

Vasilis M. Dimitriou

Academic Full Curriculum Vitae

1. Personal data

Date of birth: 25.10.1976
 Place of birth: Mytilene – Lesbos
 Marital status: Married, one son
 Current Positions: Associate Professor of the Hellenic Mediterranean University, Department of Music Technology & Acoustics, School of Music and Optoacoustic Technologies
 Vice president of the Department of Music Technology & Acoustics
 Administrative Commission of Institute of Plasma Physics & Lasers
 Specialization: Finite Elements in Engineering and Optoacoustic Applications
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2. Education

12.2000 - National Technical University of Athens, School of Mechanical Engineering
08.2004 Doctor of Philosophy. Thesis title: *“Adaptive FEM and related meshes”*
10.1999 - National Technical University of Athens, School of Mechanical Engineering
09.2000 MSc degree, *“Automation Systems”* (General degree: 8.17)
 Master thesis title: *“The Coons Method for Mesh Generation”* (Master Thesis degree: 10) Best Performance Scholarship by the State Scholarships Foundation (IKY)
09.1995- University of Crete, Greece, Department of Mathematics
09.1999 Bachelor of Science in Mathematics, (General degree: 7.03)

3. Academic Positions

06.2019 - today - Associate Professor, *“Finite Elements in Engineering and Optoacoustic Applications”*, Department of Music Technology & Acoustics, School of Music and Optoacoustic Technologies of the Hellenic Mediterranean University
12.2014 - 06.2019 - Assistant Professor, *“Finite Elements in Engineering and Optoacoustic Applications”*, Department of Natural Resources and Environmental Engineering, School of Applied Sciences, Technological Educational Institute of Crete
10.2007 - 12.2014 - Lecturer, *“Finite Elements in Engineering and Optoacoustic Applications”*, Department of Natural Resources and Environment, Technological Educational Institute of Crete
09.2005 - 10.2007 - Adjunct Professor (P.D. 163), Department of Natural Resources and Environment, Technological Educational Institute of Crete

4. Administrative Positions

09.2019 - today - Vice President of the Department of Music Technology and Acoustics, of the School of Music and Optoacoustic Technologies, of the Hellenic Mediterranean University
06.2020 - today - Member of the three persons Administration Committee of the Institute of Plasma Physics and Lasers of the Hellenic Mediterranean University
01.2008 - today - Co-founder of the Institute of Plasma Physics and Lasers – IPPL. Head of the Computational Modeling & Simulations Team of IPPL (<http://www.ippl.hmu.gr/>).
11.2010 - 11.2015 - Founder (2010) and head of the Simulations Machining and Manufacturing laboratory that since 2015 is a part of the statutory research infrastructure IPPL.
09.2016 - 09.2018 - Head of the Section of Renewable Energy Resources at the Department of Environmental and Natural Resources Engineering of TEI of Crete.

5. Postgraduate Master Programs

- 2013** Member of the steering committee of the Postgraduate Program “Geoenvironmental Resources & Risks - GEORR”, of the Department of Environmental and Natural Resources Engineering of TEI of Crete. Instructor of a. Research Methodology Computing & Practice, a. Environmental Physics - Continuum Mechanics, c. Geostatistics & Numerical Methods and of (after 2018): Numerical modeling of environmental problems and structures.
- 2013 - today** Member of the steering committee of the Postgraduate Program “PLaPa”, that become “LaPIA” (after 2018) of the Department of Electronics Engineering of the School of Engineering of the Hellenic Mediterranean University. Instructor of: a. Principles of Scientific Computing, b. Modeling and Numerical Methods for Plasma Physics, c. Plasma Kinetics and of (after 2018): a. Principles of computational modelling, b. Lasers and plasma simulations, c. Modern Topics of Lasers and Plasma.

6. Evaluator of 18 National and 5 International Research Proposals

- 2015 & 2016** Evaluator of the EU COST Association (www.cost.eu) at the scientific area of Computational Methods and Simulations in the field of Applied Mathematics, Physics and Mechanics (two proposals evaluation in 2015 and 2016).
- 2017** Member of the Evaluation Committee of the National Call EDBM34 (eleven evaluations of the Call “New researchers”)
- 2018** Evaluator of the State Scholarships Foundation (IKY) Call “Strengthening of PhD researchers”, cycle-b, ESPA 2014-2020” (one evaluation)
- 2019 & 2020** Evaluator of the EU Organization PRACE – Partnership for Advanced Computing in Europe (two evaluations in the field of plasma physics simulations in 2019 and 2020)
- 2019** Evaluator of the State Scholarships Foundation (IKY) Call “Strengthening of Post-Doctoral researchers”, cycle-b, ESPA 2014-2020” (six evaluations)
- 2020** Evaluator of National Science Centre of POLAND, Funding Scheme: OPUS-19, Panel: ST8 Production and processes engineering (one evaluation)

7. Scientific Committees

- 2014** Member of the European Physical Society – EPS Conferences on Plasma Physics <http://plasma.ciemat.es/eps/> since 2014
- 2010-today** Member of the election committees at four academic positions of the TEI of Crete and at two of the Hellenic Mediterranean University
- 2018** Member of the Scientific Committee of the 35th European Conference on Laser Interaction with Mater – ECLIM 2018 (<http://www.eclim2018.org/>). “Advanced modeling & simulation methods for lasers and plasma”, Rethymno, Greece
- 2019** Member of the Executive Council of ModTech Greece Branch, Modern Technologies in Industrial Engineering since 2019, (https://modtech.ro/professional-association/Greece_Branch.php).
- 2020** Member of the International Scientific Committee, International Conference Innovative Manufacturing Engineering and Energy (IManEE 2020), a Conference established series (September, Athens, <http://www.imane.ro>) 2020
- 2015-today** **Session Chairman of International Conferences:**
GRACM 08, Volos, Greece, 2015
SPIE OPTICS + OPTOELECTRONICS, Prague, Czech, 2015
ECLIM, Rethymnon, Crete, Greece, 2018
IMANEE, Athens, Greece, 2020

8. Reviewer of International Journals

- 2007 - today**
- Reviewer of Zentralblatt MATH in the fields of: i) Numerical analysis, ii) Ordinary differential equations, ii) Partial differential equations (~100 completed reviews).
 - Optics Communications – Elsevier
 - Simulation Modelling Practice and Theory – Elsevier
 - International Journal of Damage Mechanics – SAGE Journals

- High Power Laser Science and Engineering – **Cambridge University Press**
- Mathematics - **MDPI**
- Applied Sciences - **MDPI**
- Coatings - **MDPI**
- Symmetry - **MDPI**
- Energies - **MDPI**
- Computation - **MDPI**
- Waste and Biomass Valorization Waste and Biomass Valorization – **Springer**
- Smart Materials and Structures – **IOP Science**
- Archive of Mechanical Engineering - **Polish Academy of Sciences**

9. Editorial Board of International Journals

High Power Laser Science and Engineering (HPLSE) Early Career Editorial Board Member
2020 - today <https://www.cambridge.org/core/journals/high-power-laser-science-and-engineering/information/early-career-editorial-board>

10. Relative Working Positions

11.2000-01.2006 Free lancer: Programmer - Analyst

11. Research Achievements & Scholarships

- 2000** National Technical University of Athens, School of Mechanical Engineering, MSc degree, “Automation Systems”: Best Performance Scholarship by the State Scholarships Foundation (IKY).
- 2014** “Three dimensional transient behavior of thin films surface under pulsed laser excitation”, V. Dimitriou, E. Kaselouris, Y. Orphanos, M. Bakarezos, N. Vainos, M. Tatarakis, N. A. Papadogiannis. Applied Physics Letters, Vol.103, 114104 (2013), was selected as the Article of the month for April 2014 in applied physics from the Advances in Engineering On-line Journal: (<https://advanceseng.com/applied-physics/three-dimensional-transient-behavior-thin-films-surface-pulsed-laser-excitation/>).
- 2018** “The influence of the solid to plasma phase transition on the generation of plasma instabilities”, E. Kaselouris, V. Dimitriou, I. Fitolis, A. Skoulakis, G. Koundourakis, EL Clark, M. Bakarezos, IK Nikolos, NA Papadogiannis, M. Tatarakis, *Nature Communications* 8, 1713 (2017), I.F. 12, was highlighted in the Plasma Physics Collection (<https://www.nature.com/collections/lhrzlgblpr>).
- 2019** Invited Plenary Talk at the International Conference: [Advanced Laser Technologies ALT19](#), on the topic: “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** “Hydrodynamic computational modelling and simulations of collisional shockwaves in gas jet targets”, 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, High Power Laser Science and Engineering, 8, E7. doi:10.1017/hpl.2020.5, 2020, was selected by [Editors' Picks](#)
- 2020** “International Access Success Story”, HPC-Europa3, Transnational Access Programme for a Pan-European Network of HPC Research Infrastructures and Laboratories for scientific computing, E. Athanasaki (GRNET), V. Dimitriou J.F. Ong
DOI: [10.23728/b2share.358e7ba625da4b93983b6e0b53748611](https://doi.org/10.23728/b2share.358e7ba625da4b93983b6e0b53748611)
- 2020** “Hydrodynamic computational modelling and simulations of collisional shockwaves in gas jet targets”, 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, High Power Laser Science and Engineering, 8, E7. doi:10.1017/hpl.2020.5, 2020, was selected by [Editors' Picks](#)

12. Teaching Experience

HMU (2019 – today)
 Mechanics and Manufacturing
 Environmental Fluid Mechanics

Scientific Computing
Structural Acoustics
Finite Elements in Acoustics

Post-graduate:

Principles of Computational Modeling (LAPLA)
Laser and Plasma Simulations (LAPLA)
Modern Topics of Lasers and Plasma (LAPLA)

TEI of Crete (2005-2019)

Mathematics for Engineers I & II
Transfer Phenomena
Informatics I & II
Manufacturing Technologies
Computer Aided Design - CAD
Materials Science
Finite Elements

Post-graduate:

Principles of Scientific Computing (PLAPA)
Modeling and Numerical Methods for Plasma Physics (PLAPA)
Plasma Kinetics (PLAPA)
Research Methodology Computing & Practice (GEORR)
Environmental Physics - Continuum Mechanics (GEORR)
Geostatistics & Numerical Methods (GEORR)

NTUA (2002-2004)

Teaching assistance during PhD:

Analysis of Mechanical structures I & II
Mechanisms and Introduction to Machine Design
Mechanisms and Robotic Systems

13. Supervision of Diploma Thesis

1. "CAD modeling of a common car and preliminary study of environmentally friendly modifications", G. Liberopoulos (Completed)
2. "Programming and control of a 3-Axis CNC milling machine for cutting processes", P. Zografos (Completed)
3. "CAD modeling and CAM programming and manufacturing of a mold assembly for a wind turbine blade using 3D CAD/CAM systems and G-code programming", Th. Papadoulis (Completed)
4. "Optimization of a vertical axis wind turbine blade mold using CAD/FEM systems», N. Fiala (Completed)
5. "Modeling and simulation of the acoustic behavior of a drum using FEM", E. Kokkinakis (Completed)
6. "Update of the web page of CPPL for the optimal dissemination of the research activities using modern web development systems. M. Tatarakis (Completed)
7. "Design and manufacturing of a laboratory settling tank", N. Tirkos (Completed)
8. "API programming in 3D parametric CAD system of turning", D. Fragakis (Completed)
9. "Development of a Linux Beowulf Cluster for High Performance Computing for FEM simulations», A. Baroutsos (Completed)
10. "Molding methods of vertical axis wind turbine blades", E. Kapadoukaki (Completed)
11. "A study on the influence of the cutting parameters on the roughness of machined surfaces after turning", M. Konstantakis (Completed)
12. "Modeling and simulation of the seismic response of structures using FEM and the Matlab ANSeismic", M. Kolliou (Completed)
13. "Simulation of material removal during vertical cutting processes with ALE FEM" H. Variantza (Completed)
14. "A study of fluid flows in pipes using Computational Fluid Dynamics – CFD", A. Malliaris (Completed)
15. "3D CAD modeling and functionality analysis of a scaled one-cylinder internal combustion engine" E. Lethiotakis (Completed)
16. "Design and manufacturing of a vertical axis wind blade", G. Drakakis
17. "Evaluation of the cutting parameters in turning using FEM", Ch. Papadakis (Completed)

18. *“Driving matter to plasma state using lasers”, S. Vlachos (Completed, In collaboration with the University of Athens, Physics Dept.)*
19. *“Study on the vibration characteristics violin and viola using FEM simulations” Th. Panagiotakis & Ch. Marakis*

14. Supervision of Practical Experience Thesis

At Simulations Machining & Manufacturing – SMM

1. K. Bouras (Completed)
2. K. Christodoulaki (Completed)
3. H. Variantza (Completed)
4. Ch. Papadakis (Completed)
5. M. Metaksaki (Completed)
6. A. Maliaris (Completed)
7. S. Tzimirakas (Completed)

15. Supervision of Postgraduate MSc Thesis

1. E. Skarvelakis *“Study of the thermomechanical behavior of metal samples with defects, irradiated by laser pulses by the Finite Element Method”, in collaboration with the Dept. of Management and Production of TUC. Member of the 3 persons advisory committee. (Completed 2015).*
2. S. Passalidis *“Hydrodynamic simulations of collisional shockwaves in gas targets for improved ion acceleration», IPPL supervisor in MSc program “PLAPA” in collaboration with the Imperial College London (Completed 2018).*
3. N. Ligopsychakis *“Study of X-Pinch plasma dynamics using a 40kA pulsed power plasma device”, IPPL supervisor in MSc program “PLAPA” (Completed 2019).*
4. I. Tazes *“Experimental and numerical study of laser induced particle acceleration from solid targets”, IPPL supervisor in MSc program “PLAPA” (Completed 2019).*
5. A. Baroutsos *“Finite element simulations of Laser Assisted Machining Methods for multi scale modeling techniques», IPPL supervisor in MSc program “PLAPA”.*
6. E. Mouziouras *“Comparison of EPOCH and SMILEI Particle-In-Cell codes in laser driven particle acceleration”, IPPL supervisor in MSc program “LAPLA”. (Completed 2020).*
7. E. Papadaki *“Simulation of plasma dynamics produced by pulsed power devices with MHD codes”, IPPL supervisor in MSc program “LAPLA”.*
8. S. Nikolaou *“FEM modelling of the RAY tracing in rough surfaces”, IPPL supervisor in MSc program “LAPLA”.*
9. A. Skoulakis *“X-pinch plasma devices and diagnostics”, IPPL supervisor in MSc program “LAPLA”.*

16. Supervision of Postgraduate PhD Thesis

1. E. Kaselouris, *“Study of matter behavior dynamics governed by the interaction with laser pulses and external strong currents”, co-supervision in collaboration with the Dept. of Management and Production of TUC. Member of the 7-persons evaluation committee. (Completed 2016).*
2. A. Grigoriadis, *“Electron acceleration from gaseous targets using high power laser pulses”, Member of the 3-persons supervising committee.*
3. I. Tazes, *“Proton acceleration from solid targets using high power laser pulses”, Member of the 3-persons supervising committee.*

17. Publications

17.1 Publications in International Peer Reviewed Journals

- Δ01 **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.*
- Δ02 **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.*
- Δ03 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.
- Δ04 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.
- Δ05 **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.
- Δ06 Dionysia - Denia Kolokotsa, **Vassilis Dimitriou** and Afroditi Synnefa, "Modeling Cool Materials' Properties", Advances in the Development of Cool Materials for the Built Environment, Bentham science, 2013, pp195 –230.
- Δ07 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
- Δ08 P. Seferou, P. Soupios, 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
- Δ09 **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)
- Δ10 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), p.p. 1330001
- Δ11 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)
- Δ12 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).
- Δ13 **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)
- Δ14 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)
- Δ15 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
- Δ16 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
- Δ17 E Kaselouris, **V Dimitriou**, I Fitolis, 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).
- Δ18 E. Kaselouris, **V. Dimitriou**, I. Fitolis, 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.
- Δ19 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.
- Δ20 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.
- Δ21 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.

- Δ22 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 Ftilis, 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
- Δ23 J. Pasley, G. Andrianaki, A. Baroutsos, D. Batani, E.P. Benis, A. Ciardi, D. Cook, **V. Dimitriou**, B. Dromey, I. Ftilis, G. Gatti, A. Grigoriadis, M. Huault, J.A.P Hernández, E. Kaselouris, O. Klimo, M. Koenig, G. Koundourakis, M. Kucharik, J. Limpouch, R. Liska, C.S. Lopez, S. Malko, S.O. Migueláñez, Y. Orphanos, V. Ospina, N.A. Papadogiannis, S. Petrakis, J. Psikal, M.S. Rivetta, M.J.R. Conde, J.J. Santos, M. Sinor, A. Skoulakis, I. Tazes, L.T. Pascual, C. Tsitou, P. Vachal, L. Volpe, J. Vyskocil, S. White, M. Yeung, G. Zerouli, 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: experimental diagnostics and simulations*”, High Power Laser Science and Engineering, Vol. 8, e5, 2020
- Δ24 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
- Δ25 E. Kaselouris, A. Skoulakis, Y. Orphanos, K. Kosma, T. Papadoulis, I. Ftilis, 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
- Δ26 S. Passalidis, O. Ettliger, 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
- Δ27 K. Kaleris, Y. Orphanos, M. Bakarezos, **V. Dimitriou**, M. Tatarakis, J. Mourjopoulos and N.A. Papadogiannis, “On the correlation of light and sound radiation following laser-induced breakdown in air”, Journal of Physics D: Applied Physics, <https://doi.org/10.1088/1361-6463/ab9ee6>, 2020
- Δ28 I. Tazes, J.F. Ong, O. Tesileanu, K.A Tanaka, N.A. Papadogiannis, M. Tatarakis and **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 Physics and Controlled Fusion 62 (9), <https://doi.org/10.1088/1361-6587/aba17a>, 2020
- Δ29 E Kaselouris, I Ftilis, 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, <https://doi.org/10.1098/rsta.2020.0030>, 2020
- Δ30 G Koundourakis, A Skoulakis, E Kaselouris, I Ftilis, 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, <https://doi.org/10.1088/1361-6587/abbebf>, 2020
- Δ31 E Kaselouris, A Skoulakis, I Ftilis, 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 ablation threshold”, IOP Conf. Ser.: Mater. Sci. Eng. 916 012050, <https://doi.org/10.1088/1757-899X/916/1/012050>, 2020
- Δ32 Anagnostaki E., Mylona V., Kosma K., Parker, S., Chala M., Cronshaw M., **Dimitriou, V.**, Tatarakis M., Papadogiannis N., Lynch E., Grootveld M., “A Spectrophotometric Study on Light Attenuation Properties of Dental Bleaching Gels: Potential Relevance to Irradiation Parameters”, Dentistry Journal, 2020, 8, 137 DOI: [10.3390/dj8040137](https://doi.org/10.3390/dj8040137)

17.2 Publications in International Full Text Peer Reviewed Conferences

- ΣΚ01 Andreas E. Kanarachos, **Vasilis M. Dimitriou**, “Adaptive FEM for Plane Elasticity Problems Using “Pre-Constructed” Large Finite Elements”, Proceedings of the 4th GRACM International Congress on Computational Mechanics, Vol. I, p.p. 324 – 332, June 2002, Patras, Greece.
- ΣΚ02 **Vasilis Dimitriou**, Nikos Pantelelis, Stratis Kanarachos, “Large Triangular Finite Elements for Second Order

- Differential Equations Using the Interpolation Method of Coons*", Proceedings of the 4th GRACM International Congress on Computational Mechanics, Vol.III, pp1063–1070,7.2002, Patras, GR.
- ΣΚ03 **Vasilis M. Dimitriou**, Andreas E. Kanarachos, Dimitris V. Koulocheris, "*Special Finite Elements For Computing Stress Concentrations in Problems of Mechanics*", Proceedings of the 1st IC-SCCE International Conference "From Scientific Computing to Computational Engineering", Vol. III, pp1172– 179, 9.2004, Athens, Greece.
- ΣΚ04 **Vasilis M. Dimitriou**, Dimitris V. Koulocheris, Andreas E. Kanarachos, "*Large Finite Elements Based On Coons Interpolation For The Solution Of Two Dimensional Potential Problems*", Proceedings of the 5th GRACM International Congress on Computational Mechanics, Vol. 2, p.p. 845 – 852, June 2005, Limassol, Cyprus.
- ΣΚ05 **V. Dimitriou**, A. Antoniadis, "*Advanced 3-Dimensional CAD Modeling of the Gear Hobbing Process*", Proceedings of the 10th CIRP International Workshop on Modeling of Machining Operations, p.p. 209-216, August 2007, Reggio Calabria, Italy.
- ΣΚ06 P. Kyratsis, N. Bilalis, **V. Dimitriou**, A. Antoniadis, "*CAD based drilling using conventional twist drills*", The 2nd International Conference on Computing and Solutions in Manufacturing Engineering COSME2008, 25-27th, September 2008, Brasov, Romania.
- ΣΚ07 **Vasilis M. Dimitriou**, "*Adaptive Mesh Generation Based on Coon's Interpolation for Solid FEM Modeling*", Proceedings of the 3rd International Conference on Experiments/Process/System Modeling/Simulation & Optimization, 3rd IC-EpsMsO, Vol. I, p.p. 79 - 86, July 2009, Athens, Greece.
- ΣΚ08 Evaggelos Kaselouris, Yannis Orphanos, **Vasilis Dimitriou**, Efthimios Bakarezos, Nikolaos Vainos, Michael Tatarakis and Nektarios A. Papadogiannis, "*3D finite element modeling of laser-generated surface acoustic waves in film-substrate systems validated by experiments*", 10th HSTAM international congress on mechanics, Chania, Crete, Greece, 25 – 27 May, 2013
- ΣΚ09 Evaggelos Kaselouris, **Vasilis Dimitriou**, Ioannis K. Nikolos, Yannis Orphanos, Efthimios Bakarezos, Nektarios A. Papadogiannis and Michael Tatarakis, "*Numerical simulations for the study of matter behaviour dynamics governed by the interaction with laser pulses or external strong currents*" 10th HSTAM international congress on mechanics, Chania, Crete, Greece, 25 – 27 May, 2013
- ΣΚ10 **V. Dimitriou**, E. Kaselouris, Y. Orphanos, E. Bakarezos, N. Vainos, I. K. Nikolos, N. A. Papadogiannis and M. Tatarakis, "*Matter dynamics under the interaction with laser pulses in the thermoelastic & plasma regimes*", 40th EPS Conference on Plasma Physics, Helsinki, Finland, 1-July 2013.
- ΣΚ11 E. Kaselouris, I. K. Nikolos, Y. Orphanos, E. Bakarezos, N. Vainos, N. A. Papadogiannis, M. Tatarakis, **V. Dimitriou**, "*3D Multiphysics FEM modeling of nanosecond pulsed laser interaction with metallic films*", 11th World Congress on Computational Mechanics, Barcelona, July 20-25, 2014
- ΣΚ12 E. Kaselouris, **V. Dimitriou**, A. Skoulakis, I. Fitis, Y. Orphanos, I.K. Nikolos, E. Bakarezos, N.A. Papadogiannis and M. Tatarakis, "*Experimental and numerical study of the initial stages of explosion of thick single wire z-pinch*", 41st EPS Conference on Plasma Physics, VOL. 38F, P4.114, ISBN 2-914771-90-8), Berlin, 23- 27.6.2014
- ΣΚ13 I. Fitis, A. Skoulakis, E. Kaselouris, I.K. Nikolos, M. Bakarezos, N.A. Papadogiannis, **V. Dimitriou** and M. Tatarakis, "*Experimental and numerical investigation of the early time dynamics of single wire plasma explosions*", 42nd European Physical Society Conference on Plasma Physics, Lisbon, Portugal, 22-26 June, 2015
- ΣΚ14 Evaggelos Kaselouris, Emmanouil Skarvelakis, Ioannis K. Nikolos, Georgios E. Stavroulakis, Yannis Orphanos, Efthimios Bakarezos, Nektarios A. Papadogiannis, Michael Tatarakis and **Vasilios Dimitriou** "*Simulation of the Transient Behavior of Matter with Characteristic Geometrical Variations & Defects Irradiated by Nanosecond Laser Pulses Using FEA*", 14th International conference on Fracture and Damage Mechanics, Budva, Montenegro, 21-23 September, 2015
- ΣΚ15 E. Kaselouris, **V. Dimitriou**, A. Skoulakis, I. Fitis, I.K. Nikolos, E. Bakarezos, N.A. Papadogiannis and M. Tatarakis, "*FINITE ELEMENT STUDY OF THE INITIAL STAGES OF EXPLOSION OF SINGLE WIRE Z-PINCH VALIDATED BY EXPERIMENTS*", 8th GRACM International Congress on Computational Mechanics Volos, 12 – 15 July, 2015
- ΣΚ16 E. Kaselouris, E. Skarvelakis, I.K. Nikolos, G. Stavroulakis, Y. Orphanos, E. Bakarezos, N.A. Papadogiannis, M. Tatarakis and **V. Dimitriou**, "*A FEM STUDY ON THE INFLUENCE OF THE GEOMETRIC CHARACTERISTICS OF METALLIC FILMS IRRADIATED BY NANOSECOND LASER PULSES*", 8th GRACM International Congress on Computational Mechanics Volos, 12 – 15 July, 2015
- ΣΚ17 I. Fitis, A. Skoulakis, E. Kaselouris, I.K. Nikolos, E. Bakarezos, N.A. Papadogiannis, **V. Dimitriou** and M. Tatarakis, "*Diagnosing the initial stages from solid to plasma phase for dense plasma explosions*"

Proceedings of Science (PoS) First EPs Conference on Plasma Diagnostics – 1st ECPD, 14-17 April 2015, Villa Mondragone, Frascati (Rome) Italy

- ΣΚ18 G. Koundourakis, A. Skoulakis, I. Fitis, **V. Dimitriou**, E. Bakarezos, N.A. Papadogiannis, E.L. Clark, N. Vlahakis and M. Tatarakis, “Experimental and numerical investigation of the plasma dynamics and jet formation in low current table-top X-pinch plasma devices”, International Conference ‘*Science in Technology*’ SCinTE, Athens 5-7 November 2015.
- ΣΚ19 Evaggelos Kaselouris, Theodoros Papadoulis, Elenh Variantza, Andreas Baroutsos and **Vasilis Dimitriou**, “*A Study of Explicit Numerical Simulations in Orthogonal Metal Cutting*”, 9th International Congress on Precision Machining (ICPM 2017), Athens, Greece, 6-9 September 2017.
- ΣΚ20 E. Kaselouris, T. Papadoulis, A. Skoulakis, A. Baroutsos, I. Fitis, Y. Ophanos, M. Bakarezos, N. Papadogiannis, M. Tatarakis and **V. Dimitriou** “*Simulations of laser assisted machining and conventional cutting of AISI H-13 steel*”, 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>
- ΣΚ21 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 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. 417-423, 2018, <https://dias.library.tuc.gr/view/78635>
- ΣΚ22 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. 304-311, 2018, <https://dias.library.tuc.gr/view/78635>
- ΣΚ23 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 Rodos, Greece
- ΣΚ24 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 Rodos, Greece
- ΣΚ25 E. Kaselouris, Y. Orphanos, K. Kosma, A. Skoulakis, I. Fitis, M. Bakarezos, N. Papadogiannis, M. Tatarakis and **V. Dimitriou**, “*On the micro-modelling of surface roughness in pulsed laser machining*”, Innovative Manufacturing Engineering & Energy, ImanEE 2020, 14-15 December 2020, NTUA Athens, Greece

17.3 Publications in International Conferences (Abstract Peer Reviewed)

- ΣΠ01 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.
- ΣΠ02 **Vasilis Dimitriou**, Evaggelos 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
- ΣΠ03 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.
- ΣΠ04 **V. Dimitriou**, E. Kaselouris, IK. Nikolos, Y. Orphanos, E. Bakarezos, NA. 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
- ΣΠ05 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

- ΣΠ06 I. Ftilis, A. Skoulakis, S. M. Hassane, E.L. Clark, E. Kaselouris, **V. Dimitriou**, J. Chatzakis, P. Leef, 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
- ΣΠ07 **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
- ΣΠ08 I. Orphanos, E. Tzianaki, E. Kaselouris, **V. Dimitriou**, M. Bakarezos. G. Tsibidis, PA. Loukakos M. Tatarakis N. Papadogiannis, "Monitoring matter dynamics under ultrafast laser excitation", CECAM-IRL, University College Dublin, Ireland, June 17-19, 2015
- ΣΠ09 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
- ΣΠ10 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
- ΣΠ11 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
- ΣΠ12 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.
- ΣΠ13 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
- ΣΠ14 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
- ΣΠ15 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.
- ΣΠ16 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.
- ΣΠ17 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.
- ΣΠ18 Y. Orphanos, E. Kaselouris, K. Kosma, M. Bakarezos, N. Vainos, **V. Dimitriou**, M. Tatarakis and N.A. Papadogiannis, "Ultrafast 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
- ΣΠ19 **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
- ΣΠ20 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, «Ultrafast 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

- ΣΠ21 E. Kaselouris, I. Ftilis, 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
- ΣΠ22 Kaselouris E, Orphanos Y, Kosma K, Bakarezos E, Papadogiannis NA, Tatarakis M and **Dimitriou V**, “FEM simulations of matter irradiated by laser pulses”, 1st International Symposium in Electronic engineering, Information Technology & Education, EEITE2019, 23-24 May 2019, Chania, Crete Greece
- ΣΠ23 E.L. Clark, A. Grigoriadis, I. Tazes, G. Andrianaki, I. Ftilis, S. Petrakis, A. Skoulakis, E. Kaselouris, T.G. Maris, I. Tsiapa, M. Bakarezos, I.K. Nikolos, **V. Dimitriou**, E. P. Benis, N.A. Papadogiannis and M. Tatarakis, “Secondary sources generated with the ZEUS 45TW laser system at CPPL”, International Conference on Applications of Nuclear Techniques - CRETE19, Crete, Greece, June 9-15, 2019
- ΣΠ24 E.L. Clark, A. Grigoriadis, I. Tazes, G. Andrianaki, I. Ftilis, S. Petrakis, A. Skoulakis, E. Kaselouris, T.G. Maris, I. Tsiapa, M. Bakarezos, I. K. Nikolos, **V. Dimitriou**, E.P. Benis, N.A. Papadogiannis 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
- ΣΠ25 I. Tazes, A. Grigoriadis, G. Andrianaki, T.Papadoulis, A. Baroutsos, G. Koundourakis, Y. Orphanos, I. Ftilis, 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
- ΣΠ26 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
- ΣΠ27 M. Tatarakis, A. Grigoriadis, G. Andrianaki, I. Tazes, S. Petrakis, E. Kaselouris, Y. Orphanos, I. Ftilis, 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
- ΣΠ28 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. Ftilis, 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
- ΣΠ29 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
- ΣΠ30 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
- ΣΠ31 **V. Dimitriou**, E. Kaselouris, I. Tazes, J. F. Ong, O. Tesileanu, K. A. Tanaka, A. Grigoriadis, G. Andrianaki, S. Petrakis, Y. Orphanos, I. Ftilis, 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
- ΣΠ32 E. Kaselouris, G. Tamiolakis, **V. Dimitriou**, M. Tatarakis, “The influence of the load 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, September 7-10, 2020, Tinos island, Greece
- ΣΠ33 I. Ftilis, 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), December 6-10, 2020, Singapore
- ΣΠ34 I. Ftilis, 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), December 6-10, 2020, Singapore

17.4 Publications in National Conferences

- ΕΣ01 Ι. Ορφανός, **B. Δημητρίου**, Ε. Κασελούρης, Σ. Μπρέζας, Ε. Μπακαρέζος, Μ. Ταταράκης, Ν. Βάινος, Ν.Α. Παπαδογιάννης, “Τρισδιάστατη απεικόνιση ολικού πεδίου νανο-ακουστικών κυμάτων σε μεταλλικές και διηλεκτρικές επιφάνειες με τη χρήση παλμικών πηγών laser”, Ακουστική 2012, 6ο Πανελλήνιο Συνέδριο Ακουστικής, 8-10 Οκτώβρη 2012, pp.120-127, Κέρκυρα, Ελλάδα.
- ΕΣ02 Ι. Σιδηράς, Ε. Κοκκινάκης, Ι. Ορφανός, Ε., Μπακαρέζος, Ε. Κασελούρης, **B. Δημητρίου**, Ν. Παπαδογιάννης, Δονητικά χαρακτηριστικά παραδοσιακών κρουστών μουσικών οργάνων με τη χρήση λέιζερ και θεωρητικών προσομοιώσεων. ΑΚΟΥΣΤΙΚΗ 2014, Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης, (2014)
- ΕΣ03 Ε. Τζιανάκη, Ι. Ορφανός, Ε. Κασελούρης, Ε. Μπακαρέζος, **B. Δημητρίου**, Μ. Ταταράκης, Ν. Παπαδογιάννης, Νανοακουστικά κύματα με τη χρήση υπερβραχέων παλμών laser και οι εφαρμογές τους σε σύνθετα υλικά, ΑΚΟΥΣΤΙΚΗ 2014, Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης, (2014)
- ΕΣ04 **B. Δημητρίου**, Ε. Κασελούρης, Γ. Ορφανός, Ε. Μπακαρέζος, Μ. Ταταράκης και Ν. Α. Παπαδογιάννης, Δυναμική ανάλυση της συμπεριφοράς λεπτών μεταλλικών υμενίων κατά την αλληλεπίδραση με ns παλμούς Laser με τη Μέθοδο των Πεπερασμένων Στοιχείων – FEM, Αρχιμήδης III-Ενίσχυση Ερευνητικών Ομάδων στο ΤΕΙ Κρήτης, Ηράκλειο, Διημερίδα 28-29 Σεπτεμβρίου, 2015
- ΕΣ05 Ν. Α. Παπαδογιάννης, Γ. Ορφανός, Ε. Κασελούρης, Ι. Τζιανάκη, Γ. Τσιμπίδης, Π. Α. Λουκάκος, Ν. Βάινος, Κ. Κοσμίδης, **B. Δημητρίου**, Ε. Μπακαρέζος, Μ. Ταταράκης «Νανοακουστικά κύματα με τη χρήση υπερβραχέων παλμών LASER και οι εφαρμογές τους στο χαρακτηρισμό υλικών, τα κύρια επιστημονικά αποτελέσματα του υποέργου 19», Αρχιμήδης III-Ενίσχυση Ερευνητικών Ομάδων στο ΤΕΙ Κρήτης, Ηράκλειο, Διημερίδα 28-29 Σεπτεμβρίου, 2015
- ΕΣ06 Μ. Ταταράκης, Α. Σκουλάκης, Ι. Φυτίλης, S.M. Hassan, E.L. Clark, Ε. Κασελούρης, Θ.Γ. Παπαδουλής, **B. Δημητρίου**, Ι. Χατζάκης, Ρ. Lee, Κ. Πετρίδης, Γ. Ανδρουλάκης, Ι.Κ. Νικολός, Ε. Δρακάκης, Κ. Κοσμίδης, Μ. Μπακαρέζος, Ν.Α. Παπαδογιάννης, Σχεδίαση και ανάπτυξη πηγής νετρονίων με εφαρμογή στην ανίχνευση εκρηκτικών υλών, Αρχιμήδης III-Ενίσχυση Ερευνητικών Ομάδων στο ΤΕΙ Κρήτης, Ηράκλειο, Διημερίδα 28-29 Σεπτεμβρίου, 2015
- ΕΣ07 Α. Σκουλάκης, Ι. Φυτίλης, S.M. Hassan, E.L. Clark, Ε. Κασελούρης, Γ. Ανδρουλάκης, Θ.Γ. Παπαδουλής, **B. Δημητρίου**, Ι. Χατζάκης, Ρ. Lee, Κ. Πετρίδης, Ι.Κ. Νικολός, Ε. Δρακάκης, Κ. Κοσμίδης, Μ. Μπακαρέζος, Ν.Α. Παπαδογιάννης και Μ. Ταταράκης, Φορητή πηγή νετρονίων εστίασης πυκνού πλάσματος, Αρχιμήδης III-Ενίσχυση Ερευνητικών Ομάδων στο ΤΕΙ Κρήτης, Ηράκλειο, Διημερίδα 28-29 Σεπτεμβρίου, 2015
- ΕΣ08 Ε. Μπακαρέζος, Ι. Ορφανός, Ε. Κασελούρης, **B. Δημητρίου**, Μ. Ταταράκης και Ν. Α. Παπαδογιάννης, Εφαρμογή συμβολομετρικών μεθόδων laser στη μελέτη των παραδοσιακών και αρχαίων Ελληνικών μουσικών οργάνων, Πανεπιστήμιο Πατρών, 8-9 Οκτωβρίου, ΑΚΟΥΣΤΙΚΗ 2018.
- ΕΣ09 Κ. Κοσμά, Ι. Ορφανός, Ε. Κασελούρης, **B. Δημητρίου**, Ε. Μπακαρέζος, Ν. Βάινος, Μ. Ταταράκης και Ν. Α. Παπαδογιάννης, Μεθοδολογίες για το νανοσκοπικό δυναμικό χαρακτηρισμό υλικών, με τη χρήση επιφανειακών ακουστικών κυμάτων παραγόμενων από υπερβραχείς παλμούς laser, Πανεπιστήμιο Πατρών, 8-9 Οκτωβρίου, ΑΚΟΥΣΤΙΚΗ 2018.

17.5 Invited Talks

- 2013 **Vasilis Dimitriou**, Evaggelos Kaselouris, Yannis Orhanos, Efthimios Bakarezos, Nikolaos Vainos, Nektarios A. Papadogiannis, and Michael Tatarakis, *V. Dimitriou Invited talk: “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
- 2013 **V. Dimitriou**, “Finite element methods for the simulation of the interaction of laser pulses with matter”, *V. Dimitriou Invited talk*: Erasmus Intensive Programme HiPoLin: An Introduction to High Power Light – Matter Interaction, Rethymno, Crete, Greece, July 2013
- 2014 **V. Dimitriou**, E. Kaselouris, ΙΚ. Nikolos, Y. Orphanos, E. Bakarezos, NA. Papadogiannis and M. Tatarakis, “Simulations of ns laser matter interactions (the phase change problem)”, *V. Dimitriou 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
- 2016 Μ. Ταταράκης, **B. Δημητρίου**, *Προσκεκλημένοι Ομιλητές*, Υπερισχυρά συστήματα Laser και Εφαρμογές στις Ανδρονικές Θεραπείες, Υποδομές Κέντρου Φυσικής Πλάσματος & Lasers (CPPL), 18^ο Παγκρήτιο Ιατρικό Συνέδριο, Ρέθυμνο Κρήτης, Aquila Porto Rethymno Hotel, 4-6 Νοεμβρίου, 2016

- 2018 **V. Dimitriou**, “Advanced modeling & simulation methods for lasers and plasma”, *V. Dimitriou Invited talk*: 35th European Conference on Laser Interaction with Mater – ECLIM 2018 (<http://www.eclim2018.org/>). Rethymno, Greece, 22-26 October, 2018
- 2019 Kaselouris E, Orphanos Y, Kosma K, Bakarezos E, Papadogiannis NA, Tatarakis M and **Dimitriou V**, “FEM simulations of matter irradiated by laser pulses”, *V. Dimitriou Invited talk*: 1st International Symposium in Electronic engineering, Information Technology & Education, EEITE2019, Chania, Crete Greece, 23-24 May 2019
- 2019 **V. Dimitriou**, *Invited Plenary talk*: “New prospects in multiphysics modeling and simulations of matter dynamics of laser induced solid-to-plasma phase transitions”, *Advanced Laser Technologies ALT19*, 15-20 September 2019, Prague, Czech Republic
- 2019 **V. Dimitriou**: “Multiphysics simulations for laser/plasma”, *V. Dimitriou Invited talk*: PowerLaPs: “Innovative Education & Training in High Power Laser Plasmas” Erasmus+ IP2, Rethymno, Greece, July, 2019
- 2019 **V. Dimitriou**: “PowerLaPs training module: Intensive educational and training scheme”, *V. Dimitriou Invited talk*: PowerLaPs: Innovative Education & Training in High Power Laser Plasmas, Multiplier Event, Ioannina, Greece, 30 August 2019
- 2020 **V. Dimitriou**: “Triggering the Math Instinct of common 3D humans”, *V. Dimitriou Invited talk*: Webinar in Mathematics Education, ATHENA EU University, Innovative Teaching Education in Mathematics, 16th October 2020, Chania, Greece
- 2020 **V. Dimitriou**: “Multiphysics modelling and simulations from solid to plasma regime for MHD and PIC studies”, *V. Dimitriou Invited talk*: Towards understanding and modelling intense electronic excitation, Warsaw, Poland, 17-18 February 2020
- 2020 **V. Dimitriou**: “Multiphysics simulations of laser-matter interactions using high resolution models at IPPL”, *V. Dimitriou Invited talk*: 4th BIATRI workshop: Advanced designing of functional materials: From mono- to BI- and TRI-chromatic excitation with tailored laser pulses, Institute of Physics of the Czech Academy of Sciences, Online, Cz hilase, 9-10 December 2020

18. Scientific Database Citations

- AN01 GoogleScholar: h-index: 10, Citations: 406 https://scholar.google.gr/citations?user=ayB_eAAAAAJ&hl=en
- AN02 SCOPUS, Author ID: 25924141900, h-index:9, Citations: 255, <http://orcid.org/0000-0003-4823-0350>
- AN03 ResearchGate, RG score:23.2, Research items: 88, Citations:298, Reads 7916, https://www.researchgate.net/profile/Vasilis_Dimitriou/stats

19. Research Projects

- 07.6.99 - 31.3.00** Preliminary construction works on the exploitation of waste of two recycling engineering plants. NTUA, Section of Mechanical Design & Automatic Control, School of Mechanical Engineering, Athens.
- 01.6.01- 15.12.01** Diagnosis and evaluation of the rolling stock of HELLENIC RAILWAYS ORGANIZATION S.A. (OSE) and maintenance organization to improve the reliability and safety of rail transport. (NTUA, Section of Mechanical Design & Automatic Control, School of Mechanical Engineering, Athens/OSE).
- 1.11.01- 31.12.01** "CONDICOMP", Material-state Based Control in Composites Processing through Dielectric Monitoring, FP5 GROWTH Project Funded by EC (NTUA, Section of Mechanical Design & Automatic Control, School of Mechanical Engineering, Athens).
- 15.6.02- 15.5.03** Optimization of the stress resistance under extreme conditions, respecting the basic design of the base. (NTUA, Section of Mechanical Design & Automatic Control, School of Mechanical Engineering, Athens / Hellenic Defence Systems S.A. (EBO-PYRKAL)).
- 01.7.01- 01.7.03** Investigation of optimization algorithms of the structure and cost of civil engineering constructions and integration to the program Scada. «GR ΠΑΒΕΤ 00ΒΕ191». (NTUA, Section of Mechanical Design & Automatic Control, School of Mechanical Engineering, Athens / ACE Hellas).
- 09.02- 06.04** Strengthening the laboratory courses of the academic year 2002-2003. (NTUA, Section of Mechanical Design & Automatic Control, School of Mechanical Engineering, Athens).
- 06.03-09.03 & 01.04-03.05** Study and inspection of vehicles transporting dangerous cargo in accordance with the directive of the EU ADR (62/1655, 62/1552, 62/175,162/1707, 62/1797). (NTUA, Section of Mechanical Design & Automatic Control, School of Mechanical Engineering, Athens).

- 01.2.04-30.6.04** Training for engineers on the transport of dangerous cargo in accordance with Directive ADR. (NTUA, Section of Mechanical Design & Automatic Control, School of Mechanical Engineering, Athens).
- 1.02.07-30.06.07** New algorithms for reverse engineering and application in the manufacture of medical implants. "Archimedes Project II". (T.E.I. of Crete, Dept. Of Natural Resources and Environment, Chania)
- 01.02.07-31.10.08** Artificial Tissue Substrates by Rapid Prototyping and electrospinning of nanofibers. Programme Interreg III A / Greece-Cyprus (T.E.I. of Crete, Dept. Of Natural Resources and Environment, Chania)
- 01.12.09-31.05.10** "HiPER", European High Power laser Energy Research Facility – Preparatory Phase Study, WP10 - "Fusion Experimental Programme" & WP12 – "Fundamental Science Programme" (T.E.I. of Crete, Centre for Plasma Physics & Lasers - CPPL)
- 27.1.10-31.1.11** Hellenic network for the European Research Infrastructure "HiPER", HiPER–GR, EFSRI: European Strategy Forum on Research Infrastructure (T.E.I. of Crete - CPPL)
- 01.03.12-30.09.15** Co-writing and participation in the main research team within the Program "Archimedes III: STRENGTHENING RESEARCH GROUPS IN TEI" entitled "Innovative optoacoustic device for three-dimensional space-time micro-characterization of composite materials based on ultrashort laser pulses", TEI of Crete - CPPL
- 01.03.12-30.09.15** Co-writing and participation in the main research group within the Program "Archimedes III: STRENGTHENING RESEARCH GROUPS IN TEI" entitled "Design and development of application neutron source in detecting explosives", TEI of Crete - CPPL
- 04.10.12-31.12.15** "National Research Infrastructure for HiPER», code MIS 376841 in Priority Axis: "01 - Creation and Development of Innovation supported by Research & Technological Development", TEI of Crete-CPPL
- 04.07.12-04.09.12** "Investigation for the improvement of the geometric characteristics and endurance cutter cones and construction of fifty cones" TEI of Crete - "C. Fotinakis & CO ", Simulations Machining & Manufacturing Lab. - SMM, TEI of Crete – SMM PI.
- 28.11.13-28.2.14** "Installing and configuring electromechanical systems digital guidance and control of an existing manufacturing CNC Router and study of its mechanical behavior", TEI of Crete - "Kapasakis Michael Eng.," Simulations Machining & Manufacturing Lab.– SMM, TEI of Crete – SMM PI.
- 01.06.14-31.08.14** «HIPOLIN 2014 Erasmus IP - An Introduction to High Power Light-Matter Interactions», Administration support of the Erasmus IP at 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» TEI of Crete
- 22.12.17-30.9.19** "Innovative Education and Training in High Power Laser Plasmas/PowerLaPs, ERASMUS+, Key Action2 2017-1-EL01-KA203-036366, TEI of Crete-CPPL. Associate PI.
- 15.3.18-31.12.21** "HELLAS-CH", ELI - LASERLAB Europe, HiPER & IPERION-CH.gr, code MIS 5002735, TEI of Crete-CPPL.
- 01.06.18-01.12.19** "reSearch is sERious Fun, H2020-MSCA-NIGHT-2018", Member of the project team, TEI of Crete-CPPL.
- 24.02.20-24.5.21** "Mitigation study of plasma instabilities in Z-pinch device using dielectric coatings", Operational Programme "Human Resources Development, Education and Lifelong Learning 2014-2020". Vice Academic Supervisor. Associate PI.
- 03.2020-03.2023** "X-MMaS - Development of a coherent X-ray multispectral microscopy system", Competitiveness and Entrepreneurship, Technological Development and Innovation Actions, under the Operational Programmes "Competitiveness and Entrepreneurship", project code: T1EAK-04549
- 2016 – today** Proposer and PI of four successfully completed annual on the HPC ARIS of the Greek Research and Technology Network – GRNET (<https://hpc.grnet.gr/en/>): LaMIS, PluPS I-II, LaMIPlaS I-II (completed). LaMIPlaS III: Laser Matter Interactions & Plasma Physics Simulations (to be completed in 2021)

20. Military Services

- 11.2004-11.2005** Sergeant artillery in Mytilene at Lesvos island. Development of reserve and human resources database. Informatics Research Office of the Lesvos Dept. Maintenance, development and operation of military network and applications

21. Foreign Languages, Technical and Special skills

English:	First certificate in English
German:	Basic
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, FEM codes, Manufacturing Simulations, CAD/CAM/CNC-CAE & CFD/HD/MHD/DEM/SPH/ALE, numerical optoacoustic diagnostics, Finite and particle approximation methods.
Technical Software Skills:	ANSYS –APDL, -DesignSpace -Workbench -X etc, Ls-Dyna, Sofistik, i-DEAS, Autodesk - Mechanical Desktop, -Inventor, -AutoCad, PTC Creo, Scada, 4M Fcalc- Adapt/Autofine, Mastercam, Comsol Multiphysics, PLUTO, Osiris, EPOCH, PIconGPU. Parallel processing on Clusters & High Performance Computing – HPC systems.

Since 2005:

- Design, development, and administration of the website www.cppl.teicrete.gr of IPPL.
- Design, development, and administration of the website www.ippl.hmu.gr of IPPL
- Design, development, and administration of the website www.hiper-hellas.teicrete.gr during the lifespan of the projects HiPER-GR and HiPER.
- Design, development, and administration of the website <http://www.smm.staff.teicrete.gr>
- Design, development, and administration of the website <https://powerlaps.chania.teicrete.gr> during the lifespan of the project PowerLaPs.
- Development and administration of a Beowulf cluster for the parallel processing of multiphysics FEM models and the simulation of numerical models of high computational demands in x-MPI environments.