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Curriculum Vitae

Maria N. Katsikini, Professor

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School of Physics
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1. Personal Data

Date of birth: 13 - 1 -1973 (Thessaloniki)
Marital status: Married, 1 child

2. Positions

- Professor (2023 -), School of Physics. AUTH
- Associate Professor (2016-2023), School of Physics. AUTH
- Assistant Professor (2010-2016), School of Physics, AUTH
- Lecturer (2004-2010), School of Physics, AUTH
- Administrative staff (2002-2004), School of Physics, AUTH

3. Education

Degrees

- **PhD in Physics**, School of Physics, AUTH in collaboration with the Hahn-Meitner Institute (now Helmholtz Zentrum Berlin). Thesis title: "*Characterization of group III nitrides with X-ray absorption techniques*", (graded as "excellent"). Supervisors: Prof. Eleni C. Paloura (supervisor), Prof. J. G. Antonopoulos† and Dr. E. Holub-Krappe, Senior Scientist at the Hahn-Meitner Institut Berlin. — 6/2000
- **B.Sc. in Physics** (grade7.83/10), School of Physics, AUTH. B.Sc. Thesis title "*Characterization of implanted Si_3N_4 films with X-ray absorption spectroscopies EXAFS and NEXAFS*". Supervisor: Prof. Eleni C. Paloura. — 5/1995
- **Apolytirion** of General Lyceum (grade 18.5/20) — 6/1990

Summer Schools & Intensive Courses

- "**Summer School on Synchrotron Radiation: Applications to Materials Science and Physics**" (8 days), Luso, Portugal. — 5/1998
- **"3rd School on the Use of Synchrotron Radiation in Science and Technology: John Fuggle Memorial"** (5 weeks) Trieste, Italy. — 11/1995
- **Intensive German language course**, Goethe Institute, Rothenburg o.d. Tauber, Germany (2 months). — 9-10/1998

4. Scholarships and Awards

Scholarships

〉 **Post-doctoral research scholarship**, "State Scholarships Foundation", to conduct research on the subject: "On the effect of growth conditions and processing on the nanostructure of group III nitrides".	11/2001-10/2002
〉 **Financial support from the European Synchrotron Radiation Society** to participate in the "Summer School on Synchrotron Radiation: Applications to Materials Science and Physics" Luso, Portugal.	5/1998
〉 **Post-graduate student scholarship**, Research Committee AUTH.	9/1997-8/1998
〉 **ERASMUS Scholarship**: Humboldt Universität zu Berlin and Hahn-Meitner Institut, Berlin, Germany.	1-4/1996
〉 **Financial support from the International Center for Theoretical Physics** to attend the "3rd School on the Use of Synchrotron Radiation in Science and Technology: John Fuggle Memorial", 5 weeks, Trieste, Italy.	11/1995
〉 **Scholarship from the Hahn Meitner Institut (HMI)-Berlin** to perform research at the local research facilities towards my Ph.D. Thesis (total duration of work at HMI: 1.5 years).	1995-1997
〉 **DAAD (German Academic Exchange Service) Scholarship** to attend intensive courses on the German language in the Goethe Institut of Rothenburg ob der Tauber - Germany.	9-10/1995

Scientific Awards

〉 **1st Innovation Prize "Greece Innovates"** for "AquAsZero: An efficient granular solid adsorbent for the removal of both trivalent (As^3) and pentavalent arsenic (As^5) from potable water" (Coordinator: Assist. Prof. M. Mitrakas, Dept. Of Chemical Engineering, AUTH).	7/2011
〉 **"For Women in Science" L'Oreal – UNESCO award** for my research activity in the field of Materials Science.	11/2007
〉 **Young scientist award** for the paper: "Mapping of the C-p empty density of states of SiC with NEXAFS spectroscopy" 13th Panhellenic Conference of Solid State Physics, Thessaloniki, Greece.	9/1997
〉 **Young scientist award** for the paper: "Angle Resolved NEXAFS spectra of hexagonal and cubic GaN", 9th International Conference on X-Ray Absorption Fine Structure, Grenoble, France.	8/1996

5. Research activity

Materials Characterization Techniques

〉 **Spectroscopic studies of solids using synchrotron radiation**

- Determination of the materials' nanostructure (bond lengths, bond angles, and coordination numbers) with Extended X-ray Absorption Fine Structure (EXAFS) spectroscopy.
- Study of materials' electronic structure with Near Edge X-ray Absorption Fine Structure (NEXAFS/XANES) spectroscopy (defect and conduction band density of states).

- Materials compositional analysis and mapping of elements distribution with X-ray fluorescence spectroscopy (XRF).
- Application of EXAFS, NEXAFS and XRF with high lateral resolution (1.5-5 μm) using focused Synchrotron radiation beam. Determination of local variations of the oxidation state and nanostructure in inhomogeneous samples, e.g., microelectronic devices, glass ceramics and biological samples.
- Structural characterization using Small Angle X-ray Scattering (SAXS).
- Compositional analysis and determination of the elements' oxidation state by means of X-ray Photoelectron Spectroscopy (XPS).

〉 **Raman spectroscopy**

- Crystal polytype and orientation identification and effect of strain, disorder, and amorphization on the lattice properties. Determination of types and the relative content of compounds in multicomponent systems.

Studied materials

- Semiconductors: GaN, AlN, InN, $Al_xGa_{1-x}N$, $In_xGa_{1-x}N$, $In_xAl_{1-x}N$, SiC, Cu_3N (effect of growth conditions and processing, e.g., ion implantation and annealing).
- Si-(oxy)nitrides: SiN_x and $Si_xO_yN_z$
- Glassy and glass ceramic materials: vitrified and stabilized industrial wastes.
- Nanoporous adsorbents for removal of toxic elements from drinking water.
- Nanocomposite materials: TiN/Cu and TiN/Ni
- Soft and keratinized tissues: illness-related variations of chemical composition, distribution, and bonding environment of metallic elements in nails.
- Biominerals: crustacean exoskeletons.
- Palaeontological vertebrate fossils: fossil bones, teeth, tusks.
- Biomolecules: amino acids, collagen.
- Magnetic nanoparticles: Manganese ferrites and magnetite.
- $GdVO_4$ and YVO_4 nanoparticles used for biomedical imaging.
- Pharmaceutical compounds: Cu-thiosemicarbazone complexes.

Research Experience

〉 Raman spectroscopy — 2002 -

〉 Small -angle X-ray scattering (SAXS), X-ray photoelectron spectroscopy (XPS) — 2014 -

〉 *Materials characterization using synchrotron radiation:* — 1995 -

- **BESSY I & II, Berlin**
- *Beamlines PM1, PM3, VLS-PGM, RGBL*: soft X-ray XAFS spectroscopies under UHV conditions.
- *Beamlines* KMCII, BAMline and μ-spot: hard X-ray XAFS and XRF spectroscopies (conventional and high resolution).
- **HASYLAB/DESY, Hamburg**: A1, X1 and C beamlines: hard X-ray XAFS spectroscopies as a function of temperature.
- **ESRF, Grenoble:** GILDA/BM08 beamline: hard X-ray XAFS spectroscopies as a function of temperature.
- **ELETTRA, Trieste:** ALOISA and BEAR beamlines: soft X-ray XAFS spectroscopies under UHV conditions. Study of diluted samples.

- **SLS, Villigen – Switzerland:** micro-XAS beamline: hard X-ray micro-XAFS and micro-XRF spectroscopies.
- **MaxLAB, Lund – Sweden:** I911-SAXS beamline: Small angle X-ray scattering (SAXS) from hard tissues.

〉 *EXAFS (FEFF, EXCURV) analysis programs.*

〉 Post-doctoral associate at the School of Physics, AUTH (scholarship from the State's Scholarship Foundation-IKY). Research topic: "On the effect of growth conditions and processing on the nanostructure of group III nitrides". I studied group III nitrides with XAFS and Raman spectroscopies. 11/2001-10/2002

〉 Research towards my PhD (at the Physics Department, AUTH and HMI-Berlin. 1995-2000

Reviewer/Evaluator of research proposals

〉 Evaluator of research proposals of the Swiss National Science Foundation. 2019

〉 Member of the National Panel for the evaluation of Italian "PRIN" Projects (Progetti di Rilevante Interesse Nazionale) 2018

〉 Evaluator of SSRL (Stanford Synchrotron Radiation Lightsource) proposals 2018

6. Research Programs

Research programs coordinator

〉 Project at the Synchrotron Radiation Facility BESSY-HZB, Berlin, under the "HORIZON 2020 EU Framework Programme - CALIPSO Plus, Grant number 730872". Title: "Soft X-ray XAFS study of Cu3N: effect of growth conditions on the electronic structure and oxidation" 2021

〉 Project at the Synchrotron Radiation Facility BESSY-HZB, Berlin, under the "HORIZON 2020 EU Framework Programme - CALIPSO Plus, Grant number 730872". Title: "XAFS study of Cu-complexes that act as inhibitors of inflammation enzymes" 2020

〉 Project at the Synchrotron Radiation Facility BESSY-HZB, Berlin, under the "7th Framework Programme - CALIPSO Grant number 312284". Title: "Soft X-ray XPS and XANES study of fossil bones from various excavation sites in Greece". 2020

〉 Project at the Synchrotron Radiation Facility BESSY-HZB, Berlin, underthe"7th Framework Programme - CALIPSO Grant number 312284". Title: "Study of the trapping mechanism of Cr and Hg from inorganic absorbents". 2014

〉 Project at the Synchrotron Radiation Facility BESSY-HZB, Berlin, under the "7th Framework Programme - CALIPSO Grant number 312284". Title: "XAFS study of group-III nitrides for photonic applications". 2014

〉 Project at the Synchrotron Radiation Facility Max-LAB, Lund, Sweden, under the "European Community's Seventh Framework Programme (FP7/2007-2013) -BioStruct-X (grant agreement N°283570)". Title: "Effect of diseases on the SAXS pattern of human and animal nails". 2014

〉 Program funded by the Research Committee AUTH for "Support of the research activity in AUTH" on "Study of the bonding environment of trace elements in tissues". 2/2013 - 1/2014

〉 "IKYDA-2013" Programme for the exchange and scientific cooperation between Greece and Germany on "Ion implantation synthesis and 2013-2014

characterization of rare earth doped nanocrystalline GaN" in collaboration with the Friedrich-Schiller Universität Jena.

- Project at the Synchrotron Radiation Facility HASYLAB under the "Integrated Infrastructure Initiative of the European Commission IA-SFS". Title: "XAFS study of cancerous and healthy animal tissues" — 2011-2012
- Project at the Synchrotron Radiation Facility HASYLAB under the "Integrated Infrastructure Initiative of the European Commission IA-SFS". Title: "XAFS study of soft and hard tissues of animals affected by cancer" — 2010-2011
- Project at the Synchrotron Radiation Facility HASYLAB under the "Integrated Infrastructure Initiative of the European Commission IA-SFS". Title: "Effect of pulmonary diseases on the bonding environment of Zn in human nails." — 2009-2010
- Project at the Synchrotron Radiation Facility HASYLAB under the "Integrated Infrastructure Initiative of the European Commission IA-SFS". Title: "Zn K edge EXAFS study of human nails". — 2008-2009
- Project at the Synchrotron Radiation Facility SLS under the "Integrated Infrastructure Initiative of the European Commission IA-SFS". Title: "Fe K edge micro-XAFS study of the effect of lung cancer on the human nails". — 2009
- Project at the Synchrotron Radiation Facility SLS under the "Integrated Infrastructure Initiative of the European Commission IA-SFS". Title: "Micro-XAFS study of the effect of pulmonary diseases on the human nails". — 2009
- Project at the Synchrotron Radiation Facility HASYLAB under the "Integrated Infrastructure Initiative of the European Commission IA-SFS". Title: "Zn K edge EXAFS study of human nails". — 2008-2009
- Project at the Synchrotron Radiation Facility SLS under the "Integrated Infrastructure Initiative of the European Commission IA-SFS". Title: "Effect of pulmonary diseases on the spatially - resolved bonding environment of Fe in human nails". — 2008
- Project at the Synchrotron Radiation Facility BESSY under the "Integrated Infrastructure Initiative of the European Commission IA-SFS". Title: "X-ray fluorescence study of human nails from patients suffering from pulmonary diseases". — 2007
- Project at the Synchrotron Radiation Facility BESSY under the "Integrated Infrastructure Initiative of the European Commission IA-SFS". Title: "Study of human nail diseases by X-ray fluorescence mapping". — 2007
- Post-doctoral research program funded by the Greek Scholarship Foundation for research on "On the effect of growth conditions and processing on the nanostructure of group III nitrides". — 11/2001-10/2002

Participation in funded research programs

- ARCHIMEDES III / EPEAK Research Program on "Mechanical and structural properties at the nanoscale of semiconductor thin films with applications in opto- and micro-electronics", Coordinator: J. Arvanitidis, Assist. Prof. - N. Zoumakis, Prof., Alexandrian Technical Educational Institute (ATEI) of Thessaloniki. — 2011-2014
- THALES / EPEAEK Research Program on "High Efficiency III-nitride semiconductors photovoltaic devices", Coordinator E. Iliopoulos, Assist Prof. School of Physics, Univ. of Crete, Funding: Ministry of Education. — 2012-2015

〉 Marie Curie Research Training Network "Interfacial Phenomena at Atomic Resolution and multiscale properties of novel III-V Semiconductors" (MRTN-CT-2004-005583), Coordinator Prof. Ph. Komninou	2005-2009
〉 "PYTHAGORASII / EPEAEK: "Mechanics of reverse engineered solid waste system" Coordinator Th. Kehagias, Funding: Ministry of Education.	2005-2007
〉 "Strategic and operational development plan of AUTH 2006-2015", Coordinator Prof. Psoinos, Funding: Research Committee AUTH	2005
〉 "HERAKLETOS / EPEAEK: Materials processing and characterization with synchrotron radiation", Coordinator Prof. E. C. Paloura, Funding: Ministry of Education.	2004-2007
〉 "PYTHAGORASI / EPEAEK: Characterization and properties of new III-V semiconducting heterostructures - nanostructures" Coordinator Ph. Komninou, Funding: Ministry of Education.	2003-2004
〉 "Strategic and operational development plan of AUTH 2002-2010" Coordinator Prof. G. Tagaras, Funding: Ministry of Education.	1-6/2002
〉 "AUTH: CRE institutional review program", Coordinator: Prof. O. Giba-Tziabiri, Vice-Rector. Funding: Research Committee AUTH	1-9/2001
〉 Operational Programme for Education and Initial Vocational Training (EPEAEK) on "Post-graduate program "Physics of materials" Coordinator Prof. Th. Karakostas, Funding: Ministry of Education.	1998-2002
〉 "Support of Research Infrastructure", Coordinator Assoc. Prof. G. Kanellis, Funding: Research Committee AUTH.	9/1997-8/1998
〉 PENED program on "Study of effect of atomic hydrogen on the surface and bulk properties of SiC", Coordinator Prof. E. C. Paloura, Funding: Greek Secretariat for Research and Technology.	3-8/1997

7. Collaborations

〉 Prof. Theodore D. Moustakas, Photonics Center, Boston University, USA.

〉 Prof. Federico Boscherini, Department of Physics, University of Bologna, Italy.

〉 Prof. Elke Wendler, Friedrich - Schiller Universität Jena, Germany.

〉 Dr. Elizabeth Holub-Krappe, Hahn-Meitner Institut Berlin, Germany.

〉 Prof. Alexei Erko, Scientific Director, Institut für angewandte Photonik, Berlin, Germany.†

〉 Prof. Claudia Schnohr, Faculty of Physics and Earth Sciences, University of Leipzig, Germany.

〉 Dr. Maria Brzhezinskaya, Dr. Dmitri Smirnov, Dr. Götz Schuck, BESSY-Helmholtz Zentrum Berlin, Germany.

〉 Dr. Antigoni Alexandrou, Laboratoty for Optics and Biosciences, École Polytechnique, France.

〉 Dr. Valérie Brien, Institut des Matériaux de Nantes Jean Rouxel, France

〉 Dr. Konstantinos Termentzidis, CNRS Research Director at the Centre for Energy and Thermal Sciences of Lyon, France

〉 Assoc. Prof. Matthew Zervos, Faculty of Engineering, University of Cyprus.

〉 Prof. Alexandros Georgakilas and Assoc. Prof. Eleftherios Iliopoulos, School of Physics, University of Crete.

- Prof. Nymfodora Papasiopi, School of Mining and Metallourgical Engineering, National Technical University of Athens.
- Dr. Andreas Germanos Karydas, Research Director at the Institute of Nuclear and Particle Physics, NCSR "Demokritos", Athens.
- Assoc. Prof. Vassilios Tangoulis, School of Chemistry, University of Patras.
- Prof. Manassis Mitrakas and Assoc. Prof. Dimitrios Christofilos, School of Chemical Engineering, AUTH.
- Prof. Evaggelia Tsoukala and Assoc. Prof. Labrini Papadopoulou, School of Geology, AUTH.
- Prof. Vassilios Michailidis and Assoc. Prof. Alexandra Staikou, School of Biology, AUTH.
- Dr. Antonios Makris, Institute of Applied Biosciences, CERTH, Thessaloniki.
- Prof. Dimitra Hadjipavlou-Litina and Assist. Prof. Dionysia Papagiannopoulou, School of Pharmacy, AUTH
- Prof. Catherine Dendrinou-Samara, School of Chemistry, AUTH.
- Prof. Despoina Papakosta, Prof. Dimitrios Ioannides, Assoc. Prof. Aikaterini Manika, Medical School, AUTH.
- Assoc. Prof. George Kazakos, School of Veterinary Medicine, AUTH

8. Scientific Societies

- International XAFS Society
- Federation of European Materials Societies
- National Scientific Society "Micro & Nano"
- Hellenic Society for the Science and Technology of Condensed Matter (Vice President, 2018-2020, President since Sept. 2020)
- European Synchrotron and FEL User Organization (Representative of Greece)
- Hellenic Society of Biochemistry and Molecular Biology
- Hellenic Crystallographic association

9. Referee in International peer-reviewed Journals

1. Applied Physics Letters
2. Journal of Applied Physics
3. Nanoscale
4. Journal of Electron Spectroscopy and Related Phenomena
5. Nuclear Instruments and Methods B
6. Thin Solid Films
7. Physica Status Solidi
8. The Journal of Physical Chemistry
9. Journal of Alloys and Compounds
10. Materials Science and Engineering B.
11. Journal of Physics: Conference Series
12. Applied Physics Reviews
13. Materials Chemistry and Physics
14. Physical Chemistry Chemical Physics
15. Journal of Physics D
16. International Journal of Environmental Research and Public Health

17. Palaeontology
18. International Journal of Molecular Sciences
19. Materials (MDPI)
20. RSC Advances
21. Journal of Physics and Chemistry of solids
22. Nature Communications
23. Vacuum
24. Biopolymers
25. Journal of Cleaner production
26. Journal of Materials Research

10. Invited talks

〉 "X-ray absorption fine structure spectroscopies for the study of matter", 1st Greek Summer School on Synchrotron Radiation: Properties and Applications, Thessaloniki.	7/9/2022
〉 "EXAFS: Study of deviations from perfect crystallinity", 10th International Conference of the Hellenic Crystallographic Association, Athens.	15/10/2021
〉 "Application of X-ray absorption Fine Structure spectroscopies for the study of $Fe_{3-x}Mn_xO_4$ nanoparticles", 1st Training Workshop and Summer School on "Magnetic Nanohybrids for Cancer Therapy", Thessaloniki, Greece.	26/8/2020
〉 "Basic principles of lasers", Educational workshop: "The use of lasers in medicine: Clinical applications and safe operation", Laboratory of Clinical Physics, Medical School, AUTh.	5/10/2019
〉 "Synchrotron radiation spectroscopies as a tool for the study of matter», Seminar, School of Physics of the University of Ioannina, Greece.	12/4/2019
〉 "Using light and X-rays for materials characterization", Women in Science Classes, Year 1 Meeting, Benaki Museum, Athens.	22/9/2018
〉 "XAFS for materials characterization", Training workshop on Advanced Material Characterisation Techniques, NCSR Demokritos, Athens (under the auspices of FEMS).	28/11/2015
〉 "XAFS analysis", Freie Universität Berlin, M.Sc. program on Modern developments in X-Ray and neutron methods for science and technology	20/10/2015
〉 "Application of synchrotron radiation X-ray spectroscopies for materials characterization", 8th International Conference on Instrumental Methods of Analysis: Modern Trends and Applications, Thessaloniki.	17/9/2013
〉 "Analysis of EXAFS spectra", Freie Universität Berlin, M.Sc. Program on Micro/nano spectroscopy with synchrotron radiation and neutrons.	22/11/ 2011
〉 "Combined μ-XRF and μ-XAFS: A powerful tool for the study of inhomogeneous materials", BESSY II Beamline Evaluation (Hard X-ray Microfocussing & Imaging Beamlines), Berlin.	26/9/2011
〉 "Synchrotron Radiation: a novel research tool in materials science ", 2nd workshop ov Processing, characterization, properties and applications of nanostructured ceramics and composites, Ouranoupolis, Greece.	4/6/2010
〉 "Synchrotron Radiation: a novel research tool in materials science", Physics Department, University of Crete, Heraklion-Crete.	17/12/2009

- "Introduction to Synchrotron Radiation and X-ray spectroscopies", Summer School on Physics of Advanced Materials, Thessaloniki. — 8/7/2004
- "Introduction to Synchrotron Radiation and X-ray spectroscopies", Summer School on Physics of Advanced Materials, Thessaloniki. — 7/2003
- "Characterization of III-V nitrides with X-ray absorption techniques", BESSY Users Meeting 2000, Berlin, Germany. — 7/12/2000
- "X-ray absorption measurements on III-V nitrides", Humboldt University, Berlin, Germany. — 26/1/1998
- "X-ray absorption measurements on III-V nitrides", Hahn-Meitner Institute, WISTA-Adlershof, Berlin, Germany. — 19/1/1998

11. Teaching activity

Post-graduate courses

- **Freie Universität Berlin**, Germany, Post Graduate Course Program on "**Modern developments in X-Ray and Neutron Methods for Science and Technology**". Course title: "XAFS analysis". — 10/2015
- **Freie Universität Berlin**, Germany, Post Graduate Course Program on "**Micro/nano spectroscopy with synchrotron radiation and neutrons**", Course title: "XAFS analysis". — 11/2011
- "**Materials characterization techniques: Optical characterization**", 1st semester, (co-teaching with Em. Prof. S. Ves), *Post-graduate Program "Physics &Technology of Materials" School of Physics, AUTH.* — 2006-2014
- "**Physical properties of materials: Optical properties and spectroscopy**", 1st semester (co-teaching with Em. Prof. S. Ves, 2006-2014), *Post-graduate Program "Physics & Technology of Materials", School of Physics, AUTH.* — 2006 -
- "**Training in research methodology laboratory**", 2nd semester, *Post-graduate Program "Physics & Technology of Materials" School of Physics, AUTH.* — 2004 -
- "**Materials characterization in large scale neutron and synchrotron X-ray facilities**" (elective course), *Post-graduate Program "Physics & Technology of Materials" School of Physics, AUTH.* — 2001-2016, 2018 -

ERASMUS course

- **University of Bologna**, Department of Physics and Astronomy, M.Sc. Program in Physics — 5/2019

  "XRF and XAFS spectroscopies as a tool for the study of biological materials and materials for environmental applications"

  "Application of X-ray spectroscopies for the study of materials".

Undergraduate courses

- "**Biophysics**", 7th semester, elective course (co-teaching with Prof. Th. Samaras) *School of Physics*.
- "**Waves-Fluids-Thermodynamics**", 2nd semester, (co-teaching with Assoc. Prof. N. Vouroutzis) *School of Physics*. — 2023 -

- "**Solid State Physics laboratory**", 8th semester, *School of Physics*. 2014 -
- "**General Physics IV: Waves and optics**", 3rd semester (co-teaching with Assoc. Prof. N. Vouroutzis) *School of Physics*. 2013 -
- "**General Physics/Physic in Pharmaceutical Sciences**", 1st semester (co-teaching with Prof. E. C. Paloura), *School of Pharmacy*. 2007 -
- "**Optics laboratory**", 4th and 5th semester & "**Introductory Physics Laboratory**", 2nd semester, *School of Physics*. 2002 -

Other courses

- Physics (theory and laboratory) at the Vakalis Foundation-GCE. 1999-2002
- Physics and Chemistry in the Public School for Tourism studies. 1999-2000

12. Theses supervision

Ph.D. Theses

- A.-M. Paschou, "Study of tissues and their structural protein components with spectroscopic techniques" (supervisor). (in progress)
- E. Proiou, "Study of biominerals and biopigments" (supervisor). (in progress)
- I.-M. Zougrou, "Study of vertebrate fossils found in Greece using Solid State Physics characterization techniques" (supervisor). 2017
- E. Kyrilas, "Spectroscopic study of biological tissues and compounds of biological interest" (member of the advisory committee). (in progress)
- K. Filintoglou, "Spectroscopic study of nanostructures with applications in opto- and microelectronics" (member of the advisory committee). 2016
- E. Kaprara, "Study of the Cr removal from drinking water" (member of the advisory committee). 2017

M.Sc. Theses (Post-graduate Course Program on "Physics and Technology of Materials)

- E. Petsali, ""Temperature dependent EXAFS Spectroscopy on silica coated Fe-triazole nanoparticles". 2023
- D. Sapalidis, "Optical and nano-structural investigation of the effect of nitridation conditions on the conversion of β-Ga_2O_3 to GaN nanowires using Raman spectroscopy and synchrotron radiation techniques". 2023
- E. Prountzou, "Structural and optical properties of cuprous oxide (Cu_2O) thin films: Effect of growth conditions"". 2023
- M. Kandyla, "Study of the oxidation state of Eu after the implantation in SiO_2:GaN and annealing". 2022
- K. Mavridou, "Oxidation of Cu_3N studied by resonance Raman Spectroscopy". 2021
- E. Proiou, "Study of the spatial distribution and structure of $GdVO_4$:Eu nanoparticles after injection into tissues by XRF & XAFS spectroscopy". 2020

- G. Patsamanis, "Characterization of magnetic nanoparticles for biomedical applications using Synchrotron Radiation". 2018
- D. Tselikas, "Study of the structural role of Fe in vitrified wastes with XAFS spectroscopy". 2018
- S. Makrygianni, "Study of animal tissues by means of X-ray Absorption Fine Structure Spectroscopy". 2016
- A. Ranti, "Study of collagen with high pressure Raman spectroscopy" (co-supervision with Em. Prof. S. Ves). 2012
- A.-M. Paschou, "Study of amino acids and human nails with Raman spectroscopy" (co-supervision with Em. Prof. S. Ves). 2011
- G. Pamfilidis, "Study of nanocomposite materials with EXAFS spectroscopy" (co-supervision with Prof. E. C. Paloura). 2011
- K. Filintoglou, "Study of GaN and InN semiconductors with Raman spectroscopy" (co-supervision with Em. Prof. S. Ves). 2011
- D. Papageorgiou, "Study of the As adsorption in nanoporous Fe/Mn mixed oxides using X-ray absorption fine structure spectroscopy" (co-supervision with Dr. K. Symeonidis). 2011
- I. M. Zougrou, "Study of fossils using Synchrotron Radiation techniques" (co-supervision with Prof. E. Tsoukala, School of Geology, and Prof. E. C. Paloura). 2010
- Y. Keremi, "The effect of In implantation on the nanostructure of GaN" (co-supervision with Prof. E. C. Paloura). 2009
- A. Mavromati, "Study of human nails with X-ray fluorescence using synchrotron radiation". 2007

B.Sc. Theses

- I. Bampos, "The role of the shell composition and color on the adaptation of terrestrial snails in dry and not environments: A Raman Spectroscopy study". 2021
- I. Karagiannis, "Application of X-ray Absorption Fine Structure Spectroscopy for the study of human nails". 2021
- K. Gavriilidou, "Research with Raman spectroscopy on the formation of biominerals at bivalves' *Mytilus galloprovincialis* shell". 2020
- K. Spanidou, "XAFS and XPS techniques for Characterization of Nanoparticles". 2019
- K. Mavridou, "Study with Raman spectroscopy of friction materials in cars". 2019
- E. Proiou, "Study of biominerals with Raman spectroscopy". 2018
- G. Loukou, "Spectroscopic characterization methods with applications in forensic science". 2018
- S. Mangos, Erasmus student, "Characterization of TiO_2 nanoparticles with X-ray absorption spectroscopies" (co-supervision with Prof. Federico Boscherini, University of Bologna). 2015
- C. Kamaraki, "Study of keratin tissues using Small Angle X-ray Scattering-SAXS" (co-supervision with Prof. E. C. Paloura). 2015

- A. Pouliopoulos, Erasmus student, "Study of thin films by means of X-ray absorption spectroscopy" (co-supervision with Prof. Federico Boscherini, University of Bologna). 2011
- A. Tsakiridis, "Development of a data base: X-ray absorption and Raman spectra of amino acids and peptides". 2009
- A. M. Paschou, "Raman study of solid biological samples" (co-supervision with Em. Prof. S. Ves). 2009
- D. Papageorgiou, "Development of a data base: concentration of trace elements in biological samples from healthy and ill donors" (co-supervision with Prof. E. C. Paloura). 2008
- A. Mavromati, "Study of biological samples with X-ray fluorescence spectroscopy". 2005

13. Member of examination committees

Habilitation Thesis

- Dr. Claudia Schnohr, Friedrich-Schiller Universität Jena. 2016

Ph.D. Theses

- Ms. E. Myrovali, "Magnetic nanoparticle arrays: features, properties, applications" (School of Physics AUTH). 2020
- Mr. K. Vamvakidis, "Manganese ferrite nanoparticles suitable for contrast reagents in magnetic tomography imaging and as media for magnetic hyperthermia" (School of Chemistry, AUTH). 2018
- Ms. S. Tresintsi, "Synthesis, characterization and applications of mixed Fe-Mn oxy-hydroxides Fe-Mn for the As removal from drinking water" (School of Chemical Engineering AUTH). 2014
- Ms. A. Lotsari, "Interfaces and defects in advanced III-N heterostructures-nanostructures" (School of Physics AUTH). 2013
- Ms. F. Pinakidou, "Processing and characterization of glass- ceramic materials using Synchrotron Radiation based techniques" (School of Physics AUTH). 2006

M.Sc. Theses

Member of examination committees of more than 20 M.Sc. Theses of the Postgraduate Program "Materials Physics and Technology".

14. ERASMUS Program

Coordinator of the bilateral agreements with: 2008

- Friedrich - Schiller - Universität Jena, Germany
- Universita degli studi di Bologna, Italy

15. Textbooks

- Scientific Editing of the book (co-editors P. Kounavis and K. Kousouris) of the translation of the book "Essential University Physics" by R. Wolfson (2020), Kritiki Publishing: Editor's Link: https://kritiki.gr/product/panepistimiaki-fysiki/ — 2020
- "Laboratory Subjects on Solid State Physics", S. Ves, J. Arvanitidis, M. Gioti, K. Eythymiadis, M. Katsikini, J. Kioseoglou, K. Paraskevopoulos, D. Tassis (2019). Editor's Link: https://kritiki.gr/product/ergastiriaka-themata-fisikis-stereas-katastasis/ — 2019
- "Laboratory topics in Optics", S. Ves, M. Aggelakeris, J, Arvanitidis, E. Vanides, E. Vinga, N. Vouroutzis, M. Gioti, M. Katsikini, ZITIS, Thessaloniki (2012). *Editor's Link: https://ziti.gr/vivlio/ves-sotirios-aggelakeris-mayroeidis-arvanitidis-ioannis-ergastiriaka-themata-optikis/* — 2012

16. Research Seminars for undergraduate students

- Presentation of the research activities of the members of the Condensed Matter and Materials Physics Department (Path) — 4/2023
- Seminar on "Materials characterization with Synchrotron Radiation Techniques" (PATh). — 5/2019
- Seminar on "Light and Matter", School of Physics. — 12/2007

17. Administrative and organizational experience

Conference organization

- Secretary of the Organizing Committee of the "37th Panhellenic Conference on Solid State Physics and Materials Science", Thessaloniki, Greece — 9/2023
- Chair of the Organizing Committee of the "1st Greek Summer School on Synchrotron Radiation: Properties &Applications", Thessaloniki, Greece — 9/2022
- Member of the Scientific Committee of the "10th International Conference of the Hellenic Crystallographic Association". — 10/2021
- Member of the Organizing Committee of the Workshop "Computational Materials Science" organized by the Hellenic Society for Science and Technology of Condensed Matter, Thessaloniki. — 10/2019
- Member of the Organizing Committee of the Workshop "Materials at the Nanoscale" organized by the Hellenic Society for Science and Technology of Condensed Matter, Thessaloniki. — 11/2018
- Member of the Organizing Committee of the Symposium D1 "Materials Science with Synchrotron Radiation X-rays" of the EUROMAT 2017 Congress, Thessaloniki. — 9/2017
- Member of the Organizing Committee of the "XXXI Panhellenic Conference of Solid State Physics and Materials Science", Thessaloniki. — 9/2015
- Member of the Organizing Committee of the "50th European High Pressure Research Group Meeting", Thessaloniki. — 9/2012
- Secretary of the organizing Committee "XXV Panhellenic Conference of Solid State Physics and Materials Science", Thessaloniki, Greece. — 9/2009

〉 Secretary of the Organizing Committee of the Summer School on Advanced Materials for Industrial Applications", Kavala, Greece.	6/1999

Committee member

〉 Undergraduate Laboratory Committee	2012 -
〉 Examination Committee of the Solid State Physics Department for the admission of Ph.D. Students	2010 -
〉 Student advisor of 10 students per academic year.	2009-2016, 2022 -
〉 Member of the Committee of the Course Program (Curriculum) of the School of Physics	2018-2022
〉 Committee for publishing of the Magazine "Phenomenon", bulletin of the School of Physics and regular update of the web site of the School of Physics.	2010 -2022
〉 Committee for the coordination of high-school student visits in the teaching laboratories of the School of Physics.	2008-2009
〉 Committee for the School of Physics Web Page	2006-2007
〉 Committee for the "Strategic and operational development plan of AUTH 2006-2012" committee	2006
〉 Colloquium committee, School of Physics	2004-2005
〉 Committee for the "Strategic and operational development plan of AUTH 2002-2010"	2002
〉 Self-evaluation committee for the evaluation of AUTH by the Association of European Universities (CRE).	2001
〉 Self-evaluation committee, post graduate program "Physics of materials" School of Physics AUTH	1998-2005
Head of the Condensed Matter and Materials Physics Department	2022-
Member of General Assembly of the School of Physics	2019-2023 2011-2018 2005-2006

Student Laboratories

〉 Responsible for the Laboratory on Solid State Physics (Elective Course, 8th semester)	2014 -

18. Conference Presentations

(the *asterisk indicates personal participation)

International Conferences

BESSY Annual Users Meeting 2021 (Helmholtz Zentrum Berlin, Germany-online).	9/12/2021

Crystalline and amorphous calcium carbonate as structural components of the *Calappa granulata* exoskeleton, M. Katsikini, E. Proiou, F. Pinakidou, E. C. Paloura, D. Smirnov, M. Brzhezinskaya, S. Ves.

12th International Conference on Instrumental analysis—Modern Trends and Applications (AUTH-NTUA - online). 20-23/9/2021

- "The role of size and hyperthermia treatment on the distribution of magnetic nanoparticles for theranostic applications", F. Pinakidou, M. Katsikini, K. Simeonidis, E. C. Paloura, M. Angelakeris.
- "Application of X-ray absorption fine structure spectroscopy for the study of human nails", I. Karagiannis, M. Katsikini, F. Pinakidou, E. C. Paloura, K. Manika, D. Papakosta.

"X-ray fluorescence mapping of $Gd_{0.6}Eu_{0.4}VO_4$ nanoparticles in tissues", E. Proiou, F. Pinakidou, E. C. Paloura, M. Abdesselem, N. Pétri, T. Gacoin, C. Laplace-Builhé, A. Alexandrou, M. Katsikini.

European Research Society 2021 Spring Meeting (EMRS - online). 31/5-3/6/2021

"Ultrafast Charge Carrier Dynamics in Vanadium-Modified TiO_2 Thin Films and Its Relation to Their Photoelectrocatalytic Efficiency for Water Splitting", A. Piccioni, D. Catone, A. Paladini, P. O'Keeffe, A. Boschi, A. Kovtun, M. Katsikini, F. Boscherini, L. Pasquini.

1st Training Workshop & Summer School on Magnetic Nanohybrids for Cancer Therapy (Thessaloniki). 25-28/8/2020

- "Application of X-ray absorption fine structure spectroscopies for the study of Fe3-xMnxO4 nanoparticles", M. Katsikini (invited).

"X-ray spectroscopic study of magnetic ferrite nanoparticles for theranostic applications: effect of size and distribution", F Pinakidou, M. Katsikini, M. Angelakeris, E. C. Paloura.

11th International Conference on Instrumental Methods and Analysis (Ioannina, Greece). 22-25/9/2019

"Immobilization of heavy metals in drinking water: the role of metal (oxy)hydroxides on sorption mechanism using X-ray absorption spectroscopies", F. Pinakidou, M. Katsikini, K. Simeonidis, E. C. Paloura, M. Mitrakas.

45th International Conference on Micro & Nano Engineering (Rhodes Greece). 23-26/9/2019

"Lithium-Doping of ZnO: is it possible to chemically produce p-type ZnO?", G. P. Papageorgiou, V. Psycharis, M. Katsikini, F. Pinakidou, E. Paloura, E. Makarona.

International Conference on Processing & Manufacturing of Advanced Materials -THERMEC' 2018 (Paris, France). 9-13/7/2018

"Structural and thermodynamical study of AlNO:Er to understand luminescence concentration quenching", V. Brien, M. Katsikini, Th. Pavloudis, J. Kioseoglou.

EUROMAT 2017 (Thessaloniki). 17-22/9/2017*

- "On the mechanism of the GaN nanocrystal formation in SiO_2 by ion implantation" M. Katsikini, K. Filintoglou, F. Pinakidou, P. Kutza, P. Lorenz, E. Wendler, K. Lorenz, E.C. Paloura.
- "Micro and conventional XAFS study of incinerated Cr-rich tannery sludge", F. Pinakidou, M. Katsikini, S. Varitis, E. C. Paloura.

"Evolution of stratification in high-alloy content InGaN epilayers grown on (0001) AlN", G. P. Dimitrakopulos, C. Bazioti, E. Papadomanolaki, K. Filintoglou, M. Katsikini, J. Arvanitidis and E. Iliopoulos.

Workshop on nanocluster synthesis, characterization and applications (NSCA) (Okinawa, Japan). 16-19/5/2016

Molecular dynamics investigation of GaN nanocrystals formation in SiO_2 and their influence on thermal conductivity J. Karakostas, K. Termentzidis, M. Katsikini, E. Paloura, J. Kioseoglou.

2nd Workshop on Water and Soil Clean-up from Mixed Contaminants (Thessaloniki). 12-14/10/2015

"Investigation of heavy-metal removal efficiency by metal oxides and oxy-hydroxides in water treatment technology using X-ray absorption spectroscopies", F. Pinakidou, M. Katsikini, K. Simeonidis, E. C. Paloura, M. Mitrakas.

11th international conference on Interaction of Radiation with Solids (Minsk, Belarus). 23-25/9/2015

"*Formation of GaN nanocrystals in SiO_2/Si*", E. Wendler, P. Gerlach, Ph. Lorenz, S. Wolf, M. Katsikini, K. Filintoglou, S. Ves, E. Paloura, K. Lorenz, L. Vlasukova, O. Milchanin, F. Komarov.

16th International Conference on X-Ray Absorption Fine Structure-XAFS16 (Karlsruhe). 23-28/8/2015*

- "Simulation of the EXAFS and Raman spectra of $In_xGa_{1-x}N$ enabling the equation of motion routine of FEFF8", M. Katsikini, F. Pinakidou, E. C. Paloura, J. Arvanitidis, S. Ves, U. Reinholz, E. Papadomanolaki, E. Iliopoulos.
- "Metal (Hydr)oxides for the removal of Cr(VI) from drinking water: a XAFS study", F. Pinakidou, M. Katsikini, E. C. Paloura, K. Simeonidis, M. Mitrakas.
- "Characterization of fossil remains using XRF, XPS and XAFS spectroscopies", I. M. Zougrou, M. Katsikini, F. Pinakidou, M. Brzhezinskaya, L. Papadopoulou, E. Vlachos, E. Tsoukala, E. C. Paloura.

"Micro and conventional XAFS study of incinerated Cr-rich tannery wastes", F. Pinakidou, M. Katsikini, E. C. Paloura, S. Varitis, T. Karakostas.

18th International Microscopy Congress (Prague, Czech Republic). 7-12/9/2014

"Structural characterization of empty and ion exchanged natural HEU-type zeolites", M. Filippousi, S. Turner, M. Katsikini, F. Pinakidou, N. Kantiranis, G. Van Tendeloo.

19th International Conference on Ion Beam Modification of Materials (Leuven, Belgium). 14-19/9/2014

"Formation of GaN nanocrystals in thermally oxidized silicon", E. Wendler, K. Filintoglou, P. Kutza, P. Lorenz, K. Lorenz, F. F. Komarov, S. Ves, E. Paloura, M. Katsikini.

12th Expert Evaluation and Control of Compound Semiconductor Materials and Technologies (EXMATEC) (Delphi, Greece). 6/2014

"High pressure Raman study of $In_{0.37}Ga_{0.63}N$", V. Gkrana, K. Filintoglou, J. Arvanitidis, D. Christofilos, M. Katsikini, G. P. Dimitrakopoulos, C. Bazioti, S. Ves, G. A. Kourouklis, K. S. Andrikopoulos, N. Zoumakis, A. Georgakilas, E. Iliopoulos.

17th International Symposium on Environmental Pollution and its Impact on Life in the Mediterranean Region (Instabul, Turkey). 28/9-1/10/2013

"MgO implementation on spent with arsenic iron-oxyhydroxides regeneration", S. Tresintsi, K. Simeonidis, M. Katsikini, G. Bantsis, M. Mitrakas.

22nd International Congress on X-ray Optics and Microanalysis (Hamburg, Germany). • "XRF mapping and Fe-K-edge μ-XAFS characterization of human nails", M. Katsikini, E. Mavromati, F. Pinakidou, E. C. Paloura, K. Manika, D. Papakosta. • "XRF and micro-XAFS study of Fe and Mn in fossil bone and teeth", I. M. Zougrou, M. Katsikini, F. Pinakidou, E. Tsoukala, E. C. Paloura.	2-6/9/2013*
8th International Conference on Instrumental Methods of Analysis, Modern Trends and Applications (Thessaloniki). "*Application of synchrotron radiation X-ray spectroscopies for materials' characterization*", M. Katsikini (*invited*).	15-19/9/2013*
5th International Conference on Micro-Nanoelectronics, Nanotechnologies & MEMs (Heraklion, Crete). "Study of structural anisotropy in heteroepitaxial nonpolar GaN grown by MBE", Lotsari, Th. Kehagias, M. Katsikini, J. Arvanitidis, S. Ves, G. Tsiakatouras, K. Tsagaraki, A. Georgakilas, Ph. Komninou, G. P. Dimitrakopulos	7-10/10/2012
50th European High Pressure Research Group Meeting (Thessaloniki) "*High pressure response of collagen studied by Raman spectroscopy*", A. M. Paschou, A. Ranti, M. Katsikini, D. Christofilos, J. Arvanitidis, G. A. Kourouklis, S. Ves.	16-21/9/2012*
9th International Conference on Nanosciences & Nanotechnologies (Thessaloniki). • "Sorption of Zinc and Silver by Heu-type zeolite", M. Filippousi, E. Pavlidou, D. Zamboulis, M. Katsikini, L. Papadopoulou, S. Bals, P. Misaeilides, G. Vourlias, F. Pinakidou, G. Van Tendeloo. • Sorption of Zinc and Silver by nanozeolitic tuff", M. Filippousi, E. Pavlidou, D. Zamboulis, A. Fillipidis, L. Papadopoulou, M. Katsikini, E. Paloura, E. Tzamos, G. Van Tendeloo.	3-6/7/2012
EDS2012 - International Conference on Extended Defects in Semiconductors (Thessaloniki). • "N- and Ga-K-edge XAFS study of In implanted GaN: Effect of implantation fluence and annealing temperature", M. Katsikini, F. Pinakidou, E. C. Paloura. • "Effect of In implantation and subsequent annealing on the lattice disorder and nanomechanical properties of GaN", K. Filintoglou, P. Kavouras, M. Katsikini, J. Arvanitidis, D. Christofilos, S. Ves,E. Wendler, W. Wesch. • "Structural Anisotropic Properties of Nonpolar A-plane GaN on R-plane Sapphire", A. Lotsari, M. Katsikini, Th. Kehagias, J. Arvanitidis, S. Ves, G. Tsiakatouras, K. Tsagaraki, A. Georgakilas, Ph. Komninou, G. P. Dimitrakopulos.	24-29/6/2012*
European Research Society 2005 Fall Meeting (Warsaw, Poland). "Structural anisotropic properties of a-plane (11-20) GaN and InN films grown on r-plane sapphire by PAMBE", G. P. Dimitrakopulos, A. Lotsari, Th. Kehagias, M. Katsikini, J. Arvanitidis, D. Christofilos, S. Ves, G. Tsiakatouras, A. O. Ajagunna, E. Iliopoulos, A. Georgakilas, Th. Karakostas, Ph. Komninou.	19-23/9/2011
6th International Conference on Nitride Semiconductors (ICNS-6) (Glasgow, UK). "Defect properties and anisotropy of nonpolar *a*-plane GaN films grown on *r*-plane sapphire by MBE", A. Lotsari, G. P. Dimitrakopulos, Th. Kehagias, M. Katsikini, J. Arvanitidis, D. Christofilos, G. Tsiakatouras, S. Ves, A. Georgakilas, Ph. Komninou.	10-15/7/2011

4th International Conference on Micro-Nanoelectronics, Nanotechnologies & MEMs (Athens). 12-16/12/2010

"Microstructural evolution and anisotropy in MBE-grown a-plane GaN epilayers on r-plane sapphire", A. Lotsari, G. P. Dimitrakopulos, Th. Kehagias, M. Katsikini, J. Arvanitidis, D. Christofilos, G. Tsiakatouras, A. Georgakilas, Ph. Komninou.

1st International Summit for nail diseases (Athens). 2-4/7/2010

"*Spectroscopic investigation of human nails*", M. Katsikini, E. Mavromati, A.-M. Paschou, F. Pinakidou, E. C. Paloura, S. Ves, D. Gioulekas, D. Ioannides.

DEMATEN, 2nd Workshop on processing, characterization, properties and applications of nanostructured ceramics and nanocomposites (Ouranoupolis-Halkidiki). 3-5/6/2010*

"*Synchrotron Radiation: a novel research tool in materials science*", Maria Katsikini (INVITED).

European Research Society 2010 Spring Meeting (Strasbourg, France). 7-11/6/2010

"Composition-dependent changes in the NEXAFS spectra of TiN–Cu films", F. Pinakidou, M. Katsikini, I. Zougrou, G. M. Matenoglou, P. Patsalas, E.C. Paloura.

14th International Conference on X-ray absorption fine structure (Camerino, Italy). 26-31/7/2009*

- "N - K edge NEXAFS study of the defects induced by indium implantation in GaN", M. Katsikini, F. Pinakidou, E. C. Paloura, E. Wendler, W. Wesch, R. Manzke.
- "Zn-K edge EXAFS study of human nails", M. Katsikini, E. Mavromati, F. Pinakidou, E. C. Paloura, D. Gioulekas.

6th International Conference on Nanosciences & Nanotechnologies (Thessaloniki). 13-15/7/2009

- "Nanostructural characterization of TiN-Ni films: A XAFS study", F. Pinakidou, M. Katsikini, E. C. Paloura, A. Akbari, J.P. Riviere.
- "Comparison of Fe and Si doping of GaN: An EXAFS and Raman study", M. Katsikini, F. Pinakidou, J. Arvanitidis, E. C. Paloura, S. Ves, Ph. Komninou, Z. Bougrioua, E. Iliopoulos, T. D. Moustakas.

European Research Society 2009 Spring Meeting (Strasbourg, France). 8-12/6/2009*

- "Raman scattering of $In_xAl_{1-x}N$ alloys with $0.2<x<0.9$", M. Katsikini, J. Arvanitidis, D. Christofilos, S. Ves, Ph. Komninou, A. Adikimenakis, E. Iliopoulos, A. Georgakilas.
- "Effect of In implantation on the bonding and symmetry of GaN: a Raman and RBS study", M. Katsikini, J. Arvanitidis, E. C. Paloura, S. Ves, T. D. Moustakas, E. Wendler, W. Wesch.
- "Dose-dependend bonding environment of Oxygen implanted in GaN", M. Katsikini, F. Boscherini, E. C. Paloura.
- "Fe distribution and speciation in human nails", E. Mavromati, M. Katsikini, F. Pinakidou, E. C. Paloura, D. Gioulekas, D. Grolimund.

1st International Conference from Nanoparticles & Nanomaterials to Nanodevices & Nanosystems (N. Marmaras-Halkidiki). 16-18/6/2008*

- "On the nanostructure of Cu in Ti_xCu_{1-x} and TiN/Cu Films: a XAFS Study", F. Pinakidou, M. Katsikini, P. Patsalas, G. Abadias, E.C. Paloura.
- "Nanostructural characterization of TiN-Ni films: a XAFS study", F. Pinakidou, M. Katsikini, E.C. Paloura, A. Akbari, J.P. Riviere.

- "Effect of aging on the Co and Cu bonding in $SmCo_3Cu_2$", M. Katsikini, F. Pinakidou, E. C. Paloura, A. Gabay, G. Hadjipanayis.
- "X-ray fluorescence study of human nails from patients suffering from onychomycosis", E. Mavromati, M. Katsikini, F. Pinakidou, E. C. Paloura, D. Ioannides.
- "Local bonding geometry of oxygen implanted in GaN: a depth dependent study", M. Katsikini, F. Boscherini, E. C. Paloura.
- "Comparison of Fe and Si doping of GaN: An EXAFS and Raman study", M. Katsikini, F. Pinakidou, E. C. Paloura, J. Arvanitidis, S. Ves, Ph. Komninou, Z. Bourgrioua, E. Iliopoulos, T. D. Moustakas.

3rd International Conference on Micro- & Nanoelectronics, Nanotechnology and MEMs (Athens). 18-21/11/2007*

- "Effect of In composition in the bonding environment of In in InAlN and InGaN epilayers", M. Katsikini, F. Pinakidou, E. C. Paloura, Ph. Komninou, E. Iliopoulos, A. Adikimanakis, A. Georgakilas, E. Welter.
- "Temperature dependent EXAFS of InN", M. Katsikini, F. Pinakidou, E. C. Paloura, Ph. Komninou, A. Georgakilas, E. Welter.

4th International Conference on Nanosciences & Nanotechnologies (Thessaloniki). 16-18/7/2007

- "Determination of the crystallization ratio in a series of Fe-containing vitroceramics by means of XAFS spectroscopies", F. Pinakidou, M. Katsikini, E.C. Paloura.
- "X-ray absorption fine structure study of In implanted GaN: Effect of annealing", M. Katsikini, F. Pinakidou, E. C. Paloura, E. Wendler, W. Wesch, G. Boscherini.

14th International Symposium on Metastable and Nano-Materials (ISMANAM-2007) (Corfu, Greece). 26-30/8/2007

"Effect of annealing on the structural role of Fe in composite Fe- and Zn-rich materials: a XAFS study", F. Pinakidou, M. Katsikini, G. Kaimakamis, Th. Kehagias, E.C. Paloura.

XV Conference on Microscopy of Semiconducting Materials (Cambridge, UK). 2-5/4/2007

"Residual strain variations in MBE-grown InN thin films", A. Delimitis, P. Komninou, E. Dimakis, S. Sahonta, J. Arvanitidis, S. Ves, M. Katsikini, E. Paloura, F. Pinakidou, G. Nouet, A. Georgakilas, T. Karakostas.

International Workshop on nitride-based nanostructures (Berlin). 6-9/2/2007

- "InN thin films and nanostructures grown on (0001)GaN by molecular beam epitaxy", A. Delimitis, Ph. Komninou, G. P. Dimitrakopulos, Th. Kehagias, J. Kioseoglou, J. Arvanitidis, M. Katsikini, E. C. Paloura, S. Ves, Th. Karakostas, G. Nouet, E. Dimakis, A. Georgakilas.
- "XAFS as a non-destructive tool for the determination of the nano- and electronic structure of group III nitrides", M. Katsikini, E. C. Paloura.

XI International Conference on the Physics of non-Crystalline Solids (Rhodes, Greece). 29/10-2/11/2006

"Structural role and coordination environment of Fe in Fe_2O_3-PbO-SiO_2-Na_2O composite glasses", F. Pinakidou, M. Katsikini, P. Kavouras, F. Komninou, Th. Karakostas, E.C. Paloura.

European Workshop on III-Nitride Semiconductor Materials and Devices (Heraklion-Crete). 18-20/9/2006

"Microstructural characterization of InN - based thin films and nanostructures grown on GaN templates by MBE", A. Delimitis, J. Arvanitidis, M. Katsikini, E. C. Paloura, F. Pinakidou, S. Ves, Th. Kehagias, E. Dimakis, A. Georgakilas, Ph. Komninou.

16th European Conference of Fracture (Alexandroupolis). 3-7/7/2006

"Experimental study of microhardness and fracture of implanted gallium nitride films", P. Kavouras, M. Katsikini, E. Wendler, W. Wesch, H. M. Polatoglou, E. C. Paloura, Ph. Komninou, Th. Karakostas.

European Research Society 2005 Fall Meeting (Warsaw, Poland). 5-9/9/2005

Structural and optical characterisation of thick InN epilayers grown with a single or two step growth process on GaN(0001)", A. Delimitis, P. Gladkov, Ph. Komninou, Th. Kehagias, J. Arvanitidis, S. Ves, M. Katsikini, E. Dimakis, A. Georgakilas.

6th International Conference on Nitride Semiconductors (ICNS-6) (Bremen, Germany). 28/8-2/9/2005

"Raman and transmission electron microscopy characterization of InN samples grown on Al_2O_3/GaN by RFM", J. Arvanitidis, M. Katsikini, S. Ves, A. Delimitis, Th. Kehagias, Ph. Komninou, E. Dimakis, E. Iliopoulos, A. Georgakilas.

European Research Society 2005 Spring Meeting (Strasbourg, France). 31/5-3/6/2005

- "Modification of the Fe-environment in Fe_2O_3 glass/glass ceramic systems containing Pb, Na and Si", F. Pinakidou, M. Katsikini, E. C. Paloura, P. Kavouras, O. Kalogirou, Ph. Komninou, Th. Karakostas.
- "Application of μ-XAFS for the determination of the crystallization ratio in a series of vitro-ceramic materials containing industrial waste", F. Pinakidou, M. Katsikini, E. C. Paloura, P. Kavouras, Ph. Komninou, Th. Karakostas, A. Erko

1st International Conference on Engineering for Waste Treatment -WastEng2005 (Albi, France). 17-19/5/2005

"On the distribution and bonding environment of Zn and Fe in glasses containing Electric Arc Furnace Dust: a μ-XAFS and μ-XRF study", F. Pinakidou, M. Katsikini, E. C. Paloura, P. Kavouras, Th. Kehagias, Ph. Komninou, Th. Karakostas.

12th International Conference on X-ray absorption fine structure (Malmo, Sweden). 22-27/6/2003

"XAFS Studies on vitrified Industrial waste", F. Pinakidou, M. Katsikini, E. C. Paloura, P. Kavouras, Ph. Komninou, Th. Karakostas, A. Erko.

BESSY Annual Users Meeting 2002 (Berlin, Germany). 5-6/12/2002*

- "NEXAFS and AFM characterization of Si implanted GaN", M. Katsikini, F. Pinakidou, N. Vouroutzis, R. Mitdank, A. Markwitz, E. C. Paloura.
- "X-ray absorption studies on glasses containing industrial wastes", F. Pinakidou, M. Katsikini, P. Kavouras, A. Erko, Ph. Komninou, Th. Karakostas.

2nd Balkan Conference on Glass Science and Technology & 14th Conference on glass and ceramics (Varna, Bulgaria). 24-28/9/2002

"X-ray absorption studies on glasses containing industrial wastes", F. Pinakidou, M. Katsikini, E. C. Paloura, P. Kavouras, Ph. Komninou, Th. Karakostas.

EDS2002-Extended Defects in Semiconductors (Bologna, Italy). 1-6/6/2002

"A parametric study of implantation-induced variations on the mechanical properties of epitaxial GaN", P Kavouras, M Katsikini, Th Kehagias, E C Paloura, Ph Komninou, J Antonopoulos and Th Karakostas.	
International Symposium on "Structure of glass" (Athens). "XAFS for the determination of materials microstructure: Application to group-III nitrides and SiN_x", M. Katsikini, E. C. Paloura.	29-31/5/2001
European Materials Research Society 2002 Spring Meeting (Strasbourg, France). • "XAFS characterization of buried $Si_xN_yO_z$ samples", F. Pinakidou, M. Katsikini, E. C. Paloura. • "Microstructural characterization of $In_xGa_{1-x}N$ MBE-grown samples", M. Katsikini, E. C. Paloura, F. Boscherini, F. D' Acapito, C. B. Lioutas, D. Doppalapudi. • "NEXAFS and AFM characterization of Si implanted GaN samples", M. Katsikini, F. Pinakidou, N. Vouroutzis and E.C. Paloura, R. Mitdank, A. Markwitz.	18-21/6/2002*
BESSY Annual Users Meeting 2000 (Berlin, Germany). "Characterization of III-V nitrides with X-ray absorption techniques", M. Katsikini (invited).	7/12/2000*
Microelectronics, Microsystems and Nanotechnology (MMN-2000) (Athens). "Microhardness characterization of epitaxially grown GaN films. Effect of light ion implantation" P. Kavouras, M. Katsikini, Ph. Komninou, E. C. Paloura, J. G. Antonopoulos, Th. Karakostas.	20-22/11/2000
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"EXAFS: study of deviations from perfect crystallinity", M. Katsikini (invited).

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"Synthesis and biological evaluation of thiosemicarbazone complexes of Cu(II), $[Re(CO)_3$ and the radionuclide $^{99m}Tc(CO)_3$", S. Kostoudi, D. Papagiannopoulou, M. Akrivou M. Katsikini, N. Papadimitriou, I. Vizirianakis, F. Pinakidou, E. Paloura, I. Iakovou, D. Hadjipavlou-Litina.

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"*Study of crab exoskeletons by means of spectroscopic techniques*", M. Katsikini, E. Proiou, F. Pinakidou, M. Brzhezinskaya, S. Ves, E. C. Paloura.

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- "Application of the equation of motion method for the determination of the EXAFS Debye-Waller factors", M. Katsikini, F. Pinakidou, E. C. Paloura, J. Arvanitidis, S. Ves, A. Georgakilas.
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- "High Pressure Raman Study of Collagen", M. Paschou, M. Katsikini, D. Christofilos, J. Arvanitidis, G. A. Kourouklis, S. Ves.
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- "Polarization Dependent Raman Study of InN", K. Filintoglou, M. Katsikini, J. Arvanitidis, D. Christofilos, G. P. Dimitrakopoulos, S. Ves, G. A. Kourouklis, A. Georgakilas, N. Zoumakis.
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- "XAFS study of Arsenic adsorption on nanoporous Fe- and Mn- oxy-hydroxides", M. Katsikini, D. Papageorgiou, F. Pinakidou, E. C. Paloura, K. Simeonidis, S. Tresintsi, M. Mitrakas.
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- "The effect of In Implantation on the structural and nano-mechanical properties of GaN", P. Kavouras, J. Arvanitidis, E. Fournou, B. Kargas, M. Katsikini, E. C. Paloura, S. Ves, W. Wesch, E. Wendler.
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- "Raman characterization of psoriatic and healthy nails" A. M. Paschou, M. Katsikini, J. Arvanitidis, S. Ves.

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- "Average and Spatially Resolved Bonding Environment of Elements in Human Nails", M. Katsikini, A. Mavromati, F. Pinakidou, E.C. Paloura, D. Gioulekas, A. Erko, I. Zizak.
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- "Μελέτη ανθρώπινων ονύχων με τη φασματοσκοπία φθορισμού ακτίνων Χ με ακτινοβολία synchrotron", Α. Μαυρομάτη, Μ. Κατσικίνη, Φ. Πινακίδου, Ε.Κ. Παλούρα, Δ. Ιωαννίδης, Α. Erko.
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XXII Pan-Hellenic Conference on Solid State Physics and Materials Science (Patras). 24-27/9/2006

- "Μελέτη της Παραμένουσας Διαξονικής Παραμόρφωσης κατά τη Διεύθυνση Ανάπτυξης Υμενίων InN", Ι. Αρβανιτίδης, Δ. Χριστόφιλος, Γ. Κουρούκλης, Α. Δελημήτης, Μ. Κατσικίνη, Φ. Κομνηνού, Σ. Βες, Ε. Δημάκης, Α. Γεωργακίλας.
- "Χαρακτηρισμός ονύχων με φασματοσκοπία φθορισμού ακτίνων Χ με ακτινοβολία Σύγχροτρον", Α. Μαυρομάτη, Μ. Κατσικίνη, Φ. Πινακίδου, Ε. Κ. Παλούρα, Δ. Ιωαννίδης.
- **"**Μελέτη του δομικού ρόλου και της συναρμογής του Fe σε συνθετικά Fe_2O_3 - PbO - SiO_2 - Na_2O γυαλιά**",** Φ. Πινακίδου, Μ. Κατσικίνη, Π. Κάβουρας, Φ. Κομνηνού, Θ. Καρακώστας, Ε. Κ. Παλούρα.
- "Προσδιορισμός του ποσοστού κρυσταλλικότητας σε υαλοκεραμικά προϊόντα με φασματοσκοπίες XAFS" Φ. Πινακίδου, Μ. Κατσικίνη, Π. Κάβουρας, Φ. Κομνηνού, Θ. Καρακώστας, Α. Erko, Ε. Κ. Παλούρα.

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"Raman and transmission electron microscopy characterization of InN films", J. Arvanitidis, M. Katsikini, S. Ves, A. Delimitis, Th. Kehagias, and Ph. Komninou, E. Dimakis, E. Iliopoulos, A. Georgakilas.

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- "*Επίδραση της συγκέντρωσης των προσμίξεων Si στις τάσεις σε επιταξιακό GaN",* Μ. Κατσικίνη, Φ. Πινακίδου, Ε. Κ. Παλούρα, Ε. Ηλιόπουλος, T. D. Moustakas.
- "*Μεταβολή της νανοδομής του GaN μετά από υψηλής δόσης εμφύτευση ιόντων Si",* Μ. Κατσικίνη, Φ. Πινακίδου, Ε. Κ. Παλούρα, F. Boscherini.
- "Μελέτη υαλοποιημένων βιομηχανιών αποβλήτων με χαρτογράφηση XRF και μ-XAFS.", Φ. Πινακίδου, Μ. Κατσικίνη, Ε. Κ. Παλούρα, Π. Κάβουρας, Φ. Κομνηνού, Θ. Καρακώστας Α. Erko.
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XIX Pan-Hellenic Conference on Solid State Physics and Materials Science (Thessaloniki). 21-23/9/2003*

- "Χαρακτηρισμός προϊόντων υαλοποίησης στερεών τοξικών αποβλήτων με τεχνικές απορρόφησης ακτίνων Χ", Φ. Πινακίδου, Μ. Κατσικίνη, Ε. Κ. Παλούρα, Π. Κάβουρας, Φ. Κομνηνού, Θ. Καρακώστας.
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- "Μικροδομικός χαρακτηρισμός του GaN που έχει υποστεί εμφύτευση ιόντων N, O, Si και Mg", Μ. Κατσικίνη, Κ. Παπαγγελής, Ε. Κ. Παλούρα, Ν. Βουρουτζής, Σ. Βες.

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- "Gallium K-edge EXAFS measurements on cubic and hexagonal GaN", M. Katsikini, E. C. Paloura, J. Antonopoulos, T. D. Moustakas.
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- h-index= 18
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- https://www.researchgate.net/profile/Maria-Katsikini {researchgate}
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