Assoc. Prof. of Physics NKUA Vlahakis Nektarios)
 18. *"Study of vibrational characteristics on a violin top plate with numerical simulation models"* by students Panagiotakis Theocharis and Marakis Charilaos, Department of Music Technology and Acoustics, HMU, 2021 (Co-supervised with HMU MSc E. Kaselouris)
 19. *"Functionality of conventional machine tools for hybrid Laser machining processes"* Antonios Sarantis-Karamesinis and Eleni Saranti-Karamesini, Department of Electronic Engineering, HMU, 2022
 20. *"Parametric design of drum cymbals in CAD and natural frequency analysis using the finite element method"*, Maximilian Francis Kampoutz, Department of Music Technology and Acoustics, HMU, 2023
 21. *"Construction of a tzouras & study of vibrational characteristics of a tzouras and its top plates"*, Michailidis Orestis, Department of Music Technology and Acoustics, HMU, 2024 (Co-supervised with Lab Staff Dr. Orfanos Giannis)
 22. *"Design of a tzouras and natural frequency analysis using the finite element method"*, Athanasios and Georgios Skoutelis, Department of Music Technology and Acoustics, HMU, 2024 (Co-supervised with Assist. Prof. HMU E. Kaselouris)
 23. *"Study and comparison of vibrational behavior of 3D printed tzouras top plates and cymbals"*, Despoina Grigoriou, Department of Music Technology and Acoustics, HMU, 2024 (Co-supervised with S. Brezas)
 24. *"Recording of deformations with electronic sensors during the interaction of metals with laser"*, Rouchotas Dionysios, Department of Electronic Engineering, HMU, 2025
 25. *"Numerical guidance of baglamas bowl construction using subtractive and additive manufacturing processes"*, Lampros Kariotoglou, Department of Music Technology and Acoustics, HMU, 2026
 26. *"Materials for the manufacturing of cymbals, machining processes and computational simulations"*, Garefalaki M. and Trelaka M., Department of Music Technology and Acoustics, HMU
- Supervision of Erasmus student Mathieu Moire, from the University IUT Lille France, in the implementation of the Project: Measurement of forces arising during cutting manufacturing processes by the help of digital Dynamometer and Direct Network Control (NC) and CNC Programming, which led to the writing and presentation of the project within the Erasmus mobility framework: Measurement of forces arising during cutting manufacturing processes, Department of Electronic Engineering, TEI of Crete, 2008
 - Supervision of Erasmus+ Student Mobility for Traineeships student, Bruno Serena, from the University Università Politecnica Italy, in the implementation of the Project: CAD basics and computational design of cymbals, modal analysis of cymbals with computational (FEM) and experimental (ESPI) methods, studying prospects on the modification of the acoustic properties of cymbals by continuous wave lasers, Department of Music Technology and Acoustics, HMU, 2023

Supervision of undergraduate internships

Laboratory of Simulations, Machining & Manufacturing–SMM and Institute of Plasma Physics and Lasers – IPPL of HMU, for the students:

1. Boura Konstantinos – SMM (2013)
2. Christodoulaki Kleio – SMM (2015)
3. postolis Tziampatzidis – SMM (2015)
4. Variantza Eleni – SMM (2017)
5. Papadakis Christos – SMM (2018)
6. Metaxaki Maria – SMM (2018)
7. Malliaris Alexandros – SMM (2019)
8. Tzimarakas Stergios – SMM (2019)
9. Sarantis Antonis - IPPL (2022)

Supervision of postgraduate master theses

1. Emmanouil Skarvelakis: "Investigation of the thermomechanical behavior of metallic specimens with defects irradiated by laser pulses using Finite Element Method simulations." In collaboration with the School of Production Engineering and Management, Technical University of Crete, at the Simulation and Mechanical Manufacturing Laboratory (SMM). Member of the Three-Member Advisory Committee and the Examination Committee. (Completed 2015).
 2. Stylianos Passalidis: "Hydrodynamic simulations of collisional shockwaves in gas targets for improved ion acceleration." Supervisor at CPPL, MSc Program "PLAPA", in collaboration with Imperial College London. (Completed 2018).
 3. Nikolaos Ligopsychakis: "Study of X-Pinch Plasma Dynamics using a 40kA Pulsed Power Plasma Device." Supervisor at CPPL, MSc Program "PLAPA", and member of the Examination Committee. (Completed 2019).
 4. Ioannis Tazes: "Experimental and numerical study of laser induced particle acceleration from solid targets." Supervisor at CPPL, MSc Program "PLAPA", and member of the Examination Committee. (Completed 2019).
 5. Andreas Baroutsos: "Finite element simulations of Laser Assisted Machining Methods for multi scale modeling techniques." Supervisor at CPPL, MSc Program "PLAPA", and member of the Examination Committee. (Completed 2020).
 6. Emilios Mouziouras: "Comparison of EPOCH and SMILEI Particle-In-Cell codes in laser driven particle acceleration." Supervisor at CPPL, MSc Program "PLAPA", and member of the Examination Committee. (Completed 2020).
 7. Alexandros Skoulakis: "X-pinch table top device studies and diagnostics." Supervisor at CPPL, MSc Program "PLAPA", and member of the Examination Committee. (Completed 2020).
 8. Eleni Papadaki: "Finite element study of the dynamic behavior of Si targets in sequential irradiation by ns laser pulses." Supervisor at CPPL, MSc Program "PLAPA", and member of the Examination Committee. (Completed 2022).
 9. Dimitris Louloudakis: "Mesh generation for laser matter interaction FEM models using Coons mapping." Supervisor at CPPL, MSc Program "PLAPA", and member of the Examination Committee. (Completed 2023).
 10. Alexandros Gkosta: "Computer Numerical Control of a 3-Axis Milling Machine for Continuous Wave Laser Machining Processes." Supervisor at CPPL, MSc Program "PLAPA". (Completed 2024).
 11. Efsthathios Kamposos: "Laser Machining by Continuous Wave High-Power Fiber Laser." Supervisor at CPPL, MSc Program "PLAPA". (Completed 2024).
 12. Despoina Grigoriou: "Study and vibration analysis of wooden soundboards of the baglamas." Supervisor at MTA, MSc Program "Sound and Music Technologies". (Completed 2025).
 13. Nikolaos Charalampidis: "Upgrade and automation of the 3D-ADM system for the excitation and collection of acoustic sound signals from percussion instruments." Supervisor at MTA, MSc Program "Sound and Music Technologies". (Completed 2026).
 14. Efstratios Syrianidis: "Thermomechanical behavior of metallic and composite materials during their interaction with continuous wave lasers." Supervisor at CPPL, MSc Program "PLAPA". (In Progress).
- Thomas Kestis: "Determination of gear tooth flank roughness in a CAD environment." In collaboration with the School of Production Engineering and Management, Technical University of Crete, at the Design and Manufacturing Laboratory (DML). (2008).

Principal supervisor of Doctoral Dissertations

1. Eleni Papadaki: "Optoacoustic computational study using the Finite Element Method of micro- and nano-structured materials during their interaction with laser pulses", Department of Music Technology and Acoustics, Hellenic Mediterranean University (HMU) (In progress).
2. Despoina Grigoriou: "Vibroacoustic analysis and design optimization of stringed musical instruments of the bouzouki family", Department of Music Technology and Acoustics, Hellenic Mediterranean University (HMU)

Co-supervision of Doctoral Dissertations

1. Antonios Kavroulakis: “*Finite element simulations of the thermomechanical behavior of materials for thermonuclear fusion reactors*”, Department of Electronic Engineering, Hellenic Mediterranean University (HMU), Institute of Plasma Physics and Lasers (IPPL), Member of the three-member advisory committee (In progress).
2. Georgios Vernados: “Interaction of continuous-wave laser with unmanned aerial vehicles (drones)”, Department of Electronic Engineering, Hellenic Mediterranean University (HMU), Institute of Plasma Physics and Lasers (IPPL), Member of the three-member advisory committee (In progress).
3. Alekos Skoulakis: “Characterisation of plasmas generated by table-top pulsed power devices & lasers”, Department of Electronic Engineering, Hellenic Mediterranean University (HMU), Institute of Plasma Physics and Lasers (IPPL), Member of the three-member advisory committee (In progress).
4. Markos Katsipis: “The influence of modern and alternative materials on the vibroacoustic study of stringed musical instruments”, Member of the three-member advisory committee (In progress).
5. Michail Starakis: “Identification of percussion musical instruments from the produced sound using machine learning techniques”, Member of the three-member advisory committee (In progress).
6. Emmanouil Kaniolakis: “Ultrashort and high-frequency acoustic pulses generated by optoacoustic and piezoelectric transducers with applications in the study and modification of simple and nano-structured materials”, Department of Music Technology and Acoustics, Hellenic Mediterranean University (HMU), Member of the three-member advisory committee (In progress).
7. Georgios Chantoumakos: “Study and design of converting conventional and CNC machine tools into laser-assisted hybrid ones”, National Technical University of Athens (NTUA), School of Mechanical Engineering, Manufacturing Technology Section, Member of the three-member advisory committee (In progress).
8. Ioannis Tazes: “Proton acceleration in solid targets using intense laser pulses”, Department of Electronic Engineering, Hellenic Mediterranean University (HMU), Institute of Plasma Physics and Lasers (IPPL), Member of the three-member advisory committee (Completed 2026).
9. Tasos Grigoriadis: “Electron acceleration to relativistic velocities using ultra-intense lasers”, in collaboration with the University of Ioannina, Institute of Plasma Physics and Lasers (IPPL), Member of the three-member advisory committee (Completed 2023).
10. Georgios Koundourakis: “Magnetized jets in laboratory astrophysics”, Auxiliary co-supervision in collaboration with the Department of Physics, School of Science, National and Kapodistrian University of Athens (NKUA), Institute of Plasma Physics and Lasers (IPPL) (Completed 2022).
11. Evangelos Kaselouris: “Study of matter behavior dynamics governed by the interaction with laser pulses and external strong currents”, Auxiliary co-supervision in collaboration with the School of Production Engineering and Management, Technical University of Crete (TUC), Centre for Plasma Physics and Lasers (CPPL) (Completed 2016).

External Referee of Doctoral Dissertations / Member of the Examination Committee

1. Member of the three-member evaluation committee for the public defense of the Doctoral Dissertation of K. Paschalidis: “Modeling of PFCs damage under energetic dynamic phenomena in fusion reactors (Tokamak)”, School of Electrical Engineering and Computer Science, KTH Royal Institute of Technology (Completed 2025).
2. Doctoral Dissertation of Georgia Andrianaki: “Particle acceleration using a high intensity Laser facility and the role of gas dynamics”, Technical University of Crete (TUC) - Institute of Plasma Physics and Lasers (IPPL), Member of the seven-member examination committee (Completed 2023).
3. Doctoral Dissertation of Georgios Koundourakis: “Magnetized jets in laboratory astrophysics”, National and Kapodistrian University of Athens (NKUA) - Institute of Plasma Physics and Lasers (IPPL), Member of the seven-member examination committee (Completed 2022).
4. Doctoral Dissertation of José A. Moreno: “EMcLAW: development and applications of an AMR Maxwell solver code”: External referee and examiner/rapporteur of the Doctoral Dissertation on the numerical solution of Maxwell's equations using the Finite Volume Method, utilizing novel computational techniques and adaptive mesh refinement methods to increase solution accuracy and speed. Departamento de Ingeniería Energética, Instituto de Fusión Nuclear "Guillermo Velarde", E.T.S.I. Industriales, Universidad Politécnica de Madrid (Completed 2021).
5. Doctoral Dissertation of Evangelos Kaselouris: “Study of matter behavior dynamics governed by the interaction with laser pulses and external strong currents”, Technical University of Crete (TUC) - Centre for Plasma Physics and Lasers (CPPL), Member of the seven-member examination committee (Completed 2016).

8. Publications

Book Chapters

- Ch01** D. D. Kolokotsa, **V. Dimitriou** and A. Synnefa, “Modeling Cool Materials’ Properties”, Chapter in Advances in the Development of Cool Materials for the Built Environment, Bentham science, 2013, pp 195 –230
DOI: <https://benthambooks.com/book/9781608054718/>
- Ch02** E. Bakarezos, Y. Orphanos, E. Kaselouris, **V. Dimitriou**, M. Tatarakis, N. A. Papadogiannis, *Laser-Based Interferometric Techniques for the Study of Musical Instruments*, Chapter in Computational Phonogram Archiving, pp. 251-268 (2019) (Ed. R. Bader) Springer. DOI: <https://www.springerprofessional.de/en/laser-based-interferometric-techniques-for-the-study-of-musical-/16421344>
- Ch03** Tools for investigating electronic excitation: experiment and multi-scale modelling, 2021, Edited by: T. Apostolova, J. Kohanoff, N. Medvedev, E. Oliva, and A. Rivera. **V. Dimitriou**: Chapter 11 FEM Modeling and Simulations in Laser Matter Interactions and Plasma MHD problems ISBN 978-84-09-36032-1. <https://doi.org/10.20868/UPM.book.69109>
- Ch04** Tools for investigating electronic excitation: experiment and multi-scale modelling, 2021, Edited by: T. Apostolova, J. Kohanoff, N. Medvedev, E. Oliva, and A. Rivera. E. Kaselouris, G. Koundourakis, **V. Dimitriou**: Chapter 18 Case studies on FEM and MHD, ISBN 978-84-09-36032-1. <https://doi.org/10.20868/UPM.book.69109>
- Ch05** ATHENA Research Book, Volume 2, September 2023, Maribor, Slovenia, Editors: J. Gyorkos, R. Blonder, A.F. Delouis, J. Javornik, K. Petridis DOI <https://doi.org/10.18690/um.4.2023> pp 73, 98, 411, 455 E-book: <https://press.um.si/index.php/ump/catalog/book/812>

Publications in Peer-Reviewed International Journals

- P01** **V. Dimitriou**, A. Kanarachos, D. Koulocheris, “*An Approach to Unstructured Finite Element Mesh Generation Using Coons Mapping and Smoothing Techniques*”, WSEAS Transactions on Circuits and Systems, 2003, Issue 3, Vol. 2, p.p.473 – 478, ISSN 1109-2734 <http://wseas.org>
- P02** **Dimitriou, V.**, Vidakis, N., Antoniadis, A., “*Advanced Computer Aided Design Simulation of Gear Hobbing by Means of 3-Dimensional Kinematics Modeling*”, ASME Journal of Manufacturing Science and Engineering, 2007,129/5, p.p.911-918 DOI: <https://doi.org/10.1115/1.2738947>
- P03** Santamouris, M., Synnefa, A., Kolokotsa, D., **Dimitriou, V.**, Apostolakis, K., “*Passive cooling of the built environment- Use of innovative reflective materials to fight heat islands and decrease cooling needs*”, International Journal of Low Carbon Technologies, 2008, 3 (2), pp. 71-82 DOI: <https://doi.org/10.1093/ijlct/3.2.71>
- P04** Kyratsis, P., Bilalis, N., **Dimitriou, V.**, Antoniadis, A., “*CAD based drilling using conventional twist drills*”, Academic Journal of Manufacturing Engineering, 2008, 1: pp. 202-209, SUPPLEMENT ISSUE 1.2008
- P05** **Dimitriou, V.**, Antoniadis, A., “*CAD-based simulation of the hobbing process for the manufacturing of spur and helical gears*”, International Journal of Advanced Manufacturing Technology, 2009, 41(3-4), pp. 347-357 DOI: <https://doi.org/10.1007/s00170-008-1465-x>
- P06** Orphanos Y., **Dimitriou V.**, Kaselouris E., Bakarezos E., Vainos N., Tatarakis M., Papadogiannis N., “*An integrated method for material properties characterization based on pulsed laser generated surface acoustic waves*”, Microelectronic Engineering, 2013, 112, pp.249–254 DOI: <https://doi.org/10.1016/j.mee.2013.03.146>
- P07** P. Seferou, P. Souplos, N.N. Kourgialas, Z. Dokou, G.P. Karatzas, E. Candasayar, N. Papadopoulos, **V. Dimitriou**, A. Sarris, M. Sauter, “*Olive oil mill wastewater transport under unsaturated and saturated laboratory conditions using geoelectrical resistivity tomography method and the FEFLOW model*”, Hydrogeology Journal, 2013, 21 (6), pp. 1219-1234 DOI: <https://doi.org/10.1007/s10040-013-0996-x>
- P08** **V. Dimitriou**, E. Kaselouris, Y. Orphanos, M. Bakarezos, N. Vainos, M. Tatarakis and N. A. Papadogiannis, “*Three dimensional transient behavior of thin films surface under pulsed laser excitation*”, Applied Physics Letters 103, 114104 (2013) DOI: <https://doi.org/10.1063/1.4821274>
- P09** E. Kaselouris, I. K. Nikolos, Y. Orphanos, E. Bakarezos, N. A. Papadogiannis, M. Tatarakis and **V. Dimitriou**, “*A Review of Simulation Methods of Laser Matter Interactions Focused on Nanosecond Laser Pulsed Systems*”, Journal of Multiscale Modelling, Vol. 5, No. 4, (2013), pp 1330001 DOI: <https://doi.org/10.1142/S1756973713300013>
- P10** C. Kamperidis, **V. Dimitriou**, S.P.D. Mangles, A.E. Dangor, Z. Najmudin, “*Low energy spread electron beams from ionisation injection in a weakly relativistic laser wakefield accelerator*”, Plasma Physics and Controlled Fusion, vol.56, Issue Num. 8, p.p. 084007, (2014) DOI: <https://doi.org/10.1088/0741-3335/56/8/084007>
- P11** A. Skoulakis, G.C. Androulakis, E.L. Clark, S.M. Hassan, P. Lee, J. Chatzakis, M. Bakarezos, **V. Dimitriou**, C. Petridis, N.A. Papadogiannis and M. Tatarakis, “*A portable pulsed neutron generator*”, International Journal of Modern Physics: Conference Series, Vol. 27, 1460127 (2014) DOI: <https://doi.org/10.1142/S2010194514601276>

- P12** V. **Dimitriou**, E. Kaselouris, Y. Orphanos, M. Bakarezos, N. Vainos, I.K. Nikolos, M. Tatarakis, N.A. Papadogiannis, “The thermo-mechanical behavior of thin metal films under nanosecond laser pulse excitation above the thermoelastic regime”, *Applied Physics A: Materials Science and Processing*, 118, 739-748 (2014) DOI: <https://doi.org/10.1007/s00339-014-8792-6>
- P13** E. Kaselouris, I.K. Nikolos, Y. Orphanos, M. Bakarezos, N.A. Papadogiannis, M. Tatarakis and V. **Dimitriou**, “Elastoplastic study of nanosecond-pulsed laser interaction with metallic films using 3D multiphysics fem modeling”, *International Journal of Damage Mechanics*, 25, 42-55 (2016) DOI: <https://doi.org/10.1177/1056789515576553>
- P14** E. Kaselouris, E. Skarvelakis, I. K. Nikolos, G. E. Stavroulakis, Y. Orphanos, E. Bakarezos, N. A. Papadogiannis, M. Tatarakis, V. **Dimitriou**, “Simulation of the Transient Behavior of Matter with Characteristic Geometrical Variations & Defects Irradiated by Nanosecond Laser Pulses Using FEA”, *Key Engineering Materials*, 665, 157-160, 2016 DOI: <https://doi.org/10.4028/www.scientific.net/KEM.665.157>
- P15** E. Kaselouris, T. Papadoulis, E. Variantza, A. Baroutsos and V. **Dimitriou**, “A Study of Explicit Numerical Simulations in Orthogonal Metal Cutting”, *Solid State Phenomena*, Vol. 261, pp 339-346, 2017 DOI: <https://doi.org/10.4028/www.scientific.net/SSP.261.339>
- P16** E Kaselouris, V **Dimitriou**, I Fitis, A Skoulakis, G Koundourakis, EL Clark, M Bakarezos, IK Nikolos, NA Papadogiannis, M Tatarakis, “The influence of the solid to plasma phase transition on the generation of plasma instabilities”, *Nature Communications* 8, 1713 (2017) DOI: <https://doi.org/10.1038/s41467-017-02000-6>
- P17** E. Kaselouris, V. **Dimitriou**, I. Fitis, A. Skoulakis, G. Koundourakis, E. Clark, J. Chatzakis, E. Bakarezos, I. Nikolos, N. Papadogiannis and M. Tatarakis, “Preliminary investigation on the use of low current pulsed power Z-pinch plasma devices for the study of early stage plasma instabilities”, *Plasma Physics and Controlled Fusion*, Plasma Physics and Controlled Fusion 014031 (8pp), 60, 2018 DOI: <https://doi.org/10.1088/1361-6587/aa8ab0>
- P18** M. Bakarezos, E. Tzianaki, S. Petrakis, G. Tsibidis, P.A. Loukakos, V. **Dimitriou**, C. Kosmidis, M. Tatarakis, N.A. Papadogiannis, “Ultrafast laser pulse chirp effects on laser-generated nanoacoustic strains in Silicon”, *Ultrasonics* 86, 14-19, 2018 DOI: <https://doi.org/10.1016/j.ultras.2018.01.008>
- P19** Yannis Orphanos, Kyriaki Kosma, Evaggelos Kaselouris, Nikolaos Vainos, Vasilis **Dimitriou**, Makis Bakarezos, Michael Tatarakis and Nektarios A. Papadogiannis, “Integrated nanosecond laser full-field imaging for femtosecond laser generated surface acoustic waves in metal film-glass substrate multilayer materials”, *Applied Physics A* 125 (4), 269, 2019 DOI: <https://doi.org/10.1007/s00339-019-2552-6>
- P20** J Pasley, G Andrianaki, A Baroutsos, D Batani, EP Benis, M Borghesi, E Clark, D Cook, E D’Humieres, V **Dimitriou**, B Dromey, M Ehret, I Fitis, A Grigoriadis, S Kar, E Kaselouris, O Klimo, M Koenig, K Kosma, G Koundourakis, M Kucharik, A Lavery, J Limpouch, Y Orphanos, NA Papadogiannis, S Petrakis, D Riley, MS Rivetta, LT Pascual, JJ Santos, A Skoulakis, I Tazes, V Tikhonchuk, J Trela, C Tsitou, L Volpe, S White, M Yeung, M Tatarakis, “Innovative Education and Training in high power laser plasmas (PowerLaPs) for plasma physics, high power laser–matter interactions and high energy density physics – theory and experiments”, *High Power Laser Science and Engineering*, Vol. 7, e23, 2019 DOI: <https://doi.org/10.1017/hpl.2019.7>
- P21** John Pasley, Georgia Andrianaki, Andreas Baroutsos, Dimitri Batani, Emmanouil P Benis, Andrea Ciaridi, Donna Cook, Vasilios **Dimitriou**, Brendan Dromey, Ioannis Fitis, Giancarlo Gatti, Anastasios Grigoriadis, Marine Huault, Jose Antonio Pérez Hernández, Evaggelos Kaselouris, Ondrej Klimo, Michel Koenig, George Koundourakis, Milan Kucharik, Jiri Limpouch, Richard Liska, Carlos Salgado Lopez, Sophia Malko, Susana Olmos-Migueláñez, Yannis Orphanos, Valeria Ospina, Nektarios A Papadogiannis, Stelios Petrakis, Jan Psikal, Maria Serena Rivetta, María-José Rodríguez-Conde, João Jorge Santos, Milan Sinor, Alexandros Skoulakis, Ioannis Tazes, Laura Tejada Pascual, Calliope Tsitou, Pavel Vachal, Luca Volpe, Jiri Vyskocil, Steven White, Mark Yeung, Ghassan Zerouli, Michael Tatarakis, “Innovative education and training in high power laser plasmas (PowerLaPs) for plasma physics, high power laser matter interactions and high energy density physics: experimental diagnostics and simulations”, *High Power Laser Science and Engineering*, Vol. 8, e5, 2020 DOI: <https://doi.org/10.1017/hpl.2020.4>
- P22** E. Kaselouris, A. Baroutsos, T Papadoulis, N.A. Papadogiannis, M. Tatarakis, V. **Dimitriou**, “A Study on the Influence of Laser Parameters on Laser-Assisted Machining of Aisi H-13 Steel”, *Key Engineering Materials* 827, 92-97, 2020 DOI: doi.org/10.4028/www.scientific.net/KEM.827.92
- P23** E. Kaselouris, A. Skoulakis, Y. Orphanos, K. Kosma, T. Papadoulis, I. Fitis, E. Clark, A.P. Markopoulos, M. Bakarezos, N.A. Papadogiannis, M. Tatarakis, V. **Dimitriou**, “Analysis of the Heat Affected Zone and Surface Roughness during Laser Micromachining of Metals”, *Key Engineering Materials* 827, 122-127, 2020 DOI: doi.org/10.4028/www.scientific.net/KEM.827.122
- P24** S. Passalidis, O. Ettlinger, G.S. Hicks, N.P. Dover, Z. Najmudin, E.P. Benis, E. Kaselouris, N.A. Papadogiannis, M. Tatarakis and V. **Dimitriou**, “Hydrodynamic computational modelling and simulations of collisional shockwaves in gas jet targets”, *High Power Laser Science and Engineering*, 8, E7 (2020) DOI: <https://doi.org/10.1017/hpl.2020.5>
- P25** Konstantinos Kaleris, Yannis Orphanos, Makis Bakarezos, Vasilis **Dimitriou**, Michael Tatarakis, John

- Mourjopoulos, Nektarios A Papadogiannis, “On the correlation of light and sound radiation following laser-induced breakdown in air”, *Journal of Physics D: Applied Physics*, 53 435207, 2020 DOI: <https://doi.org/10.1088/1361-6463/ab9ee6>
- P26** I Tazes, JF Ong, O Tesileanu, KA Tanaka, NA Papadogiannis, M Tatarakis, **V Dimitriou**, “Target normal sheath acceleration and laser wakefield acceleration particle-in-cell simulations performance on CPU & GPU architectures for high-power laser systems”, *Plasma Phys. Control. Fusion* 62 (9) 094005, 2020 DOI: <https://doi.org/10.1088/1361-6587/aba17a>
- P27** G Koundourakis, A Skoulakis, E Kaselouris, I Fitis, EL Clark, J Chatzakis, M Bakarezos, N Vlahakis, NA Papadogiannis, **V Dimitriou**, M Tatarakis, “A numerical study on laboratory plasma dynamics validated by low current x-pinch experiments”, *Plasma Physics and Controlled Fusion* 62 (12), 125012, 2020 DOI: <https://doi.org/10.1088/1361-6587/abbebf>
- P28** E Kaselouris, A Skoulakis, I Fitis, Y Orphanos, I Tazes, K Kosma, M Bakarezos, N Papadogiannis, M Tatarakis and **V Dimitriou**, Dynamics of the heat affected zone and induced strains in laser machining below ablation threshold, *IOP Conference Series: Materials Science and Engineering*, 916 012050, 2020 DOI: <https://doi.org/10.1088/1757-899X/916/1/012050>
- P29** E Kaselouris, I Fitis, A Skoulakis, Y Orphanos, G Koundourakis, EL Clark, J Chatzakis, M Bakarezos, NA Papadogiannis, **V Dimitriou**, M Tatarakis, “The importance of the laser pulse-ablator interaction dynamics prior to the ablation plasma phase in inertial confinement fusion studies”, *Philosophical Transactions of the Royal Society A* 378 (2184), 20200030, 2020 DOI: <https://doi.org/10.1098/rsta.2020.0030>
- P30** E. Anagnostaki, V. Mylona, K. Kosma, S. Parker, M. Chala, M. Cronshaw, **V. Dimitriou**, M. Tatarakis, N. Papadogiannis, E. Lynch, M. Grootveld, “A Spectrophotometric Study on Light Attenuation Properties of Dental Bleaching Gels: Potential Relevance to Irradiation Parameters”, *Dentistry Journal* 8 (4), 137, 2020 DOI: <https://doi.org/10.3390/dj8040137>
- P31** E. Kaselouris, K. Kosma, Y. Orphanos, A. Skoulakis, I. Fitis, A P Markopoulos, M. Bakarezos, M. Tatarakis, NA Papadogiannis, **V. Dimitriou**, “Downscaled Finite Element Modeling of Metal Targets for Surface Roughness Level under Pulsed Laser Irradiation”, *Applied Sciences* 11 (3), 1253, 2021 DOI: <https://doi.org/10.3390/app11031253>
- P32** E Kaselouris, Y Orphanos, K Kosma, A Skoulakis, I Fitis, M Bakarezos, N Papadogiannis, M Tatarakis, **V Dimitriou**, “On the micro-modelling of surface roughness in pulsed laser machining”, *IOP Conference Series: Materials Science and Engineering* 1037 (1), 012007, 2021 DOI: <https://doi.org/10.1088/1757-899X/1037/1/012007>
- P33** E Kaselouris, G Tamiolakis, **V Dimitriou**, M Tatarakis, “The influence of the load’s geometrical characteristics on the generation of the electro-thermo-mechanical instability in a single wire Z-pinch”, *Journal of Physics: Conference Series* 1730 (1), 012092, 2021 DOI: <https://doi.org/10.1088/1742-6596/1730/1/012092>
- P34** E. Kaselouris, G. Tamiolakis, I. Fitis, A. Skoulakis, **V. M. Dimitriou**, M. Tatarakis, Instability growth mitigation study of a dielectric coated metallic wire in a low current Z-pinch configuration, *Plasma Phys. Control. Fusion* 63 085010 (2021) DOI: <https://doi.org/10.1088/1361-6587/ac0112>
- P35** Skoulakis, A.; Kaselouris, E.; Kavroulakis, A.; Karvounis, C.; Fitis, I.; Chatzakis, J.; **Dimitriou, V.**; Papadogiannis, N.A.; Tatarakis, M. Characterization of an X-ray Source Generated by a Portable Low-Current X-Pinch. *Appl. Sci.* 2021, 11, 11173 DOI: <https://doi.org/10.3390/app112311173>
- P36** Kaleris, K., Tazes, I., Orphanos, Y. Stelios Petrakis, Makis Bakarezos, John Mourjopoulos, **Vasilis Dimitriou**, Michael Tatarakis & Nektarios A. Papadogiannis. Experimentally validated modeling of the optical energy deposition in highly ionized ambient air by strong femtosecond laser pulses. *Eur. Phys. J. D* 75, 236 (2021) DOI: <https://doi.org/10.1140/epjd/s10053-021-00237-x>
- P37** Clark EL, Grigoriadis A, Petrakis S, et al. High-intensity laser-driven secondary radiation sources using the ZEUS 45 TW laser system at the Institute of Plasma Physics and Lasers of the Hellenic Mediterranean University Research Centre. *High Power Laser Science and Engineering*. 2021;9:e53 <https://doi.org/10.1017/hpl.2021.38>
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- C21** M. Bakarezos, **V. Dimitriou**, Y. Ophanos, I. Sidiras, E. Kaselouris, M. Tatarakis, N. Papadogiannis “*Vibrational features of the traditional percussion instrument bendir using interferometry and finite element methods*”, 9th

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- C22** A. Skoulakis, G. Koundourakis, E. Kaselouris, I. Fitis, E. Clark, N. Vlahakis, M. Bakarezos, N. Papadogiannis, **V. Dimitriou**, M. Tatarakis, "Preliminary computational approach of plasma dynamic evolution produced by low current table-top pinch plasma devices", 9th International Congress on Computational Mechanics (GRACM 2018), Chania, Greece 4-6 June 2018. Electronic Proceedings ISBN 978-618-81537-5-2 (e-book), Technical University of Crete Press, p. 294-303, 2018, <https://dias.library.tuc.gr/view/78635>
- C23** E. Kaselouris, Y. Orphanos, K. Kosma, E. Bakarezos, N.A. Papadogiannis, M. Tatarakis and **V. Dimitriou**, FEM simulations of matter irradiated by laser pulses, 1st International Symposium in Electronic engineering, Information Technology & Education, EEITE2019, p. 40-43, 23-24 May 2019, Chania, Greece.
- C24** I. Tazes, G. Andrianaki, G. Grigoriadis, G. Koundourakis, A. Skoulakis, E. L. Clark, E. Kaselouris, Y. Orphanos, J. Chatzakis, I. Fitis, M. Bakarezos, **V. Dimitriou**, N. A. Papadogiannis and M. Tatarakis, Advances in plasma particle accelerator studies via PIC simulations on the HPC facility-ARIS, 2nd International Symposium in Electronic engineering, Information Technology & Education, EEITE2020, p. 80-87, 12-14 October 2020, Chania, Greece.
- C25** I. Fitis, A. Skoulakis, E. L. Clark, E. Kaselouris, M. Bakarezos, J. Chatzakis, **V. Dimitriou**, N. A. Papadogiannis and M. Tatarakis, A tabletop plasma focus neutron source, 2nd International Symposium in Electronic engineering, Information Technology & Education, EEITE2020, p. 73-79, 12-14 October 2020, Chania, Greece.
- C26** E. Kaselouris, Y. Orphanos, M. Bakarezos, M. Tatarakis, N. A. Papadogiannis, **V. Dimitriou**, Influence of the plate thickness and material properties on the violin top plate modes, Inter-Noise 2021, 50th International Congress and Exposition on Noise Control Engineering, 1-5 August 2021, Washington DC, USA, <https://doi.org/10.3397/IN-2021-2387>
- C27** E. Kaselouris, C. Alexandraki, Y. Orphanos, M. Bakarezos, M. Tatarakis, N. A. Papadogiannis, **V. Dimitriou**, Acoustic analysis of impact sound on vibrating circular membranes, Inter-Noise 2021, 50th International Congress and Exposition on Noise Control Engineering, 1-5 August 2021, Washington DC, USA, <https://doi.org/10.3397/IN-2021-2389>
- C28** E. Kaselouris, A. Skoulakis, I. Tazes, Y. Orphanos, I. Fitis, M. Bakarezos, N.A. Papadogiannis, **V. Dimitriou**, M. Tatarakis, Preliminary study of early time dynamics during pulsed laser interaction with a CH ablator target, 48th EPS Conference on Plasma Physics, Online Meeting, 27 June-1 July 2022.
- C29** I. Tazes, G. Andrianaki, A. Grigoriadis, S. Passalidis, A. Skoulakis, E. Kaselouris, J. Chatzakis, I. Fitis, M. Bakarezos, E.P. Benis, **V. Dimitriou**, N.A. Papadogiannis and M. Tatarakis, Optical shaping of high-pressure gas-jet targets for proton acceleration experiments in the near-critical density regime, 48th EPS Conference on Plasma Physics, Online Meeting, 27 June-1 July 2022.
- C30** G. Andrianaki, A. Grigoriadis, I. Tazes, I. Fitis, **V. Dimitriou**, E. P. Benis, I. Nikolos, N. Papadogiannis, M. Tatarakis, The design and performance of an asymmetrical nozzle in Laser Wake Field electron acceleration, 48th EPS Conference on Plasma Physics Online Meeting, 27 June-1 July 2022.
- C31** E. Kaselouris, **V. Dimitriou**, Study of transient wave and vibro-acoustic response of a cymbal during laser impact via FEM-BEM numerical simulations, 11th International Conference on Mathematical Modeling in Physical Sciences, IC-MSQUARE, 5-8 September 2022, held virtually. <https://www.icmsquare.net/index.php/papers/proceedings-contents>
- C32** E. Kaselouris, **V. Dimitriou**, Vibro-acoustics time domain FEM-BEM analysis of a Titian Stradivari violin: the role of the bridge, International Conference on Acoustics, Fluid Mechanics and Engineering and the 12th Green's Function Seminar (AFME&GFS), China Nanjing, 2022
- C33** I. Mirza, Y. Levy, J. Sladek, H. Papadaki, E. Kaselouris, **V. Dimitriou**, N. Bulgakova, Coherence Effects in LIPSS Formation on Silicon upon Picosecond Laser Pulse Irradiations, Conference on Lasers and Electro-Optics Europe & European Quantum Electronics Conference CLEO/Europe – EQEC, Munich, International Congress Centre (ICM), Germany, 26 - 30 June, 2023
- C34** K. Kaleris, E. Kaselouris, M. Kaniolakis-Kaloudis, M. Bakarezos, **V. Dimitriou**, M. Tatarakis, N.A. Papadogiannis, Progress on dynamic structural lattice modulation of single crystals for CLS applications, "Dynamics of Systems on the Nanoscale"-DySoN 2023 Vila Lanna, Prague, Czech Republic April 24-26, 2023
- C35** E.P. Benis, S. Petrakis, A. Skoulakis, Y. Orphanos, N. Kortsalioudakis, C. Balas, D. Zouridis, E. Pachos, M. Bakarezos, **V. Dimitriou**, M. Tatarakis and N.A. Papadogiannis, COHERENT XUV MULTISPECTRAL DIFFRACTION IMAGING IN REFLECTION MODE AND PROSPECT IN DENSE PLASMA DIAGNOSTICS, European Conference on Plasma Diagnostics (ECPD), Rethymno, Crete, 23-27 April 2023
- C36** S. Brezas, M. Katsipis, Y. Orphanos, E. Kaselouris, K. Kehrakos, N. Kefaloyannis, H. Papadaki, A. Sarantis-Karamesinis, S. Petrakis, I. Theodorakis, E. Iliadis, T. Karagkounidis, I. Koumantos, M. Tatarakis, M. Bakarezos,

- N.A. Papadogiannisa and **V. Dimitriou**, Carbon fiber bouzouki design, 10th Convention of the European Acoustics Association Forum Acusticum, Politecnico di Torino, Torino, Italy, September 11 - 15, 2023
- C37** S. Brezas, E. Kaselouris, Y. Orphanos, E. Bakarezos, **V. Dimitriou** and N. Papadogiannis, Experimental and Computational Vibroacoustic Study of Cymbals, 10th Convention of the European Acoustics Association Forum Acusticum, Politecnico di Torino, Torino, Italy, September 11 - 15, 2023
- C38** S. Brezas, E. Kaselouris, D. Grigoriou, H. Papadaki, Y. Orphanos, M. Bakarezos, N. A. Papadogiannis, **V. Dimitriou**, Vibration analysis of 3D printed cymbals and Tzouras top plates, INTER-NOISE 2024, Nante, France, 25-29 August 2024
- C39** A. Gosta, E. Kamposos, A. Skoulakis, Y. Orphanos, H. Papadaki, N. Papadogiannis, M. Tatarakis, E. Kaselouris, **V. Dimitriou**, Laser machining by a high-power CW fiber laser, Innovative Manufacturing Engineering and Energy: IManEE2024, Athens, 23-25 October 2024
- C40** S. Brezas, H. Papadaki, M. Katsipis, D. Grigoriou, Y. Orphanos, M. Bakarezos, N. A. Papadogiannis, E. Kaselouris, **V. Dimitriou**, Investigation of the vibrational characteristics of tzouras 3D printed top plates, Innovative Manufacturing Engineering and Energy: IManEE2024, Athens, 23-25 October 2024
- C41** A. Skoulakis, C. Karvounis, I. Tazes, C. Vlachos, J. Chatzakis, **V. Dimitriou**, N. A. Papadogiannis, M. Tatarakis, I. Fitis, Polarimetry technique in a miniature plasma focus machine, 6th International Conference in Electronic Engineering & Information Technology EEITE' IEEE Sponsored, 4-6 June 2025, Chania, Greece.
- C42** I. Tazes, G. Andrianaki, S. Passalidis, C. Karvounis, D. Mancelli, E. Kaselouris, A. Skoulakis, J. Chatzakis, I. Fitis, **V. Dimitriou**, N.A. Papadogiannis and M. Tatarakis, Experimental Observation of Ion Acceleration by intense Laser Interaction with Optically Shaped Gaseous Targets in the Near-Critical Density Regime, 6th International Conference in Electronic Engineering & Information Technology EEITE' IEEE Sponsored, 4-6 June 2025, Chania, Greece.
- C43** E. Kaniolakis Kaloudis, K. Kaleris, E. Kaselouris, Y. Orphanos, **V. Dimitriou**, M. Bakarezos, M. Tatarakis, N. A. Papadogiannis, Radiography of plasmas using gamma rays generated via a acoustically excited crystalline undulators, 6th International Conference in Electronic Engineering & Information Technology EEITE' IEEE Sponsored, 4-6 June 2025, Chania, Greece.
- C44** M. Terzakis, C. Van-hoorickx, M. Hornikx, S. Brezas, **V. Dimitriou**, Numerical characterization of Cretan lute sound-hole rosettes, 12th Convention of the European Acoustics Association Graz, Austria, 8th– 12th September 2026
- C45** A. Kavroulakis, T. Rizzi, S. Ratynskaia, P. Tolias, M. Tatarakis, E. Kaselouris, **V. Dimitriou**, Computational Modelling of Runaway Electron Effects on Graphite Plasma-Facing Components, 7th International Conference in Electronic Engineering & Information Technology (EEITE), Chania, Greece, 03-05 June 2026
- C46** E. Kaniolakis Kaloudis, K. Kaleris, Y. Orphanos, C. Nikolopoulos, A. Baklezos, I. Vardiambasis, M. Bakarezos, **V. Dimitriou**, M. Tatarakis, N. Papadogiannis, Dynamic Optical Characterization of Acoustic Fields Inside Si Crystals, Towards the Design and Development of Tunable γ -ray Sources, 7th International Conference in Electronic Engineering & Information Technology (EEITE), Chania, Greece, 03-05 June 2026
- C47** T. Maroulaki, D. Grigoriou, Y. Orphanos, N. Papadogiannis, **V. Dimitriou**, E. Kaselouris, Vibro-Acoustic Analysis of a Thin Aluminum Plate with a Clamped Central Hole Using FEM and Acoustic Radiation Models, 5th International Conference on Electronics, Engineering Physics and Earth Science (EEPES 2026), Bandırma Onyedi Eylül Üniversitesi, Bandırma, Turkey, June 24 – 27, 2026

Abstract-Reviewed Papers in International Conferences

- CA01** Orphanos Y., **Dimitriou V.**, Kaselouris E., Bakarezos E., Vainos N., Tatarakis M., Papadogiannis N., “*Short-pulse laser-generated surface nano-acoustic waves*”, Micro and Nano 2012, 5th International Conference On Micro-Nanoelectronics, Nanotechnologies and MEMS, 7-10 October 2012, Heraklion, Crete, Greece.
- CA02** **Vasilis Dimitriou**, Evangelos Kaselouris, Yannis Orphanos, Efthimios Bakarezos, Nikolaos Vainos, Nektarios A. Papadogiannis, and Michael Tatarakis, “*FEM Modeling for the study of the dynamics of Laser-matter Interactions in thin metal film/substrate systems*”, Drive Innovation with Simulation, 6th PhiloNet CAE Conference, Megaron, Athens, 23 May 2013
- CA03** A. Skoulakis, G. C. Androulakis, E.L. Clark, S. M. Hassan, P. Lee, J. Chatzakis, M. Bakarezos, **V. Dimitriou**, C. Petridis, N. A. Papadogiannis and M. Tatarakis, “*A Portable Pulsed Neutron Generator*”, International conference on applications of nuclear techniques, Crete13, Rethymnon, Greece, 23-29 June 2013.
- CA04** **V. Dimitriou**, E. Kaselouris, I.K. Nikolos, Y. Orphanos, E. Bakarezos, N.A. Papadogiannis and M. Tatarakis, “Simulations of ns laser matter interactions (the phase change problem)”, Invited talk, Workshop LMJ-PETAL and COST, “Developing the Physics and the Scientific Community for Inertial Confinement Fusion at the time of NIF ignition”, Bordeaux, France, 5-7 March, 2014
- CA05** S.M. Hassan, A. Skoulakis, I. Fitis, E.L. Clark, P. Lee, J. Chatzakis, M. Bakarezos, **V. Dimitriou**, C. Petridis, N.A. Papadogiannis, M. Tatarakis, “Electrical and Plasma Characteristics of a Pulsed Neutron Generator”, Symposium on Radiation Measurements and Applications (SORMA XV), Michigan, USA, June 9-12, 2014

- CA06** I. Ftilis, A. Skoulakis, S. M. Hassane, E.L. Clark, E. Kaselouris, **V. Dimitriou**, J. Chatzakis, P. Lee, T.G. Papadoulis, M. Bakarezos, C. Petridis, I. K. Nikolos, E. Drakakis, C. Kosmidis, N. A. Papadogiannis and M. Tatarakis, “Study of a Miniature Plasma Focus Neutron Source”, International Conference on Applications of Nuclear Techniques, Crete, Greece, June 14-20, 2015
- CA07** **V. Dimitriou**, E. Kaselouris, I. Ftilis, A. Skoulakis, Y. Orphanos, M. Bakarezos, N. Papadogiannis and M. Tatarakis, “Studying the initial stages of plasma generation using ns laser pulsed systems and strong currents” SPIE. OPTICS + OPTOELECTRONICS, Prague, Czech Republic 13-16 April, 2015
- CA08** I. Orphanos, E. Tzianaki, E. Kaselouris, **V. Dimitriou**, M. Bakarezos, G. Tsibidis, P.A. Loukakos M. Tatarakis N. Papadogiannis, “Monitoring matter dynamics under ultra fast laser excitation”, CECAM-IRL, University College Dublin, Ireland, June 17-19, 2015
- CA09** M. Koliou, E. Variantza, E. Kaselouris, I. Papadopoulos and **V. Dimitriou**, “SEISMIC TESTING & DYNAMIC CHARACTER ANALYSIS OF HIGH-RISE BUILDING STRUCTURE IN CRETE BASED ON FEM”. Abstract & Poster, 8th GRACM International Congress on Computational Mechanics Volos, 12-15.7, 2015
- CA10** Theodoros Papadoulis, Eleni Variantza, Evaggelos Kaselouris and **Vasilis Dimitriou**, “CAD/FEM SIMULATION OF THE GOVERNING MECHANICS OF DRY TURNING”. Abstract & Poster, 8th GRACM International Congress on Computational Mechanics Volos, 12 – 15 July, 2015
- CA11** M. Bakarezos, Y. Orphanos, I. Tzianaki, V. Kaselouris, **V. Dimitriou**, G. Tsibidis, P. Loukakos, M. Tatarakis, N. Papadogiannis, “Ultrafast dynamics and imaging of laser-generated nano-acoustic waves in metal/substrate layered systems”, Photonica 2015, the Fifth international conference on photonics, Belgrade, Serbia, 24 –28 August 2015
- CA12** E. Kaselouris, E. Skarvelakis, Y. Orphanos, M. Bakarezos, M. Tatarakis, N.A. Papadogiannis and **V. Dimitriou**, FEM simulation of SAWs Dynamics generated by ns Laser pulses in thin films as a diagnostic of defects in matter, International Conference ‘Science in Technology’ SCinTE, Athens 5-7 November 2015
- CA13** E. Kaselouris, I. Ftilis, A. Skoulakis, G. Koundourakis, **V. Dimitriou**, E. Bakarezos, E.L. Clark, N.A. Papadogiannis and M. Tatarakis, *M. Tatarakis Invited Talk*: “Plasma instabilities: the influence on plasma instabilities during the solid-plasma phase transition”, 27th Symposium on Plasma Physics and Technology, Prague, Czech, 20-23 June, 2016
- CA14** E. Kaselouris, **V. Dimitriou**, I. Ftilis, A. Skoulakis, G. Koundourakis, E.L. Clark, M. Bakarezos, I.K. Nikolos, N.A. Papadogiannis and M. Tatarakis, *M. Tatarakis Invited Talk*: “The influence of the solid to plasma phase transition on the generation of plasma instabilities”, 44th EPS Conference on Plasma Physics, Belfast, Northern Ireland (UK), June 2017
- CA15** E. Kaselouris, Y. Orphanos, K. Kosma, **V. Dimitriou**, M. Bakarezos, M. Tatarakis and N.A. Papadogiannis, Surface Acoustic Waves generated on thin films after irradiation by femtosecond laser pulses, 35th European Conference on Laser interaction with matter, 22-26 October 2018, Rethymno
- CA16** G. Koundourakis, A. Skoulakis, E. Kaselouris, I. Ftilis, M. Bakarezos, E.L. Clark, N. Vlahakis, N.A. Papadogiannis, **V. Dimitriou** and M. Tatarakis, Computational study of plasma dynamic evolution produced by low current table-top pinch plasma devices, 35th European Conference on Laser interaction with matter, 22-26 October 2018, Rethymno
- CA17** G. Andrianaki, A. Grigoriadis, I. Tazes, E. L. Clark, I. Ftilis, A. Skoulakis, E. Kaselouris, M. Bakarezos, I. K. Nikolos, **V. Dimitriou**, E. P. Benis, N. A. Papadogiannis and M. Tatarakis, Energetic particles source using the Zeus 45 TW laser at CPPL, 35th European Conference on Laser interaction with matter, 22-26 October 2018, Rethymno
- CA18** S. Petrakis, Y. Orphanos, I. Ftilis, E. L. Clark, **V. Dimitriou**, M. Bakarezos, M. Tatarakis, E.P. Benis and N.A. Papadogiannis, “High harmonics generation and characterization using the Zeus laser at CPPL”, 35th European Conference on Laser interaction with matter, 22-26 October 2018, Rethymno
- CA19** Y. Orphanos, E. Kaselouris, K. Kosma, M. Bakarezos, N. Vainos, **V. Dimitriou**, M. Tatarakis and N.A. Papadogiannis, “Ultra fast Laser generated Rayleigh surface acoustic waves: physics and applications on material diagnosis”, 7th International Conference "Micro&Nano 2018", 5-7 November 2018, Aristotle University of Thessaloniki
- CA20** **V. Dimitriou**, E. Kaselouris, Y. Orphanos, M. Bakarezos, N. A. Papadogiannis and M. Tatarakis. “Simulations on matter dynamics under fs laser excitation”, Towards understanding and modelling intense electronic excitation, COST Action 17126, TUMIEE, March 4, 2019, Porto, Portugal
- CA21** Y. Orphanos, M. Bakarezos, K. Kosma, E. Tzianaki, E. Kaselouris, **V. Dimitriou**, G. Tsibidis, P.A. Loukakos, N. Vainos, M. Tatarakis and N. A. Papadogiannis, «Ultra fast laser-generated nano-acoustics waves, experimental methods for validation of theoretical simulations», Towards understanding and modelling intense electronic excitation, COST Action 17126, TUMIEE, March 4, 2019, Porto, Portugal

- CA22** E. Kaselouris, I. Fitis, A. Skoulakis, G. Koundourakis, **V. Dimitriou**, E. Bakarezos, E.L. Clark, N.A. Papadogiannis and M. Tatarakis «Pinch ETM instabilities», Towards understanding and modelling intense electronic excitation, COST Action 17126, TUMIEE, March 4, 2019, Porto, Portugal
- CA23** E.L. Clark, A. Grigoriadis, I. Tazes, G. Andrianaki, I. Fitis, S. Petrakis, A. Skoulakis, E. Kaselouris, T.G. Maris, I. Tsiapa, M. Bakarezos, I. K. Nikolos, **V. Dimitriou**, E.P. Benis, N.A. Papadogiannis and M. Tatarakis, “Novel gel dosimetry diagnostic for the secondary sources of ZEUS 45TW laser system at CPPL”, 3rd European Conference on Plasma Diagnostics – EPCD2019, Lisbon, Portugal, May 6-10, 2019
- CA24** E.L. Clark, A. Grigoriadis, I. Tazes, G. Andrianaki, I. Fitis, S. Petrakis, A. Skoulakis, E. Kaselouris, T.G. Maris, I. Tsiapa, M. Bakarezos, I.K. Nikolos, **V. Dimitriou**, E. P. Benis, N.A. Papadogiannis and M. Tatarakis, “Secondary sources generated with the ZEUS45TW laser system at CPPL”, International Conference on Applications of Nuclear Techniques - CRETE19, Crete, Greece, June 9-15, 2019
- CA25** E. Kaselouris, A. Baroutsos, T. Papadoulis, N.A. Papadogiannis, M. Tatarakis and **V. Dimitriou**, “A study on the influence of laser parameters on laser-assisted machining of AISI H-13 steel”, 18th International Conference on Fracture and Damage Mechanics, 16-18 September 2019 Rhodes, Greece
- CA26** E. Kaselouris, A. Skoulakis, Y. Orphanos, K. Kosma, T. Papadoulis, I. Fitis, E. Clark, A.P. Markopoulos, M. Bakarezos, N.A. Papadogiannis, M. Tatarakis and **V. Dimitriou**, “Analysis of the heat affected zone and surface roughness during laser micromachining of metals”, 18th International Conference on Fracture and Damage Mechanics 16-18 September 2019 Rhodes, Greece
- CA27** I. Tazes, A. Grigoriadis, G. Andrianaki, T. Papadoulis, A. Baroutsos, G. Koundourakis, Y. Orphanos, I. Fitis, A. Skoulakis, K. Kosma, P. Stilianos, E. Clark, E. Kaselouris, I. Chatzakis, E. Bakarezos, N.A. Papadogiannis, M. Tatarakis and **V. Dimitriou**, “Research studies for laser-matter interaction related to machining & manufacturing in IPPL”, iPen 2019, Germany, 2019
- CA28** S. Passalidis, O. Ettlinger, G. Hicks, N. Dover, Z. Najmudin, E.P. Benis, E. Kaselouris, N.A. Papadogiannis, M. Tatarakis, **V. Dimitriou**, Hydrodynamic modelling and simulations of collisional shockwaves in gas targets for the optimisation of collisionless shock acceleration of ions, International Conference on Advanced Laser Technologies (ALT), 15-20 September 2019, Poster, Prague, Czech Republic
- CA29** I. Tazes, J. F. Ong, O. Tesileanu, K.A. Tanaka, N.A. Papadogiannis, M. Tatarakis, **V. Dimitriou**, “TNSA and LWFA Particle-In-Cell simulations performance on the Greek National HPC facility – ARIS”, Towards understanding and modelling intense electronic excitation, Warsaw, Poland, 17-18 February 2020
- CA30** **V. Dimitriou**, E. Kaselouris, I. Tazes, J. F. Ong, O. Tesileanu, K. A. Tanaka, A. Grigoriadis, G. Andrianaki, S. Petrakis, Y. Orphanos, I. Fitis, K. Kosma, A. Skoulakis, N. A. Papadogiannis, M. Tatarakis, “Multiphysics modelling and simulations from solid to plasma regime for MHD and PIC studies”, Towards understanding and modelling intense electronic excitation, Warsaw, Poland, 17-18 February 2020
- CA31** K. Kaleris, **V. Dimitriou**, Y. Orphanos, M. Bakarezos, M. Tatarakis, N. A. Papadogiannis, J. Mourjopoulos, “Ultrafast laser-generated sound sources in air (laser-sound)”, Towards understanding and modelling intense electronic excitation, Warsaw, Poland, 17-18 February 2020
- CA32** V. Petrović, K. Kaleris, H. Delibašić, **V. Dimitriou**, M. Tatarakis and N.A. Papadogiannis, “Analytical and numerical analysis of the plasma evolution in air generated by nanosecond laser pulses”, Towards understanding and modelling intense electronic excitation, Warsaw, Poland, 17-18 February 2020
- CA33** I. Tazes, K. Kaleris, J. F. Ong, O. Tesileanu, K. A. Tanaka, A. Grigoriadis, G. Andrianaki, T. Papadoulis, S. Passalidis, A. Baroutsos, G. Koundourakis, Y. Orphanos, I. Fitis, K. Kosma, A. Skoulakis, S. Petrakis, E. Clark, E. Kaselouris, I. Chatzakis, E. Bakarezos, N.A. Papadogiannis, M. Tatarakis, **V. Dimitriou**, “Simulations of the experimental research activities in IPPL”, Towards understanding and modelling intense electronic excitation, Warsaw, Poland, 17-18 February 2020
- CA34** M. Tatarakis, A. Grigoriadis, G. Andrianaki, I. Tazes, S. Petrakis, E. Kaselouris, Y. Orphanos, I. Fitis, K. Kosma, A. Skoulakis, E. Clark, I. Chatzakis, M. Bakarezos, **V. Dimitriou**, N. A. Papadogiannis “High Power laser-plasma secondary sources and their potential applications in IPPL, access point of the Hellenic Research Infrastructure “HELLAS-CH””, Towards understanding and modelling intense electronic excitation, Warsaw, Poland, 17-18 February 2020
- CA35** E. Kaselouris, A. Skoulakis, I. Fitis, Y. Orphanos, I. Tazes, K. Kosma, M. Bakarezos, N. Papadogiannis, M. Tatarakis, **V. Dimitriou**, “Dynamics of the heat affected zone and induced strains in laser machining below a ablation threshold”, ModTech International Conference, Online edition, 23rd -27th 2020, Eforie Nord, Romania.
- CA36** E. Kaselouris, Y. Orphanos, K. Kosma, A. Skoulakis, I. Fitis, M. Bakarezos, N. Papadogiannis, M. Tatarakis, **V. Dimitriou**, “On the micro-modelling of surface roughness in pulsed laser machining”, 24th Innovative Manufacturing Engineering and Energy International Conference (IManEE 2020) 14th -15th December 2020, Athens, Greece

- CA37** E. Kaselouris, G. Tamiolakis, **V. Dimitriou**, M. Tatarakis, “The influence of the load’s geometrical characteristics on the generation of the electro-thermo-mechanical instability in a single wire Z-pinch”, 9th International Conference on Mathematical Modeling in Physical Sciences (IC-MSQUARE), 7-10 September 2020, Tinos island, Greece
- CA38** I. Fitis, A. Skoulakis, E. Kaselouris, E.L. Clark, J. Chatzakis, M. Bakarezos, **V. Dimitriou**, N.A. Papadogiannis, M. Tatarakis, “DOUBLE PLASMA SHOCK AFTER PINCHING IN TABLE-TOP PLASMA FOCUS DEVICE”, 47th IEEE International Conference on Plasma Science (ICOPS), Singapore (Virtual), 6-10 December 2020.
- CA39** I. Fitis, E. Kaselouris, A. Skoulakis, A. Kavroulakis, G. Koundourakis, E. L. Clark, M. Bakarezos, J. Chatzakis, N. A. Papadogiannis, **V. Dimitriou**, M. Tatarakis, “Influence of z-pinch wire geometrical characteristics on the generation of the electrothermomechanical and plasma instabilities”, 47th IEEE International Conference on Plasma Science (ICOPS), Singapore (Virtual), 6-10 December 2020.
- CA40** N. A. Papadogiannis, S. Petrakis, A. Grigoriadis, G. Andrianaki, I. Tazes, A. Skoulakis, Y. Orphanos, M. Bakarezos, **V. Dimitriou**, E. P. Benis, M. Tatarakis, Laser-plasma secondary X-ray sources with high coherence: An important tool for spatiotemporal nanoscopy of structural changes in matter, The Sixth International Conference "Dynamics of Systems on the Nanoscale", November 23-27, 2020 Santa Margherita Ligure, Italy.
- CA41** A. Grigoriadis, G. Andrianaki, E.L. Clark, **V. Dimitriou**, N. A. Papadogiannis, E. P. Benis and M. Tatarakis, “Improving a High-Power Laser Based Relativistic Electron Source: The Role of Laser Pulse Contrast and Gas Jet Density Profile”, 47th Conference on Plasma Physics, High Field laser-plasma interaction (HIFI) & Laser-driven particle and radiation sources for application (LASA)-Satellite Meeting, 28th - 29th June 2021, (Online)
- CA42** S. Petrakis, E.P. Benis, A. Skoulakis, Y. Orphanos, **V. Dimitriou**, M. Bakarezos, M. Tatarakis, N. Kortsalioudakis, A. Tsapras, P. Tsopelas, C. Balas, D. Zouridis, E. Pachos, and N. A. Papadogiannis, “Coherent femtosecond x-ray multi-spectral microscopy system: The XMMaS project”, 18th International Conference on Nanosciences & Nanotechnologies (NN21) 6-9 July 2021, Thessaloniki, Greece.
- CA43** I. Fitis, E. Kaselouris, I. Tazes, G. Andrianaki, G. Grigoriadis, Y. Orphanos, E. Bakarezos, E.L. Clark, E.P. Benis, **V. Dimitriou**, N.A. Papadogiannis, and M. Tatarakis, The research activities at IPPL/HMU for the Advanced SI for DD inertial fusion, 17th Direct Drive and Fast Ignition Workshop, May 3-5, 2022, Madrid, Spain.
- CA44** I. Tazes, G. Andrianaki, A. Grigoriadis, S. Passalidis, A. Skoulakis, E. Kaselouris, J. Chatzakis I. Fitis, M. Bakarezos, E. Clark, E.P. Benis, **V. Dimitriou**, N.A. Papadogiannis, M. Tatarakis, Development and optimization of laser induced particle accelerators in IPPL, 17th Direct Drive and Fast Ignition Workshop, May 3-5, 2022, Madrid, Spain.
- CA45** N. A. Papadogiannis, A. Grigoriadis, G. Andrianaki, I. Tazes, **V. Dimitriou**, E. P. Benis, M. Tatarakis, Efficient Laser Wake Field electron acceleration with chirped intense laser pulses, 48th EPS Conference on Plasma Physics Online Meeting, 27 June-1 July 2022.
- CA46** I. Tazes, G. Andrianaki, A. Grigoriadis, S. Petrakis, A. Skoulakis, Y. Orphanos, E. Kaselouris, I. Fitis, E.L. Clark, E. Bakarezos, E. P. Benis, **V. Dimitriou**, N. A. Papadogiannis and Michael Tatarakis, Particle Acceleration and Radiation Emission Studies at IPPL, TUMIEE COST Action 17126, MEETING IN HERAKLION (CRETE, GREECE), 18 July 2022.
- CA47** G. Andrianaki, A. Grigoriadis, I. Tazes, I. Fitis, **V. Dimitriou**, E.P. Benis, I.K. Nikolos, N.A. Papadogiannis and M. Tatarakis, Custom-made 3d printed nozzles for Laser Wakefield Acceleration (LWFA) experiments at Institute of Plasma Physics and Lasers (IPPL). 3rd International Conference in Electronic Engineering, Information Technology & Education, EEITE-2022, 28-30 September 2022, Chania, Crete Greece ISSN 2654-2099 ISBN 978-618-84774-6-9
- CA48** I. Tazes, S. Passalidis G. Andrianaki, A. Grigoriadis, S. Petrakis, A. Skoulakis, Y. Orphanos, E. Kaselouris, I. Fitis, E.L. Clark, E. Bakarezos, E. P. Benis, **V. Dimitriou**, N. A. Papadogiannis and M. Tatarakis, Particle Acceleration and Radiation Emission Studies at IPPL. 3rd International Conference in Electronic Engineering, Information Technology & Education, EEITE-2022, 28-30 September 2022, Chania, Crete Greece ISSN 2654-2099 ISBN 978-618-84774-6-9
- CA49** S. Petrakis, A. Skoulakis, **V. Dimitriou**, M. Bakarezos, M. Tatarakis, E.P. Benis and N.A. Papadogiannis, Ultrafast and coherent multispectral diffraction imaging in the Extreme Ultraviolet, Stereodynamics, Rethymno, Crete, Greece, October 30, 2022
- CA50** K. Kaleris, E. Kaselouris, E. Kaniolakis, **V. Dimitriou**, M. Tatarakis, N.A. Papadogiannis, Dynamic acoustic bending of crystalline structures for the generation of gamma radiation via undulation of super-relativistic electron/positron beams. Towards understanding and modelling intense electronic excitation, Hamburg, Germany 09 December 2022
- CA51** I. Tazes, G. Andrianaki, A. Grigoriadis, S. Petrakis, A. Skoulakis, Y. Orphanos, E. Kaselouris, I. Fitis, E.L. Clark, E. Bakarezos, E.P. Benis, **V. Dimitriou**, N.A. Papadogiannis and M. Tatarakis, Particle Acceleration and Radiation Emission Studies at IPPL, COST TUMIEE, Heraklion, Crete, Greece, July 2022

- CA52** I. Tazes, G. Andrianaki, A. Grigoriadis, S. Passalidis, C. Karvounis, E. Vrouvaki, D. Mancelli, E. Kaselouris, I. Fitis, A. Skoulakis, M. Bakarezos, J. Chatzakis, E.P. Benis, **V. Dimitriou**, N.A. Papadogiannis and M. Tatarakis, Characterization of optically shaped gas-jet target profiles for proton acceleration experiments in the near-critical density regime, European Conference on Plasma Diagnostics (ECPD), Rethymno, Crete, 23-27 April 2023
- CA53** C. Karvounis, A. Skoulakis, I. Tazes, D. Mancelli, J. Chatzakis, **V. Dimitriou**, N. Papadogiannis, M. Tatarakis, I. Fitis, High pressure miniature plasma focus characterization for efficient plasma emission, European Conference on Plasma Diagnostics (ECPD), Rethymno, Crete, 23-27 April 2023
- CA54** H. Papadaki, E. Kaselouris, A. Skoulakis, Y. Orphanos, I. Fitis, N. Papadogiannis, M. Tatarakis, **V. Dimitriou**, Ablator - laser preheating simulations for diagnostic optimization, European Conference on Plasma Diagnostics (ECPD), Rethymno, Crete, 23-27 April 2023
- CA55** I. Tazes, G. Andrianaki, A. Grigoriadis, S. Passalidis, A. Skoulakis, E. Kaselouris, J. Chatzakis, I. Fitis, M. Bakarezos, E. Vrouvaki, **V. Dimitriou**, N.A. Papadogiannis and M. Tatarakis, CHARACTERIZATION OF OPTICALLY SHAPED GAS TARGET PROFILES FOR PROTON ACCELERATION EXPERIMENTS IN THE NEAR CRITICAL DENSITY PLASMA REGIME, 4th International Conference in Electronic Engineering Information Technology & Education EEITE-2023
- CA56** C. Karvounis, A. Skoulakis, I. Tazes, D. Mancelli, J. Chatzakis, **V. Dimitriou**, N.A. Papadogiannis, M. Tatarakis, I. Fitis, CHARACTERIZATION OF A MINIATURE MATHIEU-TYPE PLASMA FOCUS MACHINE AS NEUTRON SOURCE, 4th International Conference in Electronic Engineering, Information Technology & Education EEITE-2023
- CA57** K. Kaleris, E. Kaselouris, E. Kaniolakis Kaloudis, M. Tatarakis, **V. Dimitriou**, M. Bakarezos, N.A. Papadogiannis, Progress on acoustically driven lattice modulation of crystals for CLS applications, "Emerging technologies for Crystal-based gamma-ray Light Sources", Workshop October 5- 6, Ferrara, 2023
- CA58** I. Tazes, S. Passalidis, E. Kaselouris, G. Andrianaki, D. Mancelli, C. Karvounis, A. Skoulakis, I. Fitis, M. Bakarezos, N.A. Papadogiannis, **V. Dimitriou** & M. Tatarakis, Laser-Accelerated Proton Beams from Optically Shaped Gaseous Targets for Pitcher-Catcher pB Fusion Scheme, 4th International Workshop on Proton-Boron Fusion, September 30- October 3, Frascati, Italy 2024
- CA59** E. Kaselouris, K. Kaleris, E. Kaniolakis-Kaloudis, E. Papadaki, M. Bakarezos, M. Tatarakis, N.A. Papadogiannis, **V. Dimitriou**, FEM elasto-mechanical simulations in crystalline materials, TECHNO-CLS "Emerging technologies for Crystal-based gamma-ray Light Sources", MultiChem Meeting, Workshop October 9- 11, Rethymno, Crete, 2024
- CA60** E. Kaniolakis Kaloudis, K. Kaleris, E. Kaselouris, Y. Orphanos, **V. Dimitriou**, M. Bakarezos, M. Tatarakis, N.A. Papadogiannis, Experimental results on the multi-MHz travelling acoustic wave characterization in crystalline materials, TECHNO-CLS "Emerging technologies for Crystal-based gamma-ray Light Sources", MultiChem Meeting, Workshop October 9- 11, Rethymno, Crete, 2024
- CA61** K. Kaleris, E. Kaniolakis-Kaloudis, E. Kaselouris, Y. Orphanos, S. Petrakis, **V. Dimitriou**, M. Bakarezos, M. Tatarakis, N.A. Papadogiannis, Ultra fast laser generation and characterization of nano-acoustic strains in crystalline materials, TECHNO-CLS "Emerging technologies for Crystal-based gamma-ray Light Sources", MultiChem Meeting, Workshop October 9- 11, Rethymno, Crete, 2024
- CA62** K. Kaleris, E. Kaselouris, **V. Dimitriou**, E. Kaniolakis-Kaloudis, M. Bakarezos, M. Tatarakis, N.A. Papadogiannis, and A. V. Korol, G.B. Sushko, A. V. Solov'yov, Modelling of experimentally feasible acoustically driven crystalline undulators, TECHNO-CLS "Emerging technologies for Crystal-based gamma-ray Light Sources", MultiChem Meeting, Workshop October 9- 11, Rethymno, Crete, 2024
- CA63** G. Vernardos, I. Fitis, **V. Dimitriou**, and M. Tatarakis, "Efficiency of laser technology as Countermeasure of UAV," Optica Laser Congress and Exhibition, 19-23 October, Prague, Czech, 2025
- CA64** S. Ratynskaia (Plenary Talk), P. Tolas, K. Paschalidis, T. Rizzi, A. Kulachenko, K. Krieger, Y. Corre, C. Reux, M. De Angeli, E. Hollmann, M. Beidler, D. Rudakov, M. Komm, A. Podolnik, R.A. Pitts, J. Artola, S. Nicolici, H. Bergström, M. Hoelzl, A. Kavroulakis, M. Tatarakis, E. Kaselouris, **V. Dimitriou**, Advances in the physics understanding of transient thermal and runaway electron impact on tokamak plasma-facing components, The 51st EPS Conference on Plasma Physics, 7-11 July 2025 Vilnius, Lithuania.
- CA65** A. Skoulakis, C. Karvounis, I. Tazes, C. Vlachos, J. Chatzakis, **V. Dimitriou**, N.A. Papadogiannis, M. Tatarakis, I. Fitis, "Polarimetry technique in a miniature plasma focus machine", 6th International Conference in Electronic Engineering & Information Technology (EEITE), Chania, Greece, 2025
- CA66** G. Andrianaki et al., LWFA accelerated electrons generated by the 45TW Zues laser system based on down-ramp and ionization injection mechanism using a non-symmetrical 3d printed nozzle, 6th International Conference in Electronic Engineering & Information Technology EEITE, IEEE Sponsored, 4-6 June, Chania, Greece, 2025
- CA67** T. Rizzi et al., "Modelling fragmentation of brittle PFC under RE impacts," presented at the 35th ITPA Divertor and Scrape-Off Layer (DivSOL) Topical Group Meeting, Hefei, China, June 3-5, 2025
- CA68** T. Rizzi, A. Kavroulakis, S. Ratynskaia, P. Tolas, M. Tatarakis, E. Kaselouris, **V. Dimitriou**, E. Hollmann, F. Brochard, A. Kulachenko, M. Beidler, C. Lasnier, R. A. Pitts, Simulations of runaway electron-induced graphite explosions in DIII-D experiments, 68th Annual Meeting, Division of Plasma Physics, Nov 2 -6, Chicago IL, 2026

- CA69** T. Rizzi, A. Kavroulakis, S. Ratynskaia, P. Tolas, M. Tatarakis, E. Kaselouris, **V. Dimitriou**, E. Hollmann, A. Kulachenko, F. Brochard, M. Beidler, R.A. Pitts. Modeling of RE-induced damage in tungsten plasma-facing components, Joint 13th Runaway Electron Modelling Meeting (REM) and EUROfusion WPTE RT03 Analysis Meeting, Stockholm, 15-18 June 2026
- CA70** S. Ratynskaia, T. Rizzi, P. Tolas, A. Kulachenko, A. Kavroulakis, M. Tatarakis, E. Kaselouris, **V. Dimitriou**, Y. Corre, C. Reux, M. Diez, E. Gauthier, J. Gerardin, M. Firdaouss, M. Hoelzl, R.A. Pitts, J. Artola, Modeling of RE-induced damage in tungsten plasma-facing components, Joint 13th Runaway Electron Modelling Meeting (REM) and EUROfusion WPTE RT03 Analysis Meeting, Stockholm, 15-18 June 2026
- CA71** I. Tazes, S. Passalidis, G. Andrianaki, A. Skoulakis, C. Karvounis, D. Mancelli, J. Pasley, E. Kaselouris, I. Fitis, M. Bakarezos, E.P. Benis, N. Papadogiannis, **V. Dimitriou**, M. Tatarakis, **I. Tazes Invited Talk**. High-Repetition-Rate Laser-Driven Ion Acceleration via Optically Shaped Near-Critical Density Gaseous Targets, 38th European Conference on Laser Interaction with Matter (ECLIM 2026), Prague, Czech Republic, 14-18 September 2026

Invited talks and presentations

Plenary Talk

- IN01** “New prospects in multiphysics modeling and simulations of matter dynamics of laser induced solid-to-plasma phase transitions”
Invited Plenary Speaker [Advanced Laser Technologies ALT19](#), Prague, Czech Republic, 15-20 September, 2019

Invited Talks

- IN02** “FEM Modeling for the study of the dynamics of Laser-matter Interactions in thin metal film/substrate systems”
 Drive Innovation with Simulation, 6th PhiloNet CAE Conference, Megaron, Athens, 23 May 2013
- IN03** “Finite element methods for the simulation of the interaction of laser pulses with matter”
 Erasmus Intensive Programme HiPoLin: An Introduction to High Power Light – Matter Interaction, Rethymno, Crete, Greece, July 2013
- IN04** “Simulations of ns laser matter interactions: the phase change problem”
 Workshop LMJ-PETAL and COST, “Developing the Physics and the Scientific Community for Inertial Confinement Fusion at the time of NIF ignition”, Bordeaux, France, 5-7 March, 2014
- IN05** “Advanced modeling & simulation methods for lasers and plasma”
 35th European Conference on Laser Interaction with Matter – ECLIM2018 (<http://www.eclim2018.org/>). Rethymno, Greece, 22-26 October, 2018
- IN06** “FEM simulations of matter irradiated by laser pulses”
 1st International Symposium in Electronic engineering, Information Technology & Education, EEITE2019, Chania, Crete Greece, 23-24 May 2019
 “Multiphysics simulations for laser/plasma”
 Innovative Education & Training in High Power Laser Plasmas Erasmus+ IP2, Rethymno, Greece, July, 2019
- IN07** “PowerLaPs training module: Intensive educational and training scheme”
 PowerLaPs: Innovative Education & Training in High Power Laser Plasmas, Multiplier Event, Ioannina, Greece, 30 August 2019
- IN08** “Triggering the Math Instinct of common 3D Humans”
 Mathematics in Education, Webinar, iTEM and Erasmus Days, Chania, Greece, 01 October 2020
- IN09** “Multiphysics modelling and simulations from solid to plasma regime for MHD and PIC studies”,
 Towards understanding and modelling intense electronic excitation, Warsaw, Poland, 17-18 February 2020
- IN10** “Multiphysics simulations of laser-matter interactions using high resolution models at IPPL”
 4th BIATRI Workshop, HiLASE Centre, Institute of Physics of the Czech Academy of Sciences, Czech Republic, December 9th - 10th, 2020
- IN11** “Multiphysics modeling and simulations of the experiments in IPPL”
 Towards understanding and modelling intense electronic excitation, Hamburg, Germany 09 December 2022
- IN12** Numerical simulations on laser-matter Interactions, Intensive School Laser, Plasma & Fusion, Rethymno, Crete, Greece, 2 September 2024.
- IN13** FEM elasto-mechanical simulations in crystalline materials, TECHNO-CLS “Emerging technologies for Crystal-based gamma-ray Light Sources”, MultiChem Meeting, Workshop October 9- 11, Rethymno, Crete, 2024

9. Research Recognition & Metrics

- ❖ GoogleScholar: h-index: 20, Citations: 1306, i10-index: 40
https://scholar.google.gr/citations?user=ayB_eAAAAAJ&hl=en
 - ❖ SCOPUS, AuthorID: 57216872170, h-index: 16, Citations: 844 by 600 documents, Documents by author: 87
<https://www.scopus.com/authid/detail.uri?origin=resultslist&authorId=57216872170&zone=http://orcid.org/0000-0003-4823-0350>
 - ❖ ResearchGate, h-index: 17, Citations: 1138, Research Interest Score: 1032
https://www.researchgate.net/profile/Vasilis_Dimitriou/stats
- 2014** The paper "Three-dimensional transient behavior of thin films surface under pulsed laser excitation" (Applied Physics Letters, Vol. 103, 114104, 2013) was selected as "Article of the Month for April 2014 in Applied Physics" by the Advances in Engineering online journal: (<https://advanceseng.com/applied-physics/three-dimensional-transient-behavior-thin-films-surface-pulsed-laser-excitation/>).
- 2015** Session Chairman at the 8th GRACM International Congress on Computational Mechanics (Volos, Greece, 12–15 July 2015).
- 2015** Session Chairman at the international conference *SPIE Optics + Optoelectronics* (Prague, Czech Republic, 13–16 April 2015).
- 2016-Present** Principal Investigator (PI) and Scientific Coordinator for **seven (7) highly competitive annual research proposals** (2016–2022) approved by the National HPC facility **ARIS** of GRNET. Granted extensive CoreHours on Greece's most powerful supercomputing system for the following projects: *LaMIS* (2016), *PluPS I & II* (2016, 2017), *LaMIPlas-I, II, III* (2018–2020), and *LaMPIOS I, II, III, IV and V* (2021–2026).
- 2018** The paper: E Kaselouris, V Dimitriou, I Fitis, A Skoulakis, G Koundourakis, EL Clark, M Bakarezos, IK Nikols, NA Papadogiannis, M Tatarakis, "The influence of the solid to plasma phase transition on the generation of plasma instabilities", *Nature Communications* 8, 1713 (2017), with a featured Impact Factor of 14.919, was selected as one of the most scientifically compelling and significant newly published articles in the field of Plasma Physics (<https://www.nature.com/collections/lhrzlgblpr>).
- 2019** Invited Plenary Talk: [Advanced Laser Technologies ALT19](#), "New prospects in multiphysics modeling and simulations of matter dynamics of laser induced solid-to-plasma phase transitions", 15-20 September 2019, Prague, Czech Republic
- 2020** The paper: S. Passalidis, O. Ettlinger, G.S. Hicks, N.P. Dover, Z. Najmudin, E.P. Benis, E. Kaselouris, N.A. Papadogiannis, M. Tatarakis and **V. Dimitriou**, "Hydrodynamic computational modelling and simulations of collisional shockwaves in gas jet targets", *High Power Laser Science and Engineering*, 8, E7. doi:10.1017/hpl.2020.5, 2020, was selected in [Editors' Picks](#)
- 2020** Session Chairman of the International Conf. 24th Innovative Manufacturing and Energy International Conference – ImanEE 2020, NTUA, Athens, 14 – 15 December, 2020
- 2021** International recognition of successful international collaboration: GRNET transnational access success story. Through the pan-European program HPC3-Europa (High Performance Computing in the EU), in which the IPPL Computational Group is represented, and in collaboration with Dr. Jian Fuh Ong on computational modeling and Particle-in-Cell (PIC) simulations in the field of particle acceleration schemes using finite computational method acceleration codes.
- 2021-Present** Equipment and development of a world-class, state-of-the-art laser machining laboratory and related mechanical and optoacoustic experimental setups at the IPPL of the Research Center of the Hellenic Mediterranean University (HMU). The scientific and research significance of the "Integrated Laser Sources System for Manufacturing and Microstructure Study" under development was presented at the Two-Day Conference on Institutional Actions for Enhancing the Research Footprint of the Hellenic Mediterranean University, September 23-24, 2021.
- 2021-Present** Initiator of two international collaborations, institutionalized through the signing of a Memorandum of Understanding (MoU) between IPPL-HMU and International Institutions/Universities:
- MoU 1: Horia Hulubei National Institute of Physics and Nuclear Engineering, Romania.
 Collaboration was achieved through the European Program HPC-Europa3 and GRNET. This collaboration brought Postdoctoral Researcher Dr. Jian Fuh Ong from Romania to Rethymno, initially via HPC-Europa3 and subsequently through the COST (European Cooperation in Science and Technology) Action TUMIEE. This partnership is detailed in MoU-F68a and resulted in a Transnational access success story (<https://doi.org/10.23728/b2share.358e7ba625da4b93983b6e0b53748611>). Under the framework of this MoU, the collaboration with Dr. Jian Fuh Ong on computational modeling and Particle-in-Cell (PIC) simulations remain active and highly productive, yielding significant joint results in the field of particle acceleration schemes. The entire body of research is executed on the HPC-ARIS supercomputer of GRNET through successful, competitive production proposals that I submit annually as the Principal Investigator (PI) to the open calls of the National Grids for Research and Technology - GRNET (Open Call for Production Project Proposals for access to the national supercomputing system ARIS). Dr. Jian Fuh Ong is now an external member of the IPPL Computational Group, which I head, and

has been actively participating in these annual projects since 2020, as highlighted in the Transnational access success story.

- **MoU 2: Fyzikální ústav Akademie věd ČR, v.v.i., HiLASE Centre, Czech Republic.**

Collaboration was achieved with Prof. Dr. Sci. Nadezhda M. Bulgakova, <https://www.fzu.cz/en/people/prof-dr-sci-nadezhda-m-bulgakova-phd>, Head of the Scientific Laser Application dpt. / Head of Group Laser-matter interaction for Finite Element models and simulations of laser-matter interaction (Invited Plenary Talk, Advanced Laser Technologies 2019, Prague, Czech Republic). Her team in the Czech Republic has conducted numerous experiments on the interaction of solid-state Si (silicon) matter with picosecond lasers. These experiments are of great research interest to the international scientific community, as their underlying mechanisms are not yet fully understood. For this collaboration, which involves the computational study of phenomena and the interpretation of experimental observations through Finite Element numerical models and simulations, a Memorandum of Understanding (MoU) was signed, and our collaboration continues to present."

- 2023** Session Vice Chair of the 5th European Conference on Plasma Diagnostics - ECPD, 74100, Rethimno, Greece, 27 April 2023.
- 2023** The paper: "*A computational study on the optical shaping of gas targets via blast wave collisions for magnetic vortex acceleration*", was featured on the front cover of the international journal High Power Laser Science and Engineering. Furthermore, it received the 'Excellent Article for the 10th Anniversary of High Power Laser Science and Engineering (HPLSE)' award, which was received by the Greek Ambassador, 17 October 2023 Suzhou, China. Volume 10, 2022, e31 DOI: <https://doi.org/10.1017/hpl.2022.16>
- 2024** The TECHNO-CLS project (Emerging technologies for crystal-based gamma-ray light sources, Project 101046458 HORIZON PATHFINDER), was especially cited by the newspaper To Vima (The Sunday edition), B2, Page 22, March 17, 2024.
- 2024** Session Chairman of the International Conference Innovative Manufacturing and Energy International Conference – ImanEE 2024, NTUA, Athens, 23 – 25 October, 2024

10. Research and Development Projects

My research and scientific work is further documented by my participation in more than 50 competitive R&D projects from 1999 to the present. In these projects, I have served as Principal Investigator (PI), Co-Principal Investigator (Co-PI), Lead Research Team Member, or Associate Researcher, as listed in the following research projects table:

- 7.6.99 - 10.10.99 & 11.10.99 - 31.1.00 & 1.2.00 - 28.2.00 & 1.3.00 - 31.3.00** Preliminary study for the construction of a waste utilization plant for two mechanical recycling facilities. NTUA, Section of Mechanical Engineering Sciences & Automatic Control, School of Mechanical Engineering, Athens.
- 1.6.01 - 15.12.01** Diagnosis and evaluation of OSE rolling stock and maintenance organization, aiming at the improvement of railway transport reliability and safety. NTUA, Section of Mechanical Engineering Sciences & Automatic Control, School of Mechanical Engineering, Athens / Hellenic Railways Organisation (OSE).
- 1.11.01 - 31.12.01** Research Project: "CONDICOMP", Material-state Based Control in Composites Processing through Dielectric Monitoring, FP5 GROWTH Project Funded by EC, NTUA, Section of Mechanical Engineering Sciences & Automatic Control, School of Mechanical Engineering, Athens.
- 15.6.02 - 30.8.02 & 1.9.02 - 15.5.03** Structural strength optimization of a mounting base under extreme load conditions while maintaining the core design. NTUA, Section of Mechanical Engineering Sciences & Automatic Control, School of Mechanical Engineering, Athens / Hellenic Defense Systems S.A. (EBO-PYRKAL).
- 1.7.01 - 1.7.03** Investigation of structural and cost optimization algorithms for civil engineering structures and their integration into the Scada software. "PAVET 00VE191". NTUA, Section of Mechanical Engineering Sciences & Automatic Control, School of Mechanical Engineering, Athens / American Computer Engineers (ACE Hellas).
- 1.9.02 - 30.6.03** Support of laboratory courses for the academic year 2002-2003. NTUA, Section of Mechanical Engineering Sciences & Automatic Control, School of Mechanical Engineering, Athens.
- 1.9.03 - 30.6.04** Support of laboratory courses for the academic year 2003-2004. NTUA, Section of Mechanical Engineering Sciences & Automatic Control, School of Mechanical Engineering, Athens.
- 1.6.03 - 30.9.03** Study and inspection of dangerous goods transport vehicles in accordance with the EU ADR directive (62/1655). NTUA, Section of Mechanical Engineering Sciences & Automatic Control, School of Mechanical Engineering, Athens.
- 2.6.03 - 20.7.03** Study and inspection of dangerous goods transport vehicles in accordance with the EU ADR directive (62/1552). NTUA, Section of Mechanical Engineering Sciences & Automatic Control, School of

	Mechanical Engineering, Athens.
1.1.04-20.7.04	Study and inspection of dangerous goods transport vehicles in accordance with the EU ADR directive (62/1751). NTUA, Section of Mechanical Engineering Sciences & Automatic Control, School of Mechanical Engineering, Athens.
1.2.04-30.6.04	Training engineers on dangerous goods transport in accordance with the ADR directive. NTUA, Section of Mechanical Engineering Sciences & Automatic Control, School of Mechanical Engineering, Athens.
20.4.04-31.07.04	Study and inspection of dangerous goods transport vehicles in accordance with the EU ADR directive (62/1707). NTUA, Section of Mechanical Engineering Sciences & Automatic Control, School of Mechanical Engineering, Athens.
1.10.04-31.3.05	Study and inspection of dangerous goods transport vehicles in accordance with the EU ADR directive (62/1797). NTUA, Section of Mechanical Engineering Sciences & Automatic Control, School of Mechanical Engineering, Athens.
1.02.07-30.06.07	"Archimedes II: Funding of T.E.I. research teams", under operation categories 2.2.3.f, MIS code: 99954. Sub-project 11: "New Reverse Engineering Algorithms & Application in the Manufacturing of Medical Implants" TEI of Crete, Chania Branch, Department of Natural Resources and Environment, Design and Manufacturing Laboratory (DML)
01.02.07-31.12.07 & 03.12.07-31.10.08	Interreg IIIA Greece-Cyprus, "Scaffolds for Tissue Engineering via Rapid Prototyping and Nanofiber Electrospinning - NANO SPIN". TEI of Crete, Chania Branch, Department of Natural Resources and Environment, Design and Manufacturing Laboratory (DML) / University of Cyprus
01.12.09-31.05.10	"HiPER". "European High Power laser Energy Research Facility – Preparatory Phase Study" funded under the contracts: "HiPER Consortium Agreement" and "COLLABORATION AGREEMENT for HiPER-TECHNICAL WORK", TEI of Crete, Centre for Plasma Physics and Lasers - CPPL
27.01.10-31.01.11	"HiPER-GR / Hellenic network for the European Research Infrastructure HiPER", Operational Programme "Competitiveness and Entrepreneurship - OPCE II", under the operation category "Call for proposals for the creation of National Research Networks in sectors related to the Research Infrastructures of the European Road Map for Research Infrastructures (ESFRI: European Strategy Forum on Research Infrastructures)", TEI of Crete, Centre for Plasma Physics and Lasers - CPPL / in collaboration with: Technical University of Crete, Chania Crete, Greece, University of Ioannina, Ioannina, Greece, National Technical University of Athens, Athens, Greece, National and Kapodistrian University of Athens, Athens, Greece, I.E.S.L. – FO.R.T.H., Heraklion Crete, Greece, Academy of Athens, Athens, Greece, University of Patras, Patras, Greece, Democritus University of Thrace, Xanthi, Greece, N.C.S.R. "Democritus", Athens, Greece, National Hellenic Research Foundation, Athens, Greece, ICEHT – FORTH, Patras, Greece, Public Power Corporation S.A., Tropical S.A., TEI of Crete, Centre for Plasma Physics and Lasers - CPPL
01.03.12-30.09.15	Co-authoring and participation in the core research team within the framework of the Program "ARCHIMEDES III: STRENGTHENING OF RESEARCH TEAMS IN TEI" entitled "Innovative optoacoustic device for the three-dimensional spatiotemporal micro-characterization of composite materials based on ultrashort laser pulses", PI Papadogiannis Nektarios, TEI of Crete, Department of Music Technology & Acoustics, CPPL
01.03.12-30.09.15	Co-authoring and participation in the core research team within the framework of the Program "ARCHIMEDES III: STRENGTHENING OF RESEARCH TEAMS IN TEI" entitled "Design and development of a neutron source with application to the detection of explosives", PI Tatarakis Michael, TEI of Crete, Department of Electronics, CPPL
04.10.12-03.10.13 & 10.10.13-31.12.15	"National Research Infrastructure for HiPER", with MIS code 376841 under Priority Axis: "01 - Creation and Exploitation of Innovation supported by Research and Technological Development", PI Tatarakis Michael, TEI of Crete, CPPL
04.07.12-04.09.12	"Investigation of geometric characteristics and strength improvement of cutting cones and manufacturing of fifty (50) cones", TEI of Crete – "G. Foteinakis & COGP", Simulations & Mechanical Manufacturing Laboratory – SMM. (Principal Investigator for the project "Simulations & mechanical manufacturing laboratory"). PI Dimitriou Vasilis, TEI of Crete, SMM
28.11.13-28.2.14	"Installation and adjustment of existing electromechanical digital drive and control systems on an existing proprietary CNC Router structure and study of its behavior", TEI of Crete – "Kapasakis Michael, Electrical Eng.", Simulations & Mechanical Manufacturing Laboratory – SMM. (Principal Investigator for the project "Simulations & mechanical manufacturing laboratory"). PI Dimitriou Vasilis, TEI of Crete, SMM
01.06.14-31.08.14	"HIPOLIN 2014 Erasmus IP - An Introduction to High Power Light-Matter Interactions", Administrative support of the Erasmus IP: a) Creation of information and promotion infrastructure for

the IP action, b) Correspondence management, c) Coordination of participating students and professors, and d) Administrative support of the IP at the venue. TEI of Crete, Centre for Plasma Physics and Lasers - CPPL

- 28.6.16-30.9.16** "ENTOMATIC, Novel automatic and stand-alone integrated pest management tool for remote count and bioacoustics identification of the Olive Fly (*Bactrocera oleae*) in the field", Grant agreement no: 605073. a) WP2: Design & Development of Bioacoustic ID system: "Task 2.1 - Development of Method for Bioacoustic Identification of the Olive fruit fly", "Task 2.3 - Development of Software for Bioacoustic Detection of the Olive Fruit Fly", "Task 2.4 - Evaluation and Optimization of the Prototype Bioacoustic Identification Module" and b) WP3: Design & Development of ENTOMATIC trap: "T3.2 - Construction of the prototype ENTOMATIC trap", "T3.3 - Testing of prototype ENTOMATIC trap", TEI of Crete.
- 22.12.17-30.09.19** "Innovative Education and Training in High Power Laser Plasmas/PowerLaPs", "Development and Production of Educational Material within the framework of Intellectual Outputs O1 "Plasma Physics - Theory and Experiments", O2 "High Power Laser Matter Interactions / High Energy Density Physics - Theory and Experiments", O3 "Computational Modeling & Simulations in Laser Matter Interactions" and O4 "Laser Plasma Diagnostics - Theory and Experiments", with specific activities per Output: Development and management of sub-modules of the educational and its supporting material, participation in the development and production of educational material for the individual educational sub-modules, completeness and quality control of delivered educational material, participation in teaching during LTT activities IP1 in 2018 and IP2 in 2019". TEI of Crete, Centre for Plasma Physics and Lasers – CPPL. Co-Principal Investigator
- 15.03.18-31.03.21** "Synergy ELI - LASER LAB Europe, HiPER & IPERION-CH.gr" with MIS code 5002735. Participation in the implementation of Work Package WP 5: Collaborative Research Actions (CRA): "Photonics in materials and devices and laser processing", "Laser plasma interactions", "Advanced Science and Technology of short pulse duration radiation sources and Spectroscopic tools" within the framework of Sub-project 2 entitled "Participation of TEI of Crete/CPPL in the HELLAS-CH project". TEI of Crete, Centre for Plasma Physics and Lasers – CPPL.
- 01.06.18-01.12.19** "reSearch is sERious Fun, H2020-MSCA-NIGHT-2018", Participation in the project team, in accordance with Article 64 of Law 4485/2017 (without remuneration, self-contribution).
- 6.12.19-18.03.23** XMMaS - Development of a coherent X-ray multispectral microscopy system, Project Code T1EDK-04549, within the framework of Intervention II, 1st cycle of the Action "RESEARCH-CREATE-INNOVATE". Participation in the Work Packages: WP1: Development of a coherent X-ray generation system, WP2: Development of a multispectral imaging system, WP3: Integration of a laboratory prototype system, WP4: Complete design and implementation of an industrial prototype, WP5: Intellectual property protection.
- 24.02.20-24.5.21** "Study of plasma instability mitigation in Z-pinch devices using dielectric coatings" within the framework of the project "Support for researchers with an emphasis on young researchers – cycle B". Co-Principal Investigator.
- 1.9.20- 31.08.23** Member of the 3-member expert committee (Resonance Group: <https://edures.prz.edu.pl/resonancegroups>) within the Erasmus+ project entitled EDURES (<https://edures.prz.edu.pl/resonancegroups> linking industrial experience with university teaching), with the following duties: The experts of EDURES Resonance Group will meet physically or virtually once a year in order to assess the status of intellectual project outputs and methodologies. They will act as advisors and they will help mainly in quality and achievements monitoring <https://ec.europa.eu/programmes/erasmus-plus/projects/eplu-project-details/#project/2020-1-PL01-KA203-082219>
- 16.01.21-Present** Member of the Research Committee of the Special Account for Research Funds (ELKE) of the Hellenic Mediterranean University.
- 5.5.21-4.11.23** PRSiUs, Pump-probe Reflectivity Studies of Ultrashort Laser-induced Acoustic Strains in Layered Materials, 2021-2023, 2nd Call for H.F.R.I. Research Projects to Support Post-Doctoral Researchers. Co-Principal Investigator
- 7.7.21-31.8.23** "Music Technology & Acoustics Laboratory". Principal Investigator.
- 1.12.21-20.09.23** Principal Investigator for the project: Subcontract with the entity "CARBON FIBER MUSICAL INSTRUMENTS LP" within the framework of the project "Prototyping of a Bouzouki manufactured from Carbon Fibers" (T2EDK-01484) of the Action "RESEARCH-CREATE-INNOVATE".
- 1.12.21-31.1.23** "Development, Parameterization and commissioning of the Environmental Noise Monitoring and Recording System in Rethymno (NoiseReth)."
- 25.7.22-31.12.22** "My Awesome Research Is For Everyone – MARIE".

- 19.9.22-31.12.27** "Emerging technologies for crystal-based gamma-ray light sources (TECHNO-CLS)". Participation in the Work Packages: CLS technology, Dissemination and Outreach, Experimental issues, Theory and modelling. HORIZON --- EU-funded Horizon EIC Pathfinder Research Project TECHNO-CLS, Emerging technologies for crystal-based gamma-ray light sources (using acoustical waves), 2022-2027.
- 11.10.22-31.10.23** "Support of actions for Entrepreneurship, Innovation and Maturation for the Exploitation of Research Activity and new products and services developed at the Hellenic Mediterranean University", of the Operation "Support of actions for Entrepreneurship, Innovation and Maturation for the Exploitation of Research Activity and new products and services developed at the Hellenic Mediterranean University", with MIS code 5149221.
- 2023-2025** Science Odyssey, Type of action: HORIZON-CSA, Proposal number: 101162161: Science Odyssey: Research Missions Under Starry Skies, Activity: HORIZON-MSCA-2023-CITIZENS-01-01.
- 2021-Present** EUROfusion: WPENR project: "ENR-IFE-01-CEA, Advancing shock ignition for direct-drive inertial fusion" 2021-2023, EJP Co-Fund Action
WPTE project: "W PFC damage induced by runaway electron incidence". Study of the RE-induced W damage experiments in WEST and Understanding of the PFC explosion mechanism in W with KTH, Stockholm 2025.
Self-contribution within the framework of the project "National Controlled Thermonuclear Fusion Programme".
- 6.2023- Present** Principal Investigator for the Project 80996: Optoacoustic measurements and simulations, MTA, ELKE HMU, 2023.
- 11.2025- Present** "Laser-plasma high intensity ultrasounds generation and control for cancer research applications", HELLENIC FOUNDATION FOR RESEARCH AND INNOVATION (H.F.R.I.). Participation in the Work Packages: WP2. LPSS acoustic characterization and control, WP3. Thermo-mechanical effects of LPSS US beams, WP4. Application of LPSS US beams in cancer research, WP5. Dissemination and Communication.
- 5.2026- Present** "National Controlled Thermonuclear Fusion Programme", Project Code 70016, European Commission through NCSR Demokritos. WPTE TASK RT06 Preparation of efficient Plasma Facing Components operation for ITER, DEMO and HELIAS. Core research team member.
- 12.2025- Present** "ElectroChemoMechanical (ECM) Gradient Synergy in Solid State Batteries (SSBs)" (70035)
- 9.2026- Present** COST Action: CA25144, Inertial fusion energy: supply Chain of laser-targets from Exploration to Delivery (ICED)
- 2026- Present** HiPER+ EUROfusion project
- 2016 - Present** Proposer and Principal Investigator of 10 competitive, completed annual research proposals (2016-2025) submitted to the ARIS National HPC Supercomputing System of GRNET (Greek Research and Technology Network – grnet (<https://hpc.grnet.gr/en/>)), awarded with CoreHours GRANTS (Computing Time on the most powerful supercomputing system in Greece):
1. Laser Matter Interaction Simulations (LaMIS 2016)
2. Plasma Physics & Laser Simulations – (PluPS I & II, 2016, 2017)
3. Laser Matter Interaction and Plasma Simulations (LaMIPla S-I,II,III, 2018,2019,2020)
4. Laser Matter/Plasma Interactions & Optoacoustic Simulations (LaMPIOS-I,II,III 2021, 2022, 2023)
5. Laser Matter/Plasma Interactions & Optoacoustic Simulations – IV LaMPIOS-IV, 2025
6. Laser Matter/Plasma Interactions & Optoacoustic Simulations – V LaMPIOS-V, 2026

11. Military Service

- 11.2004-11.2005** Artillery Sergeant, 98th Artillery Battalion (98 MEH), Mytilene, Lesvos. IT Research Department of the 98th National Guard Higher Command. Developed, maintained, and operated secure military network systems and software applications.

12. Foreign Languages, Technical & Specialized Knowledge and Skills

- English:** Excellent
- German:** Basic level
- Operating Systems:** Windows -X, UNIX, LINUX -X, Mac OS -X
- Programming:** Matlab -X, Basic, Visual Basic, C, C++ & Visual, Pascal, Fortran, NC/CNC G-coding, X - MPI
- Software Development:** Mesh Generation for Finite Element Method (FEM), Finite Element Analysis (FEA/FEM), Manufacturing Simulation, Specialized Engineering Software (CAD/CAM/CNC-CAE & CFD/HD/MHD/DEM/SPH/ALE). Numerical optoacoustic diagnostics using Finite Volume, Finite Difference, and Particle-based approximation methods

Engineering & Technical Software: ANSYS, ANSYS–DesignSpace-Workbench-X etc, Ls-Dyna, Sofistik, i-DEAS, Mechanical Desktop, Inventor, AutoCad, Scada, 4M Fcalc- Adapt/Autofine, Mastercam, Comsol Multiphysics, PLUTO, Osiris, EPOCH
 Parallel processing of FEM problems using numerical methods. Cluster development & administration, deployment, and management for High-Performance Computing (HPC)

2005 – Present:

- **Design, development, supervision, and maintenance** of the official website for the **Centre of Plasma Physics and Lasers (CPPL)**, Technological Educational Institute (TEI) of Crete.
- **Design, development, supervision, and maintenance** of the official websites for the **Institute of Plasma Physics and Lasers (IPPL)**, Hellenic Mediterranean University (HMU), including the newly updated platform of the HMU Research Center.
- **Design, development, supervision, and maintenance** of the website www.hiper-hellas.teicrete.gr, implemented within the framework of the **HiPER-GR** and **HiPER** research projects.
- **Development and supervision** of the website www.smm.staff.teicrete.gr.
- **Development and supervision** of the website <https://powerlaps.chania.teicrete.gr/>, implemented within the framework of the **PowerLaPs** project.
- **Development of computer cluster systems** for the parallel processing of finite element simulation models and other large-scale numerical models. **Admin** of MPI environments for High-Performance Computing (**HPC**).