

PERSONAL INFORMATION

Nathanail Kortsalioudakis



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 nathan@electronics.tuc.gr

Sex Male | Date of birth 21/02/1973 | Nationality Greek

POSITION

Laboratory Teaching Staff

WORK EXPERIENCE

09/2002–Present

Laboratory Teaching Staff

Technical University of Crete, Chania (Greece)

www.tuc.gr

2014–Present: School of ECE-Electronics Laboratory

Teaching courses:

- Laboratory of Electronics I
- Laboratory of Electronics II
- Laboratory of Optoelectronics

2012–2014: Department of Sciences- Physics Division

Teaching courses:

- Laboratory of Physics I
- Laboratory of Physics II

2009–2011: Research Committee/Special Account for Research Grants

Position: Head of Planning and Project Development Division and Public Relations Officer - Research Committee Secretariat**Main activities and responsibilities**

- Annual programming project management
- Authorized TUC's Liaison Officer for Operational Programs of the National Strategic Reference Framework (NSRF) 2007–2013
- Authorized Officer of TUC's Project Management Team of the "DIAVGEIA" Program (<http://diavgeia.gov.gr/>)
- Web Administrator of Department website: www.elke.tuc.gr
- Administrator of the project management information system (ResCom)
- Web Administrator of the project management information web interface system (WebResCom)

2008–2002: Department of Sciences- Physics Division

Teaching courses:

- Laboratory of Physics I
- Laboratory of Physics II

Business or sector Education

- 06/2016–Present **Product manager**
Spectricon S.M. PC
Igoumenou Gavriil 12, 73134 Chania (Greece)
www.spectricon.com
- Product Manager at Hyperspectral Imaging products
 - Project Manager
- Business or sector** Professional, scientific and technical activities
- 09/2016–12/2018 **Operations Manager**
QCell P.C. - Mobile Imaging Technologies
Nearchou 37, 73134 Chania (Greece)
www.qcell.tech
- Operations Management
 - Application Development Management
- Business or sector** Research & Development on Mobile Imaging
- 09/2003–06/2011 **Teaching Assistant**
Technological Institution of Crete (TEI) - Branch of Chania
3/Romanou St., GR 73135 Chania (Greece)
www.chania.teicrete.gr
- Teaching Assistant under fixed-term contract at Department of Natural Resources Management and Department of Electronics.
- Courses:**
- Laboratory of Physics
 - Laboratory of Applied Electromagnetism
 - Laboratory of Metrology
 - Laser Technology (theory)
- Business or sector** Education

EDUCATION AND TRAINING

- 01/12/2000–10/07/2006 **Doctor of Philosophy (Ph.D)** EQF level 8
Technical University of Crete - Department of Sciences/Physics Division
University Campus/Kounoupidiana, GR 73142 Chania (Greece)
- Ph.D. thesis: "Laser matter interaction with emphasis to the physical mechanisms take place during propagation of ultrashort high intensity laser pulses in gas and solid media"
- 01/11/1997–29/11/2000 **Master of Science (M.Sc.)** EQF level 7
Technical University of Crete - Department of Sciences/Physics Division
University Campus/Kounoupidiana, GR 73142 Chania (Greece)
- Applied and Technological Physics and Laser Technology. Thesis title: "Measurement of infrared emissivity of optically opaque materials at ambient temperature"
- 10/09/1992–27/11/1997 **Bachelor Degree on Physics** EQF level 6
University of Crete
Basillika Vouton, GR 71003 Heraklion (Greece)

Physics degree

PERSONAL SKILLS

Mother tongue(s) Greek

Foreign language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C2

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user
Common European Framework of Reference for Languages - Self-assessment grid

Communication skills -Excellent communication with students as a laboratory instructor at Technical University of Crete and Technological Institution of Crete

Organisational / managerial skills

- 2014-2018: Technical University of Crete/School of Electrical and Computer Engineering: Representative of Laboratory Teaching Staff in Department's Faculty Board
- 2014-2015: Technical University of Crete: Member of the Laboratory Teaching Staff Board
- 2005-2006: Technical University of Crete: Chairman of the board of staff association under contract
- 2006-2008: Technological Institution of Crete/Department of Natural Resources: Representative of Teaching staff with fixed-term contract in Department's Faculty Board
- 1999-2000: Technical University of Crete/Department of Sciences: Postgraduate student representative in Department Faculty Board
- 1997-98: University of Crete/Department of Physics - Chairman of student board

Job-related skills

Research Interests

My research interests are focused on:

- Laser Physics
- Photonics
- Optoelectronics
- Spectroscopy (UV to IR)
- Non-destructive Analysis
- Hyper/Multi spectral imaging

Digital skills

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem-solving
Proficient user	Proficient user	Proficient user	Proficient user	Proficient user

Digital skills - Self-assessment grid

- Operation Systems: Microsoft Windows, Linux, UNIX
- Computational Languages: GWBasic/QBasic/MS Basic, FORTRAN 77/90
- Office Suites: Microsoft Office, Open Office
- Operation of special software: Mathematica, Origin Lab, ImageJ, FRAN, HITRAN

ADDITIONAL INFORMATION

Projects **Research projects involved:**

- Sep 2019 – Present: Project Title: XMMaS -Development of a coherent X-ray multispectral microscopy system. Funding Hellenic Ministry of Education through Community Support Framework 2013-2020. Position in the project: Research Associate & Assistant Project Manager
- Jan 2019 – Jun 2019: Project Title: SEA.VIEW.NET - Real-time measurement of Cretan sea water clarity. Funding: Region of Crete, Position in the project: Research Associate & Assistant Project Manager
- March 2014 - September 2015: Project Title: WOOD-LASER, "Improving permeability difficult to impregnate coniferous wood with drill micro-holes with laser". Funding: Hellenic Ministry of Education through Community Support Framework 2007-2013- THALIS Project. Position in the project: Research Associate
- February 2013 - April 2013: Project Title: "Training of Photovoltaic Installers in Europe - PVTRIN", Funding: European Union. Position in the project: Administrative/technical staff.
- 23 June 2010 - 31 December 2010: Project Title: "Analysis and definition of project management processes of Research Committee and processing methods for continuous quality control of the 2010", funded by Special Account for Research Grants of Technical University of Crete. Position in the project: Administrative staff.
- 01 November 2006 - 31 December 2008: Project Title: "Study on application technology of ozone (O₃) in the postharvest stage of processing (decontamination, maturation, storage) of selected fresh agricultural products of Crete to create high quality modern units of packaging, storage and standardization" funded by General Secretariat for Research and Technology (GSRT) of the Hellenic Ministry of Development through Community Support Framework 2000-2006 operational Project "REGIONAL INNOVATION POLES". Position in the project: Research Associate and Assistant Project Manager.
- 01 November 2006 - 31 December 2008: Project Title: "The application of biotechnology ozone (O₃) in the modern development and standardization of fresh agricultural products" funded by General Secretariat for Research and Technology (GSRT) of the Hellenic Ministry of Development through Community Support Framework 2000-2006 operational Project "REGIONAL INNOVATION POLES". Position in the project: Research Associate and Assistant Project Manager.
- 01 April 2004 - 31 August 2006: Project Title: "Interaction of laser radiation with the atmosphere - Applications to Air Pollution" funded by Hellenic Ministry of Education through Community Support Framework 2000-2006, Operational Programme "Competitiveness". Position in the project: Research Associate
- 01 November 2001 – 30 April 2004: Project Title: "Suppression over High dynamic range of Ase at the Rising edge of ultra-intense femtosecond Pulses, (SHARP)" funded by European Union through Framework Programme 2000-2006 (FP5), Contract no: HPRI - CT - 2001 - 50 037. Position in the project: Research Assistant

Publications **Publications on peer-reviewed journals:**

Number of citations: 84 (Update: March 2020), h-index: 3

- E. Voulgaridis, S. Adamopoulos, S. Karastergiou, C. Passialis, D. Koutsianitis, N. Kortsalioudakis, P. Petrakis and S. Moustazis, "Effects of laser drilling on mechanical properties and impregnability of fir and spruce wood", in The 7th International Scientific and Technical Conference, "Innovations in Forest Industry and Engineering Design, 2014.
- Kortsalioudakis, N., Tatarakis, M., Vakakis, N., Moustazis, S.D., Franco, M., Prade, B., Mysyrowicz, A., Papadogiannis, N.A., Couairon, A., Tzortzakis, S., "Enhanced harmonic conversion efficiency in the self-guided propagation of femtosecond ultraviolet laser pulses in argon", (2005) Applied Physics B: Lasers and Optics, 80 (2), pp. 211-214.
- Pantinakis, A., Kortsalioudakis, N., "A simple high-sensitivity radiometer in the infrared for measurements of the directional total emissivity of opaque materials at near-ambient temperatures", (2001) International Journal of Thermophysics, 22 (6), pp. 1843-1854.
- Hatzianastassiou, N., Croke, B., Kortsalioudakis, N., Vardavas, I., Koutoulaki, K., "A model for the longwave radiation budget of the Northern Hemisphere: Comparison with Earth Radiation Budget Experiment data", (1999) Journal of Geophysical Research D: Atmospheres, 104 (D8), pp. 9489-9500.

References in books:

- H. Reinholz, "Dielectric and optical properties of dense plasmas ", EDP Sciences, 2005, ISBN: 2868839460, 9782868839466
- Detlef Breitling, " Gasphaseneinflüsse beim abtragen und bohren mit Ultrakurz gepulster Laserstrahlung", Herbert Utz Verlag, 2010, ISBN: 3831609608, 9783831609604
- Kaoru Yamanouchi, "Progress in ultrafast intense laser science", Springer KK Japan 2006, ISBN: 3540344217, 9783540344216

Publications on national/ international conferences:

- N.Kortsalioudakis, S.Tzortzakis, S.D. Moustazis, "Laser Induced Tropospheric Ozone Control", 5th International Scientific Conference on "Energy and Climate Change", Athens, Greece, 11-12 October, 2012
- Fragkedaki O., Kortsalioudakis N., Mixelioudakis M., Skoulakis A., Moustazis S., "Microbial and Quality Control of Fruits and Vegetables by Ozone Application", 4th International Conference on Experiments/Process/System/Modeling/Simulation/ Optimization, Athens, Greece, 6-9 July, 2011
- N. Kortsalioudakis, S.D. Moustazis and S.Tzortzakis, "Ozone Concentration Control by Application of Filamented Ultrashort Ultraviolet Laser Pulses", 2nd International Symposium on Filamentation, Paris, France, 22-25 September, 2008
- N. Kortsalioudakis, M. Michelioudakis, S. Moustazis, "Study of the technology of Ozone (O3) in the maintenance of selected fresh agricultural products of Crete in order to create high quality modern units of packaging, storage and standardization", 2nd International Conference on Quality and Marketing of Agricultural Products, Hersonissos, Heraklion, Crete, Greece, 25-27 September, 2008
- N.Kortsalioudakis, E.Bakarezos, C.Kalpouzos, S.D.Moustazis, "Development of Table-Top Ultrashort Hybrid Laser by Amplification of a Tuned Ti:Sa Laser Beam in an Excimer Double Cavity", CLEO/QELS 2006, Long Beach Convention Center, Long Beach, California, USA, 21-26 May 2006
- S. D. Moustazis, P. Lalouis, E. Keskilidou, N. Kortsalioudakis, M. Bakarezos, M. Apostolakis, M. Vardakis, "A Laser Based Neutron Pumped Lasing (NPL) Scheme", ICUIL 2006 – The 2nd International Conference on Ultrahigh Intensity Lasers, 25-29 September 2006, Cassis, France
- S.D. Moustazis, M. Tatarakis, A. Skoulakis and N. Kortsalioudakis, "An Innovative Scheme for Fast Charged Particles propagation", Fourth International Conference on Inertial Fusion Sciences and Applications, Biarritz France, September 2005.
- N. Kortsalioudakis, E. Bakarezos, C. Kalpouzos, S.D. Moustazis, "A New Hybrid Laser System: Amplification of a Ti:Sa Laser Seed Beam in an Excimer Cavity Amplifier with Potential Applications to Atmospheric Pollution Monitoring", Laser Olympics, Athens, Greece Oct. 15-17, 2004
- S.D.Moustazis, M. Tatarakis, N.Vakakis and N. Kortsalioudakis, Jérôme Gaudin, and Philippe Martin, F. N. Beg, K. Krushelnick and A. E. Dangor, "Quartz induced Luminescence by Neutron impact using a Plasma Focus device", 8th International Conference on Applications of Nuclear Techniques, Crete, Greece Sept. 12-18, 2004
- M. Tatarakis, M. Bakarezos, N. Papadogiannis, N. Vakakis, N. Kortsalioudakis, S.D. Moustazis, P. Nilson, T. Witting, "Enhancement of the x-ray yield during the interaction of two collinear short pulse UV laser beams with a solid target", 8th International Conference on Applications of Nuclear Techniques, Crete, Greece Sept. 12-18, 2004
- S. Tzortzakis, N. Kortsalioudakis, M. Tatarakis, N. Vakakis, S.D. Moustazis, M. Franco, B. Prade, A. Mysyrowicz, N. Papadogiannis, A. Couairon, "Self-guided propagation of fs UV laser pulses and efficient harmonic generation in low pressure argon", CLEO/QELS 2004, The Moscone Center West, San Francisco, California, USA, 16-22 May, 2004
- S.D. Moustazis, M.Tatarakis, M. Bakarezos, N. Vakakis, N. Kortsalioudakis, P. Nilson, T.Witting, "Investigation of enhancement processes during the interaction of two laser beam with a solid target", High Power Laser meeting, 18-20 December 2002, Oxford, UK

Member of Examining Committee

- Dimitrios Pediaditis, "Development of a 3D tracking sensor for biomedical applications", Diploma Work, School of Electrical and Computer Engineering, Technical University of Crete, Chania, Greece, 2020
- Theofilos Christodoulou, "Development of a hyperspectral microcamera", Diploma Work, School of Electrical and Computer Engineering, Technical University of Crete, Chania, Greece, 2018
- Panagiotis Reppas, "Development of MID-IR hyperspectral imaging system based on quantum cascade laser", Diploma Work, School of Electrical and Computer Engineering, Technical University of Crete, Chania, Greece, 2018
- Filippou Kalomoiris, "Laser speckle imaging for non-destructive analysis", Diploma Work, School of Electrical and Computer Engineering, Technical University of Crete, Chania, Greece, 2018
- Dimitrios Bousias, "Spectral chromatometry", Diploma Work, School of Electrical and Computer Engineering, Technical University of Crete, Chania, Greece, 2017
- Emmanouil Vardoulakis, "Integrated hyper spectral microscopy system: application accuracy improvement in leukemia diagnosis", Diploma Work, School of Electrical and Computer Engineering, Technical University of Crete, Chania, Greece, 2017
- Ioannis Gkouzionis, "Spectral cube reconstruction from multiplexed spatial and spectral data", Diploma Work, School of Electrical and Computer Engineering, Technical University of Crete, Chania, Greece, 2017
- Alexandros Ntousakis, "Method and system for measuring underwater visibility", Diploma Work, School of Electronic and Computer Engineering, Technical University of Crete, Chania, Greece, 2015
- Paraskevi Dretaki, "Study of pupil response to multiwavelength excitation in normal and pathologic conditions", Diploma Work, School of Electronic and Computer Engineering, Technical University of Crete, Chania, Greece, 2015
- Olga Fragkedaki, "Ozone Application to fruits & vegetables", Master Thesis, Science Department, Technical University of Crete, Chania, Greece, 2011.

Seminars

Guest speaker at the Erasmus Intensive Program entitled: "High power light-matter interactions (HIPOLIN)" funded by the European Union.

Organizer program: TEI of Crete.

Date: 1-12 July 2013 Lecture Title: "Non-linear propagation of intense laser pulses in gases"

Honours and awards

- 1997-1998: National Scholarship Foundation (IKY) as a postgraduate student for best performance at the Department of Sciences
- 1997-1998: Technical University of Crete - Department of Sciences: Department Scholarship
- 1995-1997: Foundation for Research and Technology (FORTH): Internship scholarship for undergraduate dissertation at Environmental Research Laboratory