

Academic Curriculum Vitae (June 2020)



Nektarios Andrea PAPADOGIANNIS (N.A. Papadogiannis), PhD

*Professor of Wave Physics, Optics & Acoustics,
Vice-Rector of Hellenic Mediterranean University (HMU)
Member of the Coordinating Committee of Institute of Plasma Physics
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Web of Science Researcher ID: **ABH-1760-2020UCATION**

University of Crete / University Bernard Lyon I / Foundation of Research & Technology Hellas
Ph.D. in Experimental Physics(1996)

Dissertation: " Interaction of ultrashort intense laser pulses with metallic surfaces "

University of Crete

M.Sc. in Atomic and Molecular Physics (1992)

University of Crete

B.Sc. in Physics (1990)

MAIN RESEARCH ACTIVITIES

- **Laser-Matter Interactions** (Science and engineering of ultrafast femtosecond and attosecond laser pulses, High harmonic generation from Gases, Surfaces and Plasmas, Picosecond Ultrasonics, Non-linear multiphoton, tunnel and field ionization of atoms and solid surfaces, ultrafast dissociation of molecules, Laser Plasma Science, High Power Laser Secondary Sources and Applications, Laser Plasma Accelerators, Laser Betatron X-rays, X-ray Imaging)
- **Laser Acoustics and Optoacoustics** (Ultrafast nanoacoustics, Dynamic holography and electronic speckle interferometry techniques, Material Vibrational Analysis, Nanoacoustic science and engineering for material and devices characterization, FEA techniques in nanoscale science and engineering, Laser Thermomechanics, Laser acoustic sources, laser acoustic imaging)

SCHOLARSHIPS AND FELLOWSHIPS:

- 1996-1990 *Merit scholarship during BSc, University of Crete*
- 1990-1992 *Merit scholarship during MSc, University of Crete*
- 1992 *Greece-Hungary bilateral agreement scholarship for research @ KFKI institute in Budapest*
- 1992-1996 *Research student Fellowship during PhD, Forth/IESL*
- 1993 *Erasmus scholarship for attending the first quantum optics school*
- 1994 *Erasmus scholarship for attending the EPS school on Lasers and Applications*
- 1994-1995 *PhD student Scholarship "PLATON" of French Embassy in Greece for PhD Research @University Bernard Lyon I*

ACADEMIC POSITIONS

- 2020-today *Elected Member of the Coordinating Committee of Institute of Plasma Physics and Lasers*
- 2018- today *Elected Vice-Rector of Hellenic Mediterranean University*
- 2016-2017 *Elected Chairman Department Music Technology and Acoustics*
- 2013-2016 *Member of the TEI of Crete Academic Council*

- 2007-today *Professor of Physics, TEI of Crete and HMU and Principal Researcher & Associate Director, IPPL (teaching in Under and Post Graduate Programs)*
- 2004-2010 *Elected Chairman of the Department of Music Technology and Acoustics TEI of Crete*
- 2008 *Visiting Researcher (Marie Curie ToC,) Imperial College London*
- 2003- 2007 *Associate Professor of Physics, TEI of Crete*
- 2001-2003 *Principal Researcher Scientist, FoRTH/IESL, Grete*
- 2001-2003 *Visiting Assistant Professor University of Crete (M.D. 407)*
- 2002 *Honorary Visiting Researcher, Laser Plasma Laboratory, Max Planck Institute for Quantum Optics, Garching, Germany.*
- 2001 *Elected Senior Lecturer of Non-Linear Optics, Aristotelian Univ. Thessaloniki*
- 2000 *Visiting Researcher (FIRE Project) Laboratoire d' Optique Appliquée (LOA), ENSTA-Ecole Polytechnique, Palaiseau Cedex*
- 1998-2001 *Researcher FoRTH/IESL, Crete*
- 1996-1998 *Meteorologist, Service in Greek Air force*

MAIN RESEARCH – ACADEMIC PROJECTS

- 2019-today **XMMaS - T1EΔK-04549, Research-Innovate-Create Project, Development of a coherent X-ray multispectral microscopy system**, *The proposal aims to the development of a system for multispectral microscopy in the region of “soft” X-rays, based on research achievements of: (a) the Institute of Plasma Physics & Lasers of the HMU (IPPL/HMU), on the generation and characterization of ultrafast laser-generated high harmonics, (b) the Technical University of Crete (TUC-HMMY), on the development of optical and optoelectronic systems, and multispectral imaging systems, and (c) on the technical expertise of the company iKnowHow (IKH) on the design, development and implementation of automated industrial systems. The application of the developed prototype system in the microscopy of micro-structured surfaces will be demonstrated, where different sized features are expected to be imaged depending on the selected wavelength range of the “soft” X-ray radiation. The final prototype system will be of very high added value and extremely useful for the fast imaging with coherent light of surface micro-structures, which until today is impossible to achieve using the existing conventional laser sources. Grand Total budget: ~ 1 000 000,00 €. HMU grand ~350.000,00 €. Scientific director*
- 2019-today **LASER-BETATRON, YOUNG RESEARCHER Research Project 1393**, *(Receives the 4th grade -97.05/100- in Physical Science in Greece) Development of a hard X-ray source from laser-plasma electron acceleration*

for high definition Hard-X-ray Microscopy. Grand Total budget: ~ 41 000,00 €. HMU grand ~41 000,00 €. Scientific director

- 2019-today **CarbonMusic - T2ΕΔΚ-01484, Research-Innovate-Create Project, fiber made Bouzouki design**, The project's aim is the design and manufacture of carbon fiber music instruments. The use of carbon fibres intended to make it easier to manufacture quality musical instruments without, the problems caused by unpredictable factors such as unevenness in the construction materials (eg wood) and their sensitivity to environmental conditions (eg humidity, temperature, etc.). It will also allow for a clear reduction in production costs offering benefits for many students of musical instruments. For this purpose, a carbon fiber bouzouki model will be created in which all the checks and improvements will be carried out so that the final standard will have the same acoustic quality as a corresponding wooden (traditionally made) bouzouki. At the end of this research, the first carbon made bouzouki will be ready to enter the market and pave the way for the development of other traditional carbon fiber music instruments, offering an increased added value to the Greek economy. In addition, it will contribute in the promotion of these instruments and of our the musical tradition. Grand Total budget: ~ 600 000,00 €. HMU grand ~200.000,00 €. Scientific director
- 2018-today **HELLAS-CH, National Research Infrastructure for Laser Research**, Grand Total budget: ~ 3 000 000,00 €. HMU grand ~500.000,00 €. Senior Researcher
- 2015-2016 **CT-Audio Link, (EOX GR07/3768)**, Co-funded by Greece and the European Economic Area (EEA) Financial Mechanism, EEA Grants, Qualification decision: GSRT, International S&T Cooperation Directorate, Bilateral & Multilateral Interstate Relations Section, Ref. No.: 132327/14, 25/8/2015, online publication number: 7NΠ3465ΦΘ3-X86, Grand total budget: 200.000,00 €.
- 2012- 2015 **National Research Infrastructure for the HiPER Project (EU+Greece)**, Member of the Principal team. Budget: 2 M€. CPPL/TEI of Crete
- 2012- 2014 **Archimedes III, "INNOVATIVE OPTOACOUSTIC DEVICE FOR 3D SPATIOTEMPORAL MICRO-CHARACTERIZATION OF COMPOSITE MATERIALS BASED ON ULTRAFAST LASER PULSES" (EU+Greece)**, Proposer and Scientific coordinator. Budget: 100 K€. CPPL/TEI of Crete
- 2012- 2014 **Archimedes III, "DESIGN AND DEVELOPMENT OF AN INNOVATIVE NEUTRON SOURCE WITH APPLICATION TO DETECTION OF EXPLOSIVES" (EU+Greece)**, Member of the principal team. Budget: 100 K€. CPPL/TEI of Crete
- 2010-2013 **ERASMUS Curriculum Development on Plasma Physics and Applications**, EU, Senior Member, Budget: 280 K€. CPPL/TEI of Crete
- 2012-2014 **ERASMUS IP Program (EU+IKY) on High power light-matter interaction**, EU, Member of the Principal team and member of the organizer committee. CPPL/TEI of Crete
- 2010-2012 **Erasmus IP Program (EU)**, Applications of Electronics in Plasma Physics, Member of the Principal team and member of the organizer committee (appepla.chania.teicrete.gr). Budget: 160 K€, CPPL/TEI of Crete

- 2010-2012 **HiPER-GR**, Hellenic Network for the European Research Infrastructure "HiPER", Ministry of Education/General Secretariat for Research and Technology/EU Budget: 120 K€ Senior Member. CPPL/TEI of Crete
- 2010-2012 **ELI-GR**, Hellenic Network for the European Research Infrastructure "ELI", Ministry of Education/General Secretariat for Research and Technology/EU Budget: 120 K€ Coordinator for the TEI of Crete Participation. CPPL/TEI of Crete
- 2007-2009 **Development of LASER research infrastructure at TEI of Crete**, Periphery of Crete (EU Periphery actions), Budget: 380 K€ - Proposer and Scientific Coordinator. CPPL/TEI of Crete
- 2007- **HiPER (www.hiper.org) (EU and Member States)**, HiPER is a proposed European **High Power laser Energy Research facility** dedicated to demonstrating the feasibility of laser driven fusion as a **future energy source**. HiPER is being designed to enable a broad array of new science including extreme material studies, astrophysics in the laboratory, miniaturised particle accelerators and a wide range of fundamental physics research. Member of the Proposers and Principal Researcher (www.hiper.org/docs/tdr/foreword.pdf). CPPL/TEI of Crete
- 2016-2008 **ERASMUS IP Program (EU+IKY)** Optoelectronics, Lasers & Applications (O.L.A.), EU, Member of the Principal team. Budget: 70 K€, CPPL/TEI of Crete
- 2005-2009 **Centre of Excellence**, EU, Marie Curie ToK grant "Development of an innovative X-ray source-DAIX" FP6-14423 (2005-2009) Budget: 900 K€ - Principal Researcher. CPPL/TEI of Crete
- 2005- 2008 **Archimedes II, ΕΠΕΑΕΚ (Greek Ministry of Education + EU)**, Development of Ultrahigh Frequency Laser Generated Ultrasound Source, Budget: 60 K€ - Proposer and Main Researcher, TEI of Crete
- 2004- 2006 **Archimedes I, ΕΠΕΑΕΚ (Greek Ministry of Education + EU)**, Speckle Pattern Laser Interferometry for performing acoustical analysis of Greek traditional musical instruments, Budget: 60 K€ - Proposer and Scientific Coordinator. TEI of Crete.
- 2004- 2006 **Archimedes I, ΕΠΕΑΕΚ (Greek Ministry of Education + EU)**, Innovative low-cost photovoltaic, Budget: 50 K€ - Principal Researcher. TEI of Crete.
- 2004- 2006 **Archimedes I, ΕΠΕΑΕΚ (Greek Ministry of Education + EU)**, Optical Radiation and Polymeric Materials, Budget: 53 K€ - Principal Researcher. TEI of Crete.
- 2002-2004 **SHARP**, Suppression over High dynamic range of A.s.e. at the Rising edge of ultra-intense femtosecond Pulses, **EU**, Budget: 170 K€ Main Researcher, FORTH
- 2000-2003 **"ATTO"** IHP RTN Network 'Generation and characterization of attosecond pulses in strong laser-atom interactions: a step towards attophysics' EU, Budget: 210 K€, Main Researcher, FORTH
- 1998-2001 **"FIRE"** RTD subprogram in TMR 'Coherent tunable kHz UV-VUV-XUV source' EU, Budget: 250 K€, Main Researcher, FORTH

- 2000-2003 **“COCOMO”** IHP RTN Network ‘Coherent control of atomic and molecular processes’ EU , Budget: 280 K€, Researcher, FORTH
- 2000-2001 **“OPTIMAMM”** QLG EU Program ‘Optical mammography’ Budget: 280 K€, Researcher, FORTH
- 1992-1996 **“X-RAYS”** Science-0129 ‘X-Ray generation from laser plasmas’

SUPERVISION OF PHD THESIS (Member of the Supervising Committee)

Completed

- 2010-2014 Anastasios Dimitriou: “Photoelectron Spectroscopic Study of atomic autoionizing processes”
- 2011-2015 Ioannis Orphanos: “Methodologies of dynamic nanoscopic material characterization using acoustic sources generated by ultrashort laser pulses”
- 2012-2016 Evangelos Kaselouris: “Study of matter behavior dynamics governed by the interaction with laser pulses and external strong currents”
- 2009-2016 Irene Tzianaki, “Study of high Frequency elastic waves in nanostructured metal-Si materials generated by ultrafast laser pulses”
- 2010-2018 Ioannis Ploumistakis, “Pair Creation in Vacuum using ultra-high power ultrafast lasers”

Under Preparation

- 2015-today George Koundourakis “Magnetized jets in Astrophysics and in Laboratory”
- 2016-today Stylianos Petrakis “Coherent pulsed XUV radiation sources generated by high intensity laser pulses”
- 2018-today Georgia Andrianaki, “PARTICLE ACCELERATION USING A HIGH INTENSITY LASER FACILITY”

SCHOLASHIPS and SCIENTIFIC DISTINCTIONS

- 1986 – 1990: National Greek Scholarship Organization for Annual Score performance in BSc Physic Department University of Crete
- 03/1992: Greek-Hungarian Scholarship (General Secretariat for Reseach and Technology, GREECE) for research in K.F.K.I. Physics Budapest Hungary
- 05/1993: Erasmus Scholarship for attending the “Quantum Optics School”, Elunda, Crete, Greece
- 05/1994: Erasmus Scholarship for attending the ‘2nd EPS on Laser Applications’, Elunda, Crete, Greece.
- 1994 – 1995: Scholarship of Greek-French Programme “Platon” (French embassy in Greece) for PhD research in Bernard Lyon I University, Lyon, France
- 1990 – 1995: Scholarship of Postgraduate Programme Physics Department, University of Crete, Greece
- 1992 – 1995: Postgraduate Scholarship for Research from Institute of Electronic Structure and Lasers, Foundation for Research and Technology Hellas, Heraklion, Crete, Greece

- 1995 – 1996: *Training and Specialization Scholarship for Research from Institute of Electronic Structure and Lasers, Foundation for Research and Technology Hellas, Heraklion, Crete, Greece*
- 1998 – 2001: *Scholarship of a Collaborating Researcher from Institute of Electronic Structure and Lasers, Foundation for Research and Technology Hellas, Heraklion, Crete, Greece*
- 2002 : *Honorary visitor Scholarship, Laser Plasma Laboratory, Max Planck Institute for Quantum Optics, Garching, Germany.*
- 12/2012 *First National Prize in Natural Sciences in Action “Excellence Research in the Greek Universities” from the Greek Ministry of Education (together with Professor Tatarakis)*
- 04/2014 *The publication APPLIED PHYSICS LETTERS, VOL. 103, ART.NO. 114104 (2013) was selected as Article of the Month for the month of April 2014, in the field of Applied Physics by the magazine Advances in Engineering (<https://advanceseng.com/applied-physics/three-dimensional-transient-behavior-thin-films-surface-pulsed-laser-excitation/>).*

REFEREE

- 1) Laser-Lab Europe (*access research proposals submitted to Laserlab-Europe*)
- 2) ECOS-CONICYT (*bilateral scientific cooperation projects between France and Chile*)
- 3) National Referee for Research Proposals in Greece (*General Secretary for Research and Technology*) and in Portugal (*Fundação para a Ciência e a Tecnologia –FCT*)
- 4) Referee in Scientific Journals (among others):
 - Nature (Scientific Reports)*
 - Physical Review Letter (American Physical Society - APS)*
 - Physical Review A (American Physical Society - APS)*
 - Applied Physics Letters (American Institute of Physics – AIP)*
 - Optics Letters (Optical Society of America -OSA)*
 - Journal of Acoustical Society of America (Acoustical Society of America)*
 - Chinese Optics Letters (Chinese Laser Press - CLP and The Optical Society of America - OSA)*
 - Applied Physics B (Springer Nature)*
 - Applied Acoustics (Elsevier)*
 - Chemical Physics Letters (Elsevier)*
 - Optics and Laser Technology (Elsevier)*
 - Nanomaterials (MDPI)*
 - Diamond & Related Materials (Elsevier)*
 - Quantum Beam Science (MDPI)*
 - Materials (MDPI)*
 - Open Physics Journal (BENTHAM)*
 - Advanced Physics Research Reports (The American Publishing House)*
 - Journal of Materials New Horizons (MNH)*
 - Metals and Alloys (AIMS)*
- 5) Member of Election Committees for new Professors in many Greek Universities

ORGANIZATION OF CONFERENCES / SCHOOLS

- ✓ 08/10/2020-09/10/2020, Acoustics-2020, Hellenic Institute of Acoustics, member of the scientific committee
<https://conferences.helina.gr/2020/gr/committees/>
- ✓ 23/09/2019 – 04/10/2019, 1ST TUMIEE-TRAINING INTERNATIONAL SCHOOL IN RETHYMNO, CRETE (GREECE). EU Project CA17126- TOWARDS UNDERSTANDING AND MODELLING INTENSE ELECTRONIC EXCITATION (TUMIEE). Chairman of the international scientific committee
<https://www.costca17126.industriales.upm.es/>
- ✓ 22/10/2018-26/10/2018, 35TH EUROPEAN CONFERENCE ON LASER INTERACTION WITH MATTER, RETHYMNO CRETE. Vice-Chairman of the local organizing committee <https://eclim2018.mitos.com.gr/index.php/committees/>
- ✓ 02/07/2018-13/07/2018, 1st Intensive Programme on Powerlaps Project (Erasmus+) “Innovative Education & Training in High Power Laser Plasma”, Member of the international Scientific Committee
<https://powerlaps.chania.teicrete.gr/events/rethymnon-i/>
- ✓ 01/07/2018-12/07/2018, 2nd Intensive Programme on Powerlaps Project (Erasmus+) “Innovative Education & Training in High Power Laser Plasma”, Member of the international Scientific Committee
<https://powerlaps.chania.teicrete.gr/2nd-intensiveprogramme-rethymnon/>
- ✓ 08/10/2018-09/10/2018, Acoustics-2018 , Hellenic Institute of Acoustics, member of the scientific committee
<https://conferences.helina.gr/2018/gr/committees/>
- ✓ 03/10/2016-04/10/2016, Acoustics-2016, Hellenic Institute of Acoustics, member of the scientific committee <https://conferences.helina.gr/2016/gr/committees/>
- ✓ 09/12/2015-13 /12/2015, European Educational Conference “Mediterranean Sea Connects Us: Progress in Education with Local Communities”, Member of Scientific Committee. <http://kritis.pde.sch.gr/images/anakoinoseis/ss-b/Kalathaki-1350-261115-CONFERENCE-2nd ANNOUNCEMENT.pdf>
- ✓ 30/06/2014-11/07/2014, International School (Erasmus IP project) on "An Introduction to High Power Light- Matter Interactions" (HIPOLIN), Rethymnon-Greece. Member of Scientific Committee
<http://hipolin.chania.teicrete.gr/index.html>
- ✓ 16/07/2012-27/07/2012, International School (Erasmus IP project) on "Applications of Electronics in Plasma Physics" (APPEPLA), Rethymnon-Greece. Vice chairman of the local organizing committee
<http://appepla2012.chania.teicrete.gr/committee.html>
- ✓ 03/10/2011-07/10/2011, International Conference on Acoustics WFAE2011, Corfu Greece, Member of Scientific Committee.
<http://www.akouse.gr/wfae2011/epitropes.html>

- ✓ 28/06/2010-09/07/2010, International School (Erasmus IP project) on "Applications of Electronics in Plasma Physics" (APPEPLA), Rethymnon-Greece. Member of the local organizing committee
http://appepla.chania.teicrete.gr/LLP_2010/Home.html

PUBLICATIONS IN REFEREED INTERNATIONAL JOURNALS

1. Konstantinos Kaleris, Yannis Orphanos, Makis Bakarezos, Vasilis M. Dimitriou, Michael Tatarakis, John Mourjopoulos and 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)
2. Ioannis Tazes, Jian Fuh Ong, Ovidiu Tesileanu, Kazuo A Tanaka, Nektarios A. Papadogiannis, Michael Tatarakis and Vasilis M. Dimitriou, TNSA & LWFA PIC simulations performance on CPU & GPU architectures for high-power laser systems, **Plasma Physics and Controlled Fusion** **62**, 094005 (2020)
3. 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**, 125012, (2020)
4. 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**, 20200030 (2020)
5. Stylianos Passalidis, Oliver C Ettlinger, George S Hicks, Nicholas P Dover, Zulfikar Najmudin, Emmanouil P Benis, Evaggelos Kaselouris, Nektarios A Papadogiannis, Michael Tatarakis, Vasilis Dimitriou, **High Power Laser Science and Engineering** **8**, e7 (2020)
6. 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 ablation threshold, **IOP Conference Series: Materials Science and Engineering** **916**, 012050 (2020)
7. 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 (2020).
8. 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 (2020).
9. John Pasley, Georgia Andrianaki, Andreas Baroutsos, Dimitri Batani, Emmanouil P. Benis, Marco Borghesi, Eugene Clark, Donna Cook, Emmanuel D'Humieres, Vasilios Dimitriou, Brendan Dromey, Michael Ehret, Ioannis Fitis, Anastasios Grigoriadis, Satya Kar, Evaggelos Kaselouris, Ondrej Klimo, Michel Koenig, Kyriaki Kosma, George Koundourakis, Milan Kucharik, Aveen Lavery, Jiri Limpouch, Yannis Orphanos, Nektarios A. Papadogiannis, Stelios Petrakis, Dave Riley, Maria Serena Rivetta, Laura Tejada Pascual, João Jorge Santos, Alexandros Skoulakis, Ioannis Tazes, Vladimir Tikhonchuk, Jocelain Trela, Calliope Tsitou, Luca Volpe, Steven White, Mark Yeung, 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** **8**, e5, 7 (2020)
10. K Kaleris, Y Orphanos, M Bakarezos, N A Papadogiannis, Experimental and analytical evaluation of the acoustic radiation of femtosecond laser plasma filament sound sources in air, **The Journal of the Acoustical Society of America** **146** (3), EL212 (2019).

11. J. Orphanos, Y., Kosma, K., Kaselouris, E., Vainos, N., Dimitriou, V., Bakarezos, M., Tatarakis, M., Papadogiannis, N.A., Integrated nanosecond laser full-field imaging for femtosecond laser-generated surface acoustic waves in metal film-glass substrate multilayer materials, **Applied Physics A: Materials Science and Processing** 125, 269 (2019) .
12. John Pasley, Georgia Andrianaki, Andreas Baroutsos, Dimitri Batani, Emmanouil P. Benis, Marco Borghesi, Eugene Clark, Donna Cook, Emmanuel D’Humieres, Vasilios Dimitriou, Brendan Dromey, Michael Ehret, Ioannis Ftilis, Anastasios Grigoriadis, Satya Kar, Evaggelos Kaselouris, Ondrej Klimo, Michel Koenig, Kyriaki Kosma, George Koundourakis, Milan Kucharik, Aveen Lavery, Jiri Limpouch, Yannis Orphanos, Nektarios A. Papadogiannis, Stelios Petrakis, Dave Riley, Maria Serena Rivetta, Laura Tejada Pascual, João Jorge Santos, Alexandros Skoulakis, Ioannis Tazes, Vladimir Tikhonchuk, Jocelain Trela, Calliope Tsitou, Luca Volpe, Steven White, Mark Yeung, 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 – theory and experiments, **Cambridge University Press - High Power Laser Science and Engineering** 7, e23 (2019).
13. M. Bakarezos, E. Tzianaki, S. Petrakis, G. D. 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** 86C, 14 (2018)
14. E. Kaselouris, V. Dimitriou, I. Ftilis, A. Skoulakis, G. Koundourakis, E.L. Clark, M. Bakarezos, I.K. Nikolos, N.A. Papadogiannis, M. Tatarakis, The influence of the solid to plasma phase transition on the generation of plasma instabilities, **Nature Communications** 8, 1713 (2017)
15. E. Kaselouris, V. Dimitriou, I. Ftilis, A. Skoulakis, G. Koundourakis, E.L. Clark, J. Chatzakis, M. Bakarezos, I.K. Nikolos, N.A. Papadogiannis, M. Tatarakis, Preliminary investigation on the use of low current pulsed power Z-pinch plasma devices for the study of early stage plasma instabilities, **Plasma Physics and Controlled Fusion** 60, 014031 (2017)
16. Tzianaki, E., Bakarezos, M., Tsibidis, G.D., Petrakis, S., Loukakos, P.A., Kosmidis, C., Tatarakis, M., Papadogiannis, N.A., Controlling nanoscale acoustic strains in silicon using chirped femtosecond laser pulses, **Applied Physics Letters** 108, 254102 (2016)
17. Evaggelos Kaselouris, Emmanouil Skarvelakis, Ioannis K Nikolos, Georgios E Stavroulakis, Yannis Orphanos, Efthimios Bakarezos, Nektarios A Papadogiannis, Michael Tatarakis, Vasilios 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 (2016)
18. 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 (2016)
19. E. Tzianaki, M. Bakarezos, G.D. Tsibidis, Y. Orphanos, P.A. Loukakos, C. Kosmidis, P. Patsalas, M. Tatarakis, and N.A. Papadogiannis, High acoustic strains in Si through ultrafast laser excitation of Ti thin-film transducers, **Optics Express** 23, 17191 (2015)
20. V. Dimitriou, E. Kaselouris, Y. Orphanos, M. Bakarezos, N. Vainos, I.K. Nikolos, M. Tatarakis, and 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** 739, 118 (2015)
21. Ftilis, I., Skoulakis, A., Kaselouris, E., Nikolos, I.K., Bakarezos, M., Papadogiannis, N.A., Dimitriou, V., Tatarakis, M. Experimental and numerical investigation of the early time dynamics of single wire plasma explosions, **42nd European Physical Society Conference on Plasma Physics, EPS 2015**, Code 122445 (2015)
22. Ftilis, I., Skoulakis, A., Kaselouris, E., Nikolos, I.K., Bakarezos, E., Papadogiannis, N.A., Dimitriou, V., Tatarakis, M. Diagnosing the initial stages from solid to plasma phase for dense plasma explosions, 1st EPS Conference on Plasma Diagnostics, **Proceedings of Science** Code 118792, (2015)
23. 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** 27, 1460127 (2014)

24. E. Kaselouris, V. M. Dimitriou, A. Skoulakis, I. Ftilis, Y. Orphanos, I. Nikolos, E. Bakarezos, N. Papadogiannis, M. Tatarakis, Experimental and numerical study of the initial stages of explosion of thick single wire z-pinch, **41th EPS Conference on Plasma Physics, EPS 2014**, Berlin, Germany, 23-27 June (2014)
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CITATIONS

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INVITED TALKS

1. N. A. Papadogiannis, Coherent X-ray Secondary Laser- Plasma Source, Invited talk in a workshop on "Multiscale modeling of irradiation-driven processes for emerging technologies", organized under the auspices of the Centre Européen de Calcul Atomique et Moléculaire (CECAM) to be held in Lausanne, Switzerland during 2021
2. Nektarios Papadogiannis, Invited Talk in 18th Panhellenic symposium of Greek Society of Physists, Physics of extreme conditions with the use of ultra-high intensity light pulses and related technological applications, Eretria, Greece September 2020
3. Nektarios Papadogiannis, High Power laser-plasma secondary sources and their potential in biomedical applications, HELLAS-CH Symposium University of Ioannina, 29 August 2019

4. N.A. Papadogiannis, Ultrafast-Laser generated nanoacoustic waves and their applications on material diagnosis, Invited Talk on the 27th International Conference on Advanced Laser Technologies (ALT'19) , Czech Republic, September 15-20, 2019
5. N.A. Papadogiannis, Laser based light sources: Current status and applications, PowerLaPs Innovative Education & Training in High Power Laser Plasmas, Multiplier Event Congress Hall "Karolos Papoulias", University of Ioannina, 30 August 2019
6. N.A. Papadogiannis, "Laser Nano-acoustics & Applications", Invited Talk on the 2nd Intensive Course in Laser Physics, Safety & Applications, 13th – 16th of May 2019, Department of Physics, Politecnico di Milano, Italy
7. N.A. Papadogiannis, Ultrafast Laser generated Rayleigh surface acoustic waves: physics and applications on material diagnosis, Invited Talk on International Conference Micro-Nano 2018, Thessaloniki, 05-07 November 2018
8. N. A. Papadogiannis, Ultrafast laser generated mechanical waves, physics and application, Invited Talk on 35th International Conference on Laser Interaction with Matter (ECLIM 2018), Rethymnon, 22-28, October 2018
9. N. A. Papadogiannis, Laser-based holographic interferometry techniques for the study of musical instruments, Invited Talk on ISCEA 2017, University of Hamburg, December 07-10 (2017)
10. N. A. Papadogiannis et al, Coherent soft X-rays from ultra-intense lasers: the future of nanoscale dynamic imaging, Invited Talk on Workshop on "Ions for cancer therapy, space research and material science" Organized by CERN on 28th to 30th of August 2017 at Chania, Crete, Greece
11. N. A. Papadogiannis, High Power Laser Secondary Sources, 1st Greek Workshop On: PHOTONICS, 16 & 17 May 2016, National Hellenic Research Foundation, Athens
12. M. Bakarezos, G.D. Tsibidis, I. Tzianaki¹, S. Petrakis, P.A. Loukakos, C. Kosmidis, M. Tatarakis, and N.A. Papadogiannis, Generate and control giant nanoscale acoustic strains in Silicon using chirped femtosecond laser pulses, Invited Talk on COST Action MP1208 Workshop on Developing the Physics and the Scientific community for Inertial Confinement Fusion at the time of NIF ignition, Belgrade 18-20 April 2016
13. N. A. Papadogiannis, Makis Bakarezos, I. Tzianaki, Y. Orphanos, E. Kaselouris, V. Dimitriou, M. Tatarakis, Monitoring matter dynamics under ultrafast laser excitation, Invited Talk on the CECAM workshop on Multi-scale modelling of matter under extreme irradiation, Dublin 17-20 June 2015
14. N.A. Papadogiannis, "Ultrafast Lasers at CPPL and their Applications" Laboratori Nazionali di Frascati, Roma Italy, Invited talk given by N.A. Papadogiannis, 6 March 2009
15. S. Gymnopoulos, M. Bakarezos, S. Kouzoupis, A. Maragoudakis, M. Tatarakis and N.A. Papadogiannis, "Traditional musical instruments analysis using ESPI", Invited talk, 19 January 2005, University of Athens, Department of Informatics and Telecommunications.
16. N.A. Papadogiannis, "Attosecond Science Present Status and Prospects" , Gas Flow Lasers and High Power Lasers, GCL/HCL XIV international symposium, 26-30 August 2002, Wroclaw, Poland (Invited Talk).
17. N.A. Papadogiannis "Table-Top Ultrashort Extreme-UV Sources: from Classical Spectroscopy to the Experimental Attosecond Science" 6 July 2002 IESL Colloquium (Invited Talk).
18. N.A. Papadogiannis and D. Charalambidis, "Attosecond Pulses" Gordon Research Conference on Multiphoton processes Tilton School Tilton, NH June 30 – July 5, 2002 (invited talk)
19. N.A. Papadogiannis and D. Charalambidis, "Generation and Characterization of Ultra Short E/M pulses" 34th EGAS, Sofia, 9 - 12 July 2002 (invited talk).
20. N.A. Papadogiannis and D. Charalambidis, "Generation And Characterization Of Ultra Short Xuv Pulses" Symposium on "Atto and Femtosecond Phenomena in Materials" MRS Fall Meeting Boston 2-6 Nov., 2002. (invited talk).
21. N.A. Papadogiannis and D. Charalambidis, Recent developments in the generation and characterization of sub-fs XUV pulses, MRS. Fall Meeting, Boston 1-3 December 2002 (invited talk)

22. N.A. Papadogiannis and D. Charalambidis, "Towards second order autocorrelation measurements of superimposed harmonics orders" ICOMP 9, 18-23 October 2002, Elounda Crete (Invited talk).
23. N.A. Papadogiannis, E. Hertz, O. Faucher, B. Lavorel, B. Witzel, C. Kalpouzos, G. Nersisyan, and D. Charalambidis: Recent developments in attosecond pulse generation, Invited talk at Fourth Annual Meeting of the COST Action P2 "Applications of nonlinear optical Phenomena" Agro Hotel Conference Centre Budapest, Hungary 16-19 May 2001
24. N. A. Papadogiannis, 'Ultrashort Extreme Ultraviolet Light Generation based on High Order Harmonic Generation' Invited talk at Albert-Ludwigs-Universität Freiburg, Fakultät für Physik, Sonderforschungsbereich 276, 9 May 2001
25. N. A. Papadogiannis, G. Nersisyan, L. Goulielmakis, D. Charalambidis, G. Tsakiris, 'XUV autocorrelator based on a transmission grating', ATTO network meeting, Laboratoire de Chimie-Physique, Paris 25-27 January (2001)
26. N. A. Papadogiannis, B. Witzel, C. Kalpouzos and G. Nersisyan, Attosecond pulse generation, Invited Talk in Ringberg-Konferenz der Laser-Plasma-Gruppe des MPQ, Munich, Germany, March 2001
27. N. A. Papadogiannis, B. Witzel, C. Kalpouzos and G. Nersisyan. D. Charalambidis, Recent developments in attosecond pulse generation, Invited Talk in ECAMP VII, Berlin 2-6 April (2001)
28. N. A. Papadogiannis, C. Kalpouzos, B. Witzel and C. Fotakis, D. Charalambidis, Observation of attosecond light pulses, Invited Talk, Seminar of Max-Planck Institute for Quantum Optics, Garhing (Germany) 8 May 2000
29. N. A. Papadogiannis, D. Charalambidis, , C. Kalpouzos, B. Witzel and C. Fotakis, Observation of attosecond light pulses, Invited Talk, Seminar of Physics Department of Freiburg Univ., Freiburg (Germany) 25 November 2000