Konstantinos P. Giannakopoulos PhD, CPhys

Senior Researcher
Laboratory for Electron Microscopy and Nanomaterials
National Centre for Scientific Research "Demokritos"

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https://inn.demokritos.gr/person/konstantinos-giannakopoulos/

Dr Konstantinos P. Giannakopoulos CPhys is a Researcher, expert in ***nanostructural materials characterisation****; he is a Physicist (1995,* ***Aristotle University of Thessaloniki****) with a PhD (1998,* ***University of Liverpool****) on the study of heteroepitaxial growth of III-V semiconductors on vicinal substrates. He has worked in* ***ST Microelectronics*** *(Advanced R&D, Crolles, France) on the characterisation of selectively grown heteroeptiaxial thin films and on the evaluation of industrial equipment for this task. Since 2002 he works in NCSR Demokritos on the growth and structural characterization (esp. with* ***Electron Microscopy****) of a large variety of nanomaterials and nanostructures. He has worked on a variety of materials:* ***oxides, semiconductors, metallic nanoparticles*** *for applications in* ***self-cleaning*** *coatings,* ***nanoelectronics*** *(for sensors, advanced non-volatile memories etc****), optoelectronics, magnetic recording media, hard coatings, targeted drug delivery*** *etc. The techniques that he is currently involved in are: High Resolution* ***Transmission Electron Microscopy*** *(HR-TEM)-combined with Energy Dispersive X-ray Spectroscopy (EDS), Scanning Electron Microscopy (SEM)-combined with low vacuum imaging, various Scanning Probe Microscopy techniques, Molecular Beam Epitaxy (MBE), sputtering etc. He has taught, among others, in the University of Liverpool, the National Technical University of Athens, the University of Novi Sad, Serbia (****Honorary Professor****). He has also worked at Mantis Deposition Ltd (UK), the University of Cyprus and he has been an Expert Evaluator of funding proposals for the EU and other funding bodies. Recently he coordinated the Solar ERANET project Nano4CSP "Nanomaterials for reduced maintenance costs in Concentrated Solar Power plants" and he sub-coordinated an EU project for the promotion of the field of Advanced Materials to the European public (see www.materialsfuture.eu). He has co-organized 20 National and International Conferences (incl.* ***EUROMAT 2017****), and he is the co-author of 117 peer-reviewed scientific publications in scientific Journals (90) and Conference Proceedings; he has received more than 1850 references for his work (h-index 25).*

CURRICULUM VITAE

Research & Academic Experience

4/2002 –

National Centre for Scientific Research "Demokritos"
Laboratory for Electron Microscopy and Nanomaterials
Institute of Nanoscience and Nanotechnology

Athens, Greece

Senior Researcher

http://www.inn.demokritos.gr

- *Research on:*

A) *Structural characterisation of a large variety of materials in the micro- and nanoscale, by* ***TEM*** *(Transmission Electron Microscopy), EDX (Energy Dispersive X-ray analysis), EELS (Electron Energy Loss Spectroscopy),* ***FE-SEM*** *(Field Emission- Scanning Electron Microscopy), SEM,* ***AFM*** *(Atomic Force Microscopy),* ***Conducting AFM*** *and* ***XRD*** *(X-ray Diffraction),*

B) *Nanomaterials growth by physical deposition techniques such as Molecular Beam Epitaxy (****MBE****),* ***Sputtering*** *and an* ***aerosol nanoparticle source***

C) *Nanomaterials patterning by* ***Electron-beam Lithography*** *and plasma etching for applications in Microelectronics.*

The main materials and structures include:

1) *Ultrathin transparent* ***Titania*** *by magnetron sputtering for self-cleaning coatings, in collaboration with the Magnetics group of INN; I was involved in coordinating the work and structural characterisation.*

2) ***CuO/Cu*** *nanoparticles for antibacterial coatings by* ***spark discharge aerosol deposition,*** *in collaboration with the Aerosol group of NCSR Demokritos; I was involved in coordinating the work, growth and structural characterisation.*

3) *Oxides, mainly* ***ZnO*** *for its use as a wide band gap semiconductor, but also others such as HfO2, Y2O3 for their use as gate dielectrics; I was involved in Electrochemical and MBE growth, structural characterisation of their surface and their crystalline defects with SEM and TEM.*

4) ***Magnetic dots*** *CoPt and FePt and Ag/FePt for their use in ultra high density magnetic memories and use in spintronics; I was involved in growth and structural characterisation.*

5) *Quantum* ***dots*** *of Ge, Pd, Au, Pt, W and their incorporation in thin SiO2 and HfO2 for the construction of* ***non-volatile memories****, in collaboration with the School of Electrical Engineering at the National Technical University of Athens (NTUA); I was involved in growth and structural characterisation.*

- Research Activities
- Educational Activities
- Administrative info

6) *Films of HfO2 on Si, TiHfO on Si, nanodots Ge on Si, various silicides on SOI wafers in collaboration with STMicroelectronics; I was involved in structural characterisation.*

7) ***Films of SiC*** *doped with Al, and Si films doped with Ge and B (BF4) on Si wafers prepared by implantation (followed by laser annealing) in collaboration with the NTUA, School of Applied Mathematics and Physics, STMicroelectronics and the Institute of Electronic Structure and Laser, of the Foundation for Research and Technology-Hellas (FORTH); I was involved in structural characterisation.*

8) *Films of porous Al2O3, that have been used for the fabrication of SiO2 and Si dots, nanocrystalline Si and Ge in SiO2; I was involved in structural characterisation and growth.*

9) ***Titanates and TiO2 nanostructures*** *for catalysts in collaboration with the University of Novi Sad, Serbia; I was involved in structural characterisation.*

10) ***Oxide structures Dy2O3/HfO2*** *for applications in Microelectronics in collaboration with the University of Ioannina; I was involved in structural characterisation.*

11) ***Carbon nanotubes*** *in collaboration with the Department of Physical Chemistry of NCSR Demokritos; I was involved in structural characterisation.*

12) ***CrBN and TiCN films****, for tribological applications in collaboration with the University of Cyprus ; I was involved in structural characterisation.*

13) ***Nanoparticles*** *(e.g. Pt, Ni, Ti, TiO2, Si) grown with a nanoparticle source in vacuum, for applications in Microelectronics (sensors etc) in collaboration with NTUA and Mantis Deposition; I was involved in structural characterisation and growth.*

14) *Si surface structures and structures of resins on Si, etched for Microelectronics; I was involved in* ***E-beam lithography*** *and plasma etching, structural characterisation.*

15) ***Core-shell silica-ferrite nanoparticles*** *for biomedical applications catalysts in collaboration with the University of Novi Sad; I was involved in structural characterisation.*

TEM *analysis has been done mainly on a Philips CM20 at Demokritos, with the use of conventional plan view and cross-sectional geometries as well as the use of* ***Dark Field*** *and* ***High Resolution*** *techniques. During the last view years TEM analysis was done with the new Thermo Fisher Scientific Talos F200i Scanning TEM (FEG S/TEM). Analytical techniques such as* ***EDS*** *and* ***EELS*** *have also been exploited. A large part of the samples mentioned above have been prepared at the e-beam deposition chamber of the Group.* ***FE-SEM*** *has been done mainly at the JEOL JSM 7401F of the Dept of Microelectronics with the use of the low-voltage and energy filtering techniques etc. I have been* ***responsible*** *for* ***the upgrade of the structural characterisation capabilities*** *at the Dept of Microelectronics with the introduction and exploitation of the advanced SEM techniques mentioned above, as well as the exploitation of the electrical SPM techniques (****Conducting AFM*** *etc) available at the Department.* ***Electron Beam Lithography*** *has been performed on a state-of-the-art EBPG5000plusES from Vistec.*

◆ *The educational activities have been highlighted by the sub-coordination of the EU Project (FP7-NMP) "STIMULATE: Stimulating public attitude towards advanced materials" which uncovers the world of Advanced Materials and their applications to the* ***European Public****. NCSR Demokritos has been in charge of the scientific content for this project which has created, a free to use, online cross-platform media product in 23 languages which includes an educational* ***game*** *for* ***teenagers,*** *a* ***film*** *for young adults and online educational content; more info can be found in (www.materialsfuture.eu). I have also worked for a long time in other* ***educational*** *activities that*

include the guidance, training and mentoring of young researchers including undergraduates, postgraduates and PhD candidates from the NTUA, the University of Athens and the University of Novi Sad. Beyond their training in advanced techniques and their introduction to complicated research topics, I have also contributed in the shaping of their scientific identities. I am regularly giving talks in Summer schools in Universities in Greece or abroad, for example the Demokritos Summer School and the Summer School on Physics of Advanced Materials in Thessaloniki.

- *My collaboration with Demokritos started in the Electron Microscopy Laboratory in the frame of 2 Research Programs of the Greek Government for the integration in the Greek Research System, of distinguished researchers from abroad; these programs were in collaboration with the "Crolles Alliance": **STMicroelectronics, Philips Semiconductors** and **Freescale Semiconductors,** that participated with10%, for the advanced structural characterisation of materials for the Crolles II project (CMOS at 45 nm). The "Crolles Alliance" continued with the funding of this work also after the end of the projects mentioned above. The collaboration with Demokritos has also been under other projects such as NANDOS for the growth and structural characterisation of ZnO structures, the REGPOT project "Micro and Nano Systems Centre of Excellence" of the Dept of Microelectronics and the project STIMULATE that I had been the "Scientist in Charge". My actual collaboration with Demokritos is continuous since 2001, and it includes periods of part and full time work in various Universities and companies (see below).*

7/2012 -3/2014

University of Piraeus
Department of Industrial Management and Technology

Piraeus, Greece

Researcher

http://www.tex.unipi.gr/en/home.htm

- *Research on the adsorption of oil spills on biomass; structural characterisation by SEM/EDS*
- *In the frame of a "Thalis" Greek project.*

10/2003 - 2/2012

University of Western Attica (formerly Technological Educational Institute of Piraeus)
Department of Computer Systems Engineering and
General Department of Physics, Chemistry and Materials Technology

Athens, Greece

Scientific Associate (Lecturer)
and
Laboratory Associate

http://platon.teipir.gr/new/ecs

- *Teaching of the module "**Electronics**" to the first year students and of the laboratories in "Physics II", "Circuit Theory", "Electronics" and "Sensors and Measurements" of the final year students. I had been interacting with hundreds of students each year, also through the collaboration in undergraduate projects. My teaching has been continuous throughout this period but included periods of part time and full time work.*

1/2010 – 3/2010
&
7/2010-9/2010

University of Novi Sad
Department of Materials Engineering,
Faculty of Technology

Novi Sad, Serbia

Honorary Professor

http://www.uns.ac.rs/en

- *In the Frame of the European project RP DEMATEN for the reinforcement of the University's Materials Department and its collaboration with large European research Institutions.*

➢ *Research work on the growth and structural characterisation of electroceramic nanoparticles, such as ferrites.*

♦ *I designed and prepared a laboratory course on Electronic Materials and delivered lectures on Nanomaterials, Sensors, and advanced Electron Microscopy characterisation techniques.*

8/2008 – 11/2008

Mantis Deposition

Oxfordshire, United Kingdom

Marie Curie Research Fellow

http://www.mantisdeposition.com/

- *Secondment in the UK in the frame of the European project NANOSOURCE, an Industry-Academia Partnership (IAPP).*

➢ *The research part includes the growth and structural characterisation of nanoparticle assemblies for nanoelectronic applications. Growth involves the use of an innovative nanoparticle source that offers a unique accuracy on the size of the nanoparticles. Structural characterisation took place in the TEM of Demokritos and involved also the use of AFM.*

4/2004-9/2004,
6/2005-11/2005,
3/2007- 5/2007,
7/2007- 11/2007

National Technical University of Athens
School of Electrical and Computer Engineering (7/2007- 11/2007)
School of Applied Mathematics and Physics, (Division of Physics) (remaining period)

Athens, Greece

Lecturer (4/2004-9/2004 and 7/2007-11/2007)
Research Associate (remaining period)

http://www.ntua.gr

♦ *Teaching of the module "Optics and Laboratory", "High Technology Materials and Devices", "Semiconductor Devices"*

➢ *Research work includes the structural characterisation and growth of materials for nanolectronics, many of which are mentioned above*

9/2007–11/2007
&
4/2009-6/2009

University of Cyprus
Department of Mechanical and Manufacturing Engineering

➢ Research Activities
♦ Educational Activities
• Administrative info

Nicosia, Cyprus

Marie Curie Research Fellow

http://www.eng.ucy.ac.cy/MME

- *In the frame of a European research project on the development of nanoheating structures (NANOHEAT, 9/2007–11/2007) in collaboration with several European and American Universities incl. MIT. Also within the frame of a Cypriot research grant on the growth of hard coatings for medical implants (4/2009-6/2009)*

➢ *Research work on (mentioned also above):*

1. *The growth and characterisation with electron microscopy of metallic nanocolumns through a porous alumina template*
2. *The study of exothermic reactions between metallic layers*
3. *The TEM analysis of ultra-hard coatings (e.g. Cr-B-N) for tribological applications (in implants, engines etc) and*
4. *The TEM analysis of nanoparticle-aided PVC bonding.*

10/2000-11/2001

STMicroelectronics (SGS-Thomson)
Central R&D

Crolles (Grenoble), France

R&D Materials Engineer (Marie Curie Research Fellow)

http://www.st.com

- *In the frame of my second Marie Curie Fellowship; for a few months I was based at **France Telecom** (**CNET**, Meylan site) and LPCS. I collaborated with the **Epitaxy** and **poly-Si** groups, as well as the groups for characterisation, metrology and thermal processes of the Crolles II project.*

➢ *Research work on:*

1. *Structural characterisation of the selective growth of SiGe on Si for the Front -End processes of the BiCMOS devices. I was in charge of the industrial XRD tool and contributed in its introduction in the production line. In parallel I evaluated all the available equipment for the in-line quality control of the SiGe/Si system, including XRF (X-ray Fluorescence), Spectroscopic Ellipsometry, (X-ray Reflectivity, Raman etc). I collaborated with several companies and research institutions such as Philips Analytical, KLA-Tencor and the ESRF (European Synchrotron Radiation Facility, Grenoble), where I used a unique microfocus X-ray beam (4 μm) for the study of isolated selectively grown SiGe boxes on Si. Among others, I have also been involved in the process for obtaining a patent.*
2. *Electrical Characterisation of MOSFETs and capacitors for the CMOS technology at the 0.1 μm, with Ta2O5 as a gate dielectric (high-k dielectric). I did measurements of I(V), C(V), reliability, hot carrier degradation etc. A large part of this work was done at the **LPCS** (Laboratoire de Physique des Composants a Semiconducteurs, today **IMEP,** at **Minatec**)*

10/1995-1/1996

&6/1998-1/1999

The University of Liverpool
Division of Materials Science and Engineering,
Department of Engineering

➢ Research Activities
♦ Educational Activities
• Administrative info

Liverpool, UK.

Marie Curie Research Fellow (6/1998-1/1999)
Teaching Assistant (10/1995-1/1996)

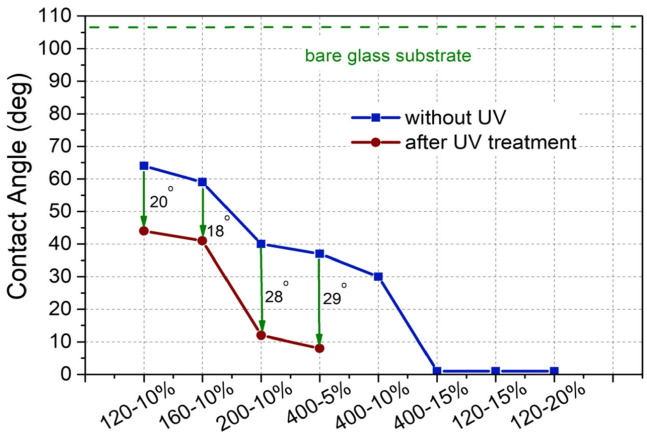
http://www.liv.ac.uk/engdept

- *The post doctoral period (6/1998-1/1999) was the last part of my Marie Curie fellowship, during which I also did part of my PhD studies (see below); I had submitted my PhD thesis 9 months before the end of this grant.*

➢ *The research part of this work included the characterisation of layers on GaAs and InP wafers with TEM and Reflectance Anisotropy Spectroscopy (**RAS**).*

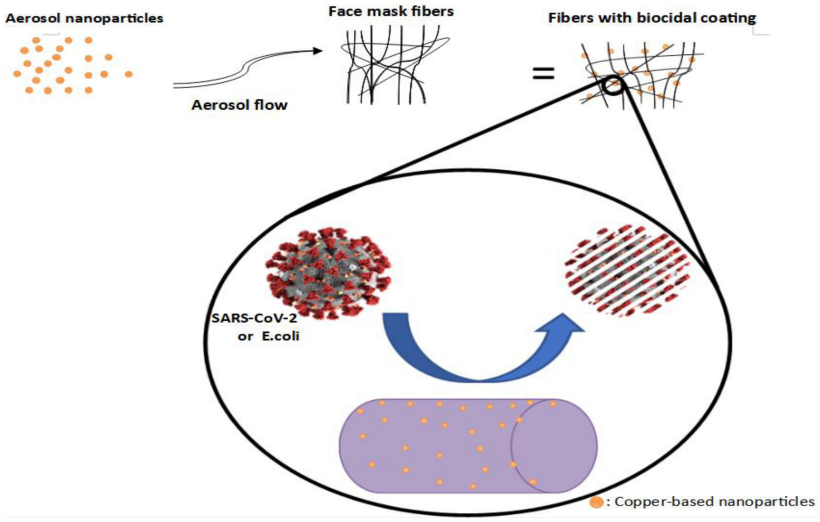
♦ ***Teaching** and supervision of students (10/1995-1/1996) in the module Crystallography, for the first year students of the courses "Clinical Engineering" and "Metallurgy and Materials Engineering". I also trained PhD candidates and Master students in the use of AFM and TEM.*

Main Achievements



Reactively-sputtered super-hydrophilic ultra-thin titania films deposited at 120 °C

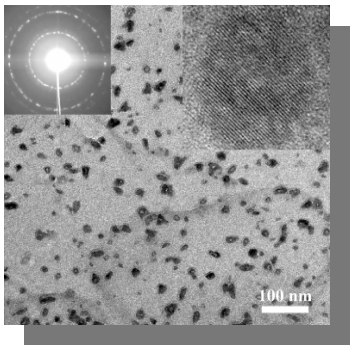
Materials Research Express 10 (11), 115501 2023

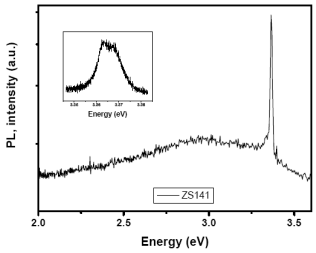


Easy Nanoparticle fabrication that modifies face-masks for antiviral protection

ChemPlusChem 89 (8), e202400194, 2024

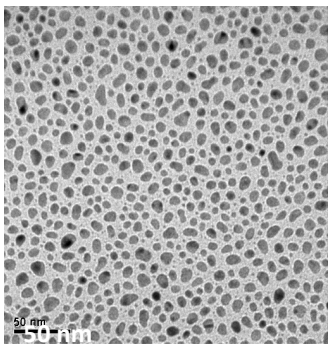
- ➢ Research Activities
- ♦ Educational Activities
- • Administrative info

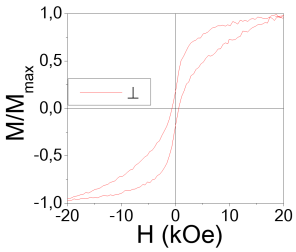




ZnO nanodots, uniformly grown on Si with controlled sizes 3-50 nm

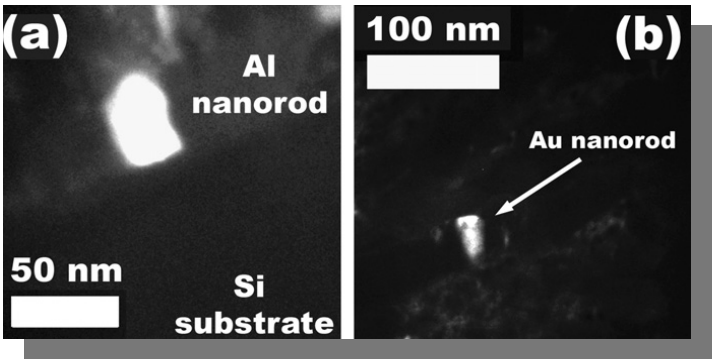
Superlattices and Microstructures, 2006, 39 (1), 115-123





Hard Magnetic nanoparticles on SiO_2 for hard disks with capacities of 11,43Tbit/inch^2

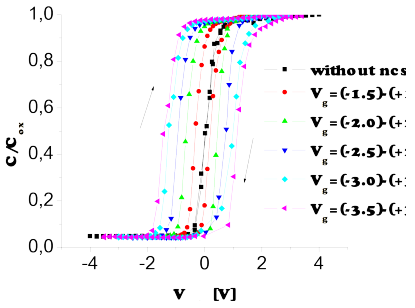
Applied Physics Letters, 2004, 85, 2854



Al, Au and bilayer nanocolumns deposited through porous alumina templates

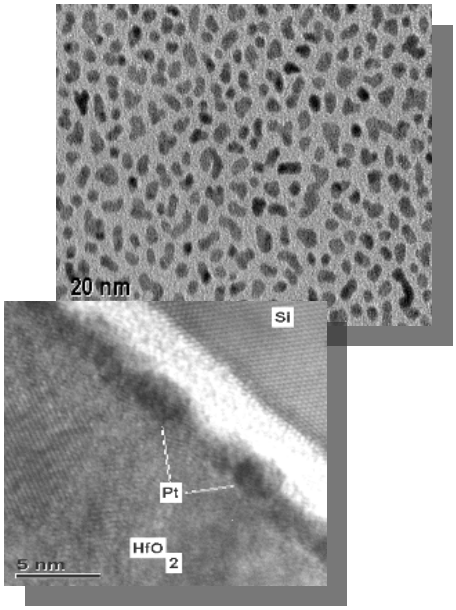
Nanotechnology, 2007, 18, 495604

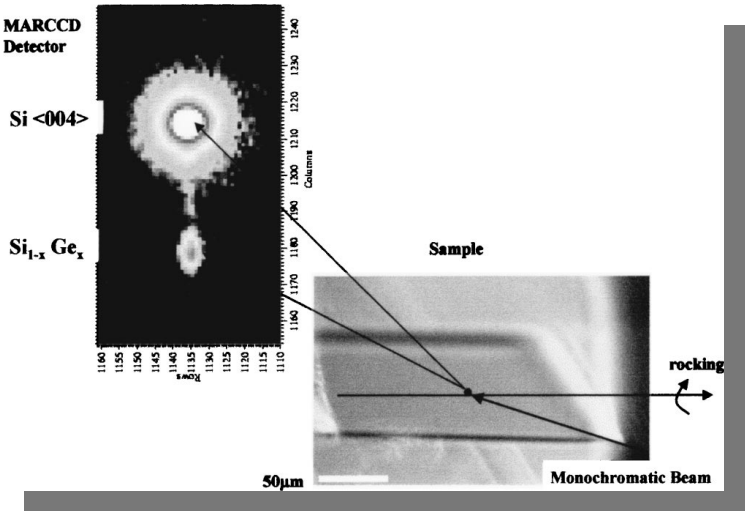
- Research Activities
- Educational Activities
- Administrative info



Non Volatile memories with advanced electrical properties (high retention and high write-erase rates, operation in low voltages); they contain nanoparticles at a density of4,3x10^{12}ncs/cm^2

Applied Physics Letters, 2006, 88, 073106





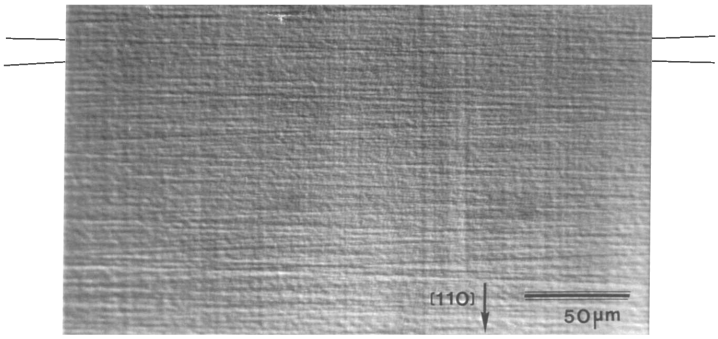
Structural characterisation of selectively grown heteroepitaxial SiGe layers with lateral dimensions in the 1 micron scale

Journal of Applied Physics, 2003, 93, 259

- ➢ Research Activities
- ♦ Educational Activities
- • Administrative info

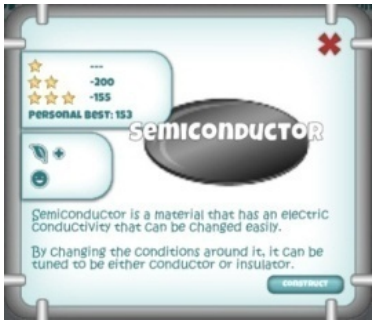
Explanation of the role of misfit dislocations in the formation of surface undulations of heteroepitaxial layers

Micron 30 (1), 59-64



Media products (films, game, web site, educational material) for the general public, in 23 languages, that uncover the role of Advanced Materials in the creation of a sustainable world

www.materialsfuture.eu



- Research Activities
- Educational Activities
- Administrative info

Reviewing

10-11/2025, 5/2003

European Commission

Brussels, Belgium

Expert Evaluator

https://commission.europa.eu

- *Collaboration within the Horizon Europe (2025) and FP6 Framework Programmes (2003) for the evaluation of Research proposals.*

2022, 2006

Ministry for the Development,
General Secretariat for Research and Innovation

Athens, Greece

Expert evaluator

http://www.gsrt.gr

- *Collaboration for the evaluation of proposals for funding of the Greek State for research work (2022) and towards the Materials Industry (2006)*

9/2017, 1/2015

German Aerospace Center (DLR)

Bonn, Germany

Expert Evaluator for Research proposals

http://www.dlr.de/

- *Collaboration within the ERA.NET- Science & Technology Programme*

11/2016

Government of Bulgaria - Bulgarian National Science Fund

Sofia,Bulgaria

Expert Evaluator for Research proposals

http://www.mon.bg

- *Collaboration within the EU Structural and Cohesion Fund 2014-2020 and in particular the programme for «Fundamental Research – 2016", "Bulgaria-Russia Bilateral projects" and "Bulgaria-France Bilateral projects"*

8/2016

Central Finance and Contracting Agency of the Government of Latvia

Riga, Latvia

Expert Evaluator for Research proposals

http://www.cfla.gov.lv/en/

- *Collaboration within the EU Structural and Cohesion Fund 2014-2020 and in particular the programme for «Industry-Driven Research"*

2010

Research Promotion Foundation

Cyprus

Expert evaluator for Research proposals

2004

Greek Open University

Proof reading

http://www.eap.gr

- *Proofreading of the Open University's book on Physics Laboratory II.*

2002-

Various Scientific Publishers

Reviewer

Reviewer *for books from* ***Springer Science*** *(USA) and for papers for 10 international scientific journals: Advanced Energy Materials, European Journal of Applied Physics, Nanotechnology, Thin Solid Films, Journal of Physics D: Applied Physics, Journal of Physical Chemistry, Journal of Micromechanics and Microengineering, Processing and Application of Ceramics, Semiconductor Science and Technology, Microelectronic Engineering, Applied Optics. Reviewer for various conferences including for example MNE2022, MNE2019, INFOS 2007, E-MRS 2007 and the 37th International Conference on Metallurgical Coatings and Thin Films.*

Other Professional Activities

2024- 2028
&
2010 - 2014

COST / European Cooperation in Science and Technology

Member of Action Management Committees

https://www.cost.eu

- *Member of the Management Committee in the COST action CA23131 (ICPLASTIC: ISO compatible, efficient and reproducible protocols/equipment for mICro-nanoPLASTIC detection through machine-learning 2024-2028)*
- *Substitute Member of the Management Committee in the COST action MP0904 (SIMUFER: Single- and Multiphase Ferroics and Multiferroics with Restricted Geometries, 2010-2014).*

2020-2022

Nanomaterials - Multidisciplinary Digital Publishing Institute (MDPI)

- ➢ Research Activities
- ♦ Educational Activities
- Administrative info

Editorial Board Member

http://www.mdpi.com/journal/nanomaterials

- *Open Access Journal, ISSN 2079-4991, IF 4.324*

2010 –2012

Innovative Research and Technology

London, UK

Consultant

- *In the frame of the FP7 Project "CLEANWATER" for the Photocatalytic cleaning of water from toxic pollutants.*

1/1999-9/2000

Hellenic Air-Force
National Meteorological Service

Meteorologist (under conscription)

- *In the frame of my compulsory Military service*

2003-

(Co)-Supervision of Scientists

***Postdoctoral**: G. Papadimitropoulos (2020-2023), A. Kaidatzis (2019-2023, now at the University of Patras), M. Lasithiotakis (2017-2023), Ch. Tsigkourakos (2020-2021 NTUA), E. Skotadis (2020-2021 NTUA), D. Georgiadou (2013-2014, now at the University of Southampton)*

***Doctoral students**: N. Mouti (2020-2022 NTUA MSc. Student, 2019-2020 Graduate, now at the University of Leoben Austria), N. Gialama (2018 NTUA), Ch. Sargentis (2003-2009 NTUA);*

***MSc. Scientists:** V. Kapetanakis (2015-2016), I. Lariou (2013-2015, now at the Agricultural University of Athens),*

***MSc. Students**: M. Magganiari (2022- 2024 NTUA), Ch. Lamprou (2022-2024 NTUA), A. Douzenis (2019-2021 NTUA), A. Moisiadou (2014, now @ EPFL)*

***Undergraduates**: P. Markopoulos (2020-2025 University of Patras), M. Modestou (2021 NTUA), Ch. Diamantopoulou (2021 NTUA), Ch. Anagnostopoulou (2021 NTUA), Ch. Karakasis (2018-2019 University of Athens, now @ Theon Sensors), J. Giannopoulos (2014-2015 NTUA, now @ IBM Zurich), A. Christodoulou (2013-2015, now at University of Essex)*

Invited Talks

1. ***ECOWEEK EU Green Week 2021,** 5 June 2021, Online*
2. ***ECOWEEK MEET-UP 2020**, 16 May 2020, Online*

3. *The Eleventh Conference for Young Scientists in Ceramics **SM-2015**, October 21 - 24, 2015. in Novi Sad, Serbia*
4. ***"Inquiry based learning and Creativity in Science Education"** International Conference, 9-10 October 2015, in Athens, Greece*
5. ***Materials Weekend,** Warsaw, Poland September 2015*
6. ***EUROMAT 2015**, Warsaw Poland, September 2015*
7. ***Symposium for Science Education at the Primary School,** Simposio ENCIENDE, Madrid, Spain, July 2015*
8. ***E-MRS** Lille France, Reach.Out! workshop in Science Communication, May 2015*
9. ***2nd International Multidisciplinary Microscopy Congress – INTERM 2014**, October 16-19, 2014 Oludeniz, Fethiye, Turkey*
10. *Autumn International School on growth and structural characterization of advanced materials, **AISMAT 2014,**October 13-19, 2014, Oludeniz, Fethiye, Turkey*
11. ***E-MRS** Lille France, 2014*
12. *International Multidisciplinary Microscopy Congress – **INTERM 2013**, Antalya, Turkey, October 10-13, 2013*
13. ***NCSR "Demokritos" Summer School** 2013, Athens, Greece, July 2013*
14. ***E-MRS Strasburg**, France, 31 May 2013*
15. ***NCSR "Demokritos" Summer School** 2012, Athens, Greece, July 2012*
16. *Summer School on **Physics of Advanced Materials**, Thessaloniki, Greece, July 2012*
17. *Workshop on **Advanced Microscopy, Recent Achievements**, Thessaloniki, Greece, 14/6/ 2012*
18. *The Ninth Students' Meeting, **Processing and Application of Ceramics**, University of Novi Sad, co-organised by The Serbian Ceramics Society and the European Ceramics Society, November 16-18, 2011, Novi Sad, Serbia*
19. *Training School: "**Characterization of nanostructured materials**", University of Novi Sad, Serbia, 2009*
20. *Conference: **Managing University Autonomy in Terms of Research**/Signing of the Magna Charta Agreement, Bologna, Italy*
21. *Summer School on **Physics of Advanced Materials**, Thessaloniki, Greece, 2008*
22. *Summer School on **Physics of Advanced Materials** (PAM 2004), Thessaloniki, Greece, 2004*

Participation in Scientific Societies

2020-	*Member of the Working Group 4: Nanomaterials for novel structural and functional applications/ Modelling and characterization of the **EuMaT** – the European Technology Platform for Advanced Engineering Materials and Technologies*
2014-	*Administrative Board Member (Secretary, Treasurer) of the **Hellenic Society for the Science and Technology of Condensed Matter** (HSSTCM), www.hsstcm.eu*
2000-	*Member of the **Marie Curie Fellows Association**, Brussels, cofounder and Vice-President of the Greek branch; member of the **Marie Curie Alumni Association***
1998	*Chartered Physicist (**CPhys**), full member of the Institute of Physics (**MinstP**), UK.*
1998	*Member of the **Institute of Materials**, UK*

Conference organisation

1. *Member of the Advisory Committee of the scientific workshop "From Atoms to Materials with Electron Nanoscopy – Advanced Analytical and in situ Approaches" (**ATMATEN**), 28, 29 September 2024 Thessaloniki, Greece*
2. *Member of the International Technical Program Committee of the 48th International conference on Micro and Nano Engineering (**MNE 2022**), 19-23 Sept. 2022, Leuven, Belgium*
3. *Member of the International Scientific Board of the Fourteenth ECerS Conference for Young Scientists in Ceramics, **CYSC-2021,** October 20-23, 2021 in Novi Sad, Serbia*
4. *Symposium organiser at EUROPEAN CONGRESS AND EXHIBITION ON ADVANCED MATERIALS AND PROCESSES - **EUROMAT 2021,** Sept. 13th – 17th, 2021, virtual*
5. *Member of the International Technical Program Committee of the **MNE2021** - 47th international conference on Micro and Nano Engineering, September 2021, Turin, Italy*
6. *Member of the Organizing committee of the Advanced Training Course "**Spintronics Radar Detectors**", 14th to 18th of October 2019, Athens, Greece.*
7. *Conference Co-Chair for the 45th International Conference on Micro & Nano Engineering, **MNE 2019** September 23rd - 26th, 2019, Rhodes Greece*
8. *Member of the Managing Committee for the **EUROMAT 2017** (~2200 partcipants) in Thessaloniki, Greece*
9. *Co-organiser of the 3d Training Workshop on **Materials for Future Energy Sources**, NCSR Demokritos, HSSTCM, Athens, 1-2/12/2017*
10. *Member of the International Scientific Board of the 12th Conference for Young Scientists in Ceramics **SM-2017,** October 18-21**,** 2017 in Novi Sad, Serbia*
11. *Co-organiser of the 2nd Training Workshop on **Advanced Material Characterisation Techniques**, Nov 2016, Athens, Greece*
12. *Co-organiser of the Training Workshop on **Advanced Material Characterisation Techniques**, 27-28 Nov 2015, Athens, Greece*

13. *Member of the International Scientific Board of the Eleventh Conference for Young Scientists in Ceramics* ***SM-2015,*** *October 21 - 24****,*** *2015 in Novi Sad, Serbia*
14. *Scientific committee member* ***International Multidisciplinary Microscopy Congress – INTERM 2014****, October 16-19, 2014*
15. *Scientific committee member, Autumn International School on growth and structural characterisation of advanced materials –* ***AISMAT 2014****, October 13-19, 2014, Oludeniz, Fethiye, Turkey*
16. *Scientific committee member* ***International Multidisciplinary Microscopy Congress – INTERM 2013****, October 10-13, 2013*
17. *Member of the Organizing committee of the* ***XXIX Greek Conference on Solid State Physics and Materials Science,*** *Athens, 2013*
18. *Co-organiser of the Workshop "****Structural and Functional Characterisation of Complex Materials****", Chalkidiki, Greece, 2010*
19. *Member of the Scientific committee of the Workshop "****Nanostructured ceramics and nanocomposites - Challenges and perspectives****", University of Novi Sad, Serbia, 2009.*
20. *Member of the Organizing committee of the* ***XXIII Greek Conference on Solid State Physics and Materials Science, Athens, 2007*** *(http://www.ims.demokritos.gr/XXIII).*

Education

2/1995-6/1998

The University of Liverpool
Division of Materials Science and Engineering, Department of Engineering

Liverpool, UK

Marie Curie Research Fellow (2/1996-1/1999)

http://www.liv.ac.uk/engdept/

Ph.D.

PhD Title: *Surface Morphology and Defects in InGaAs layers grown on vicinal substrates*

Supervisor: *Prof. Peter J. Goodhew (Pro-Vice Chancellor of the University)*

- *My studies at Liverpool started with the award of a 3-year PhD fellowship by the University. Then I submitted together with the University a proposal for a **Marie Curie** PhD fellowship (TMR, Training and Mobility of Researchers) that was accepted (10% success rate) and was funded under the 4th Framework Program for 3 years.*

  *My PhD thesis was supervised by Prof. P. J. **Goodhew** one of the well known electron microscopists in the UK, who at that time had reached the level of the Pro Vice Chancellor of the University. Besides being the President of Royal Microscopical Society, Peter was also responsible for making the University of Liverpool a Centre of Electron Microscopy in the UK (see e.g. the **SuperSTEM** project). The Dept. of Materials Science and Engineering was evaluated, during the period of my studies, with a 5* rating at the Research Assessment Exercise. The examiner of my thesis was Professor **Sir Colin Humphreys** (University of Cambridge), a scientist that already had a celebrity status in the U. K.*

➢ *The research content of this work has been the study (mainly with TEM and AFM) of the strain relaxation of InGaAs layers on vicinal GaAs. The surface morphology has been studied together with its relationship to the underlying misfit dislocation network and the number of threading dislocations. I studied the interactions between these dislocations and the effect of the angle and direction of the wafer's offcut angle on the layer quality, the surface morphology and the dislocation content. I found among others that the surface cross-hatch pattern is formed mainly as an effect of the underlying network of 60° misfit dislocations and not the edge dislocations that are also present. Phenomena like step-bunching and the presence of new dislocations sources were also discussed.*

➢ *I had the opportunity to use a unique combination of deposition chambers and characterisation tools, including a **CBE** (Chemical Beam Epitaxy), the best **STEM** (Scanning Transmission Electron Microscope) in Europe at that time, a VGHB601UX equipped with **EDX** and **PEELS**, 3 **TEMs** (High Resolution TEM, XTEM etc), 2 **SEM**, 1 **AFM** (I had been responsible for its use and training on it), methods for chemical polishing etc. I collaborated with the existing network of coworkers from Marconi, MIT, Imperial College, the Universities of Nottingham and Sheffield and extended this network in new collaborations with SUNY (USA, X-ray Topography) and Technion (Israel, DCXRD)*

➢ Research Activities
♦ Educational Activities
• Administrative info

1989-2/1995

Aristotle University of Thessaloniki
Department of Physics

Thessaloniki, Greece

http://www.physics.auth.gr

BSc. Physics

Grade Point Average: *7.35/10 (top 10%)*

Undergraduate Thesis: *Phase determination with Electron Microscopy (as applied in iron silicides)*

Supervisor: *Prof E.K. Polychroniadis*

- *My involvement with transmission electron microscopy and the growth and characterisation of materials in the nanoscale for Microelectronic applications started in 1991, while I was attending the 12 selective courses of the Solid State Division of the Dept of Physics (Grade point average of 8.4/10). This activity allowed me to start my doctoral studies in the UK without the need to follow a master's course before them.*

1980-1989

Athens College

http://www.haef.gr

Secondary Education Degree

Advanced school attendance

1997 *"**Business Awareness Programme**" University of Liverpool, UK*

1995 ***Summer School on Electron microscopy,** Birmingham, UK.*

- *Organised by the **EMAG** (Electron Microscopy and Analysis) group of the Institute of Physics for the training on advanced techniques for defect analysis (mainly in the TEM)*

Foreign languages

***Greek** (native speaker)*

1991 ***English** (Cambridge Proficiency, excellent)*

1986 ***German** (Zertifikat I, 7 years of study)*

***French** (2 years, basic ability to work)*

Fellowships - Funding- Awards

*The total amount of funding that I have received up until today is at about **3,17 million Euros,** most of which comes from the European Union. This amount includes personal fellowships, the proposals that I have been **directly** involved in (the Demokritos' part) and the amounts that I have secured from the agreements for advanced structural characterisation from companies and Universities. In more detail, these are:*

2022-2025	*AMASE: Advanced Materials Science for Advanced STEM-Education, **Erasmus +**, 42226 Euro (Scientific Director)*
2020-2023	*Spintronic Devices For Microwave Detection And Energy Harvesting Applications, **North Atlantic Treaty Organization (NATO) - Emerging Security Challenges Division,** 300000 Euro, 68000 for NCSR Demokritos (Associate Scientific Director)*
2019-2022	*Nano4CSP: Nanomaterials for reduced maintenance costs in Concentrated Solar Power plants, **Solar-ERANET,** 770 000 Euro (Coordinator)*
2020	***EUvsVirus Hackathon** winner under "Fast and reliable Virus tests" (Team Leader)*
2020-2021	*"Development of a DNA biosensor with the use of low dimensional materials", in collaboration with NTUA, European Structural and Investment Funds, Partnership Agreement for the Development Framework 2014-2020, 50 000 Euro (Co-Supervisor)*
2019	*Advanced Training Course "Spintronics Radar Detectors", **NATO** - Science for Peace and Security, 50 000 Euros (Co Organiser)*
2013-2015	*STIMULATE: Stimulating Public attitude towards Advanced Materials, **FP7, NMP**, CSA/SA **1,87 million** Euro (432290 Euros for NCSR Demokritos), to uncover the enabling role of advanced materials research to the European public (Subcoordinator)*
2011-2014	*"INOVBIOMASS: Development of new material from waste biomass for hydrocarbons adsorption in aquatic environments" Greek Program "**Thalis**", in collaboration with the University of Piraeus*
2012-2015	*"Development of High Performance Alumina Matrix Nanostructured Composites" Greek Program "Thalis", in collaboration with the NTUA*
2008-2012	*NANOSOURCE, **FP7-PEOPLE-IAPP**, within the frame of a Marie Curie, Industry-Academia Partnerships and Pathways, with a total budget of 1,1million euro (**170000** Euro for NCSR Demokritos), for electron microscopy*
2007, 2009	*4-month Marie Curie Research Fellowship (experienced researcher, 10+ years of experience) by the European Commission and the **University of Cyprus***
2005-2007	*Agreement with the Crolles Alliance **(STMicroelectronics, NXP Semiconductors, Freescale)** for advanced structural characterisation (TEM) worth 30000 Euro*

- ➢ Research Activities
- ♦ Educational Activities
- • Administrative info

2004-2005	*1-year Program **ENTER 2004** for the integration in the Greek research system of distinguished researchers from abroad.*
2002-2004	*2-year Program **ENTER** for the integration in the Greek research system of distinguished researchers from abroad.*
2000-2001	*1-year Marie Curie Research Fellowship (FP5, Industry Host) from the European Union and **STMicroelectronics***
1996-1999	*3-year Marie Curie (or **TMR**) Research Fellowship, from the European Union – FP4 (success rate 10%)*
1995-1996	*3-year fellowship from the University of Liverpool for work in the Semiconductor Group.*

Scientific Publications

All the numbered publications have been peer-reviewed

1. Nylon microplastic interactions with thorium: An alternative pathway of actinide sorption, Ioannis Ioannidis, Micheal Arkas, Konstantinos Giannakopoulos, Vasiliki Kinigopoulou, Ioannis Anastopoulos, Mariusz Barczak, Dimitrios A. Giannakoudakis, Ioannis Pashalidis, **Journal of Molecular Liquids**, Volume 436, 15 October 2025, 128266 https://doi.org/10.1016/j.molliq.2025.128266

2. *Development and Characterization of Sustainable Antimicrobial Food Packaging Films with Incorporated Silver Nanoparticles Synthesized from Olive Oil Mill By-Products, Gkaliouri, C.M.; Rigopoulos, N.; Ioannou, Z.; Giaouris, E.; Giannakopoulos, K.P.; Ellinas, K.,* ***Sustainability*** *2025, 17, 8916. https://doi.org/10.3390/su17198916*

3. Solvent Effect on Antimicrobial Hydrophilic Xerogel Coating of Medicinal Leathers in Simulated Industrial Finishing Process, Theofanis Bompotis, Eirini Karastergiou, Konstantinos Giannakopoulos, Evangelos P. Favvas, Marina Arvanitopoulou, Konstantinos Arvanitopoulos, Labros Arvanitopoulos, Georgia Kytherioti, Michail Vardavoulias, Dimitrios A. Giannakoudakis, Laura Castellsagués, Sara Maria Soto González., Michael Arkas, **ChemPlusChem** 2025, e202400648 https://chemistry-europe.onlinelibrary.wiley.com/doi/10.1002/cplu.202400648

4. Superhydrophilic Titania Coatings on Glass Substrates via the Hydrosol Approach, Theodorakopoulos, G.V.; Arfanis, M.K.; Mouti, N.; Kaidatzis, A.; Mitterer, C.; Giannakopoulos, K.; Falaras, P. **selected for the cover page** of **Surfaces** 2025, 8, 5. https://doi.org/10.3390/surfaces8010005

5. Spark Discharge Aerosol-generated copper-based nanoparticles: Structural & optical properties; application on the antiviral (SARS-CoV-2) and antibacterial improvement of face masks, K. Giannakopoulos, M. Lasithiotakis, Ch. Karakasis, M. Gini, S. Gardelis, I. Karakasiliotis, N. Mouti, Y. Xesfyngi, G. K. Manolis, M. Georgoutsou-Spyridonos, M. Dimitriou, K. Eleftheriadis, **ChemPlusChem,** 2024, http://dx.doi.org/10.1002/cplu.202400194

6. Supreme Capture of Europium(III) by Silica-Hyperbranched Poly(ethylene imine) Composites from Aqueous Solutions - A Mechanistic Study, Ioannis Ioannidis, Efi Aristotelous, Ioannis Pashalidis, Carsten Dosche, Konstantinos Giannakopoulos, Eirini Karastergiou, Michael Arkas, **Journal of Molecular Liquids,** Volume 410, 15 September 2024, 125628 https://doi.org/10.1016/j.molliq.2024.125628

7. Optimizing Fabrication and Performance of Liquid-Processed Carbon Nanotube Photodetectors on Various Substrates, Skarlatos D., Lionas V, Velessiotis D., Pilatos G., Giannakopoulos K., Kyriakis, A., Glezos, N., **Applied Research** 2024 e202300121, http://doi.org/10.1002/appl.202300121

8. Reactively-sputtered super-hydrophilic ultra-thin titania films deposited at 120 °C Andreas Kaidatzis, Nafsika Mouti, Michalis Arfanis, Giorgos Papadimitropoulos, Christian Mitterer, Polycarpos Falaras, Konstantinos Giannakopoulos, **Materials Research Express**, 10 (2023) 115501, https://doi.org/10.1088/2053-1591/ad0450

9. Photodetectors based on chemical vapor deposition or liquid processed multi-wall carbon nanotubes, V. Lionas, D. Velessiotis, G. Pilatos, Th Speliotis, K. Giannakopoulos, A. Kyriakis, D. Skarlatos, N. Glezos, **Optical Materials** 143 (2023) 114283, https://doi.org/10.1016/j.optmat.2023.114283

- Research Activities
- Educational Activities
- Administrative info

10. Hybrid Silica Xerogel and Titania/Silica Xerogel Dispersions, Reinforcing Hydrophilicity and Antimicrobial Resistance of Leathers, Michael Arkas, Theofanis Bompotis, Konstantinos Giannakopoulos, Evangelos P. Favvas, Marina Arvanitopoulou, Konstantinos Arvanitopoulos, Labros Arvanitopoulos, Georgia Kythreoti, Michail Vardavoulias, Dimitrios A. Giannakoudakis, Laura Castellsagués and Sara Maria Soto González, **Gels** 2023, 9, 685 https://doi.org/10.3390/gels9090685

11. Comparative Study of the U(VI) Adsorption by Hybrid Silica-Hyperbranched Poly(ethyleneimine) Nanoparticles and Xerogels, Michael Arkas, Konstantinos Giannakopoulos, Evangelos P. Favvas, Sergios Papageorgiou, George V. Theodorakopoulos, Artemis Giannoulatou, Michail Vardavoulias, Dimitrios A. Giannakoudakis, Konstantinos S. Triantafyllidis , Efthalia Georgiou and Ioannis Pashalidis, **Nanomaterials** 2023, 13, 1794 https://doi.org/10.3390/nano13111794

12. A comprehensive investigation on the sorption of U(VI) and Eu(III) by polyamide microplastics: Surface-assisted microparticle formation, Ioannis Ioannidis, Ioannis Anastopoulos, Konstantinos Giannakopoulos, Michael Arkas, Carsten Dosche, Ioannis Pashalidis, **Journal of Molecular Liquids**, Volume 368, Part B, 15 December 2022, 120757 **βραβεύτηκε** από το Πανεπιστήμιο Κύπρου ως η καλύτερη δημοσίευση για το 2022 στα πλαίσια διδακτορικής διατριβής για τον υποψήφιο διδάκτορα Ιωάννη Ιωαννίδη https://doi.org/10.1016/j.molliq.2022.120757

13. Hydrophilic Antimicrobial Coatings for Medical Leathers from Silica-Dendritic Polymer-Silver Nanoparticle Composite Xerogels, Michael Arkas, Georgia Kythreoti, Evangelos P. Favvas, Konstantinos Giannakopoulos, Nafsica Mouti, Marina Arvanitopoulou, Ariadne Athanasiou, Marilina Douloudi, Eleni Nikoli, Michail Vardavoulias, Marios Dimitriou, Ioannis Karakasiliotis, Victoria Ballén and Sara M. Soto, Front page article in **Textiles**, 2022, 2, 464–485 https://doi.org/10.3390/textiles2030026

14. Additional Data on the Investigation of the Reaction Mechanisms for the Production of Silica Hyperbranched Polyethylene Imine Silver Nanoparticle Composites, Michael Arkas; Marilina Douloudi; Eleni Nikoli; Georgia Karountzou; Ioanna Kitsou; Eleni Kavetsou; Dimitrios Korres; Stamatina Vouyiouka; Athena Tsetsekou; Konstantinos Giannakopoulos; Michaela Papageorgiou **Data in Brief**, Volume 43, August 2022, 108374 https://doi.org/10.1016/j.dib.2022.108374

15. Investigation of two Bioinspired Reaction Mechanisms for the Optimization of Nano Catalysts Generated from Hyperbranched Polymer Matrices, M.Arkas, M.Douloudi, E.Nikoli, G.Karountzou, I.Kitsou, E.Kavetsou, D.Korres, S.Vouyiouka, A.Tsetsekou, K.Giannakopoulos, M.Papageorgiou, **Reactive and Functional Polymers**, Volume 174, May 2022, 105238 https://doi.org/10.1016/j.reactfunctpolym.2022.105238

16. Improved Surface-Enhanced-Raman Scattering Sensitivity Using Si Nanowires/Silver Nanostructures by a Single Step Metal-Assisted Chemical Etching, Ioannis Kochylas, Spiros Gardelis, Vlassis Likodimos, Konstantinos P Giannakopoulos, Polycarpos Falaras, Androula G Nassiopoulou, **Nanomaterials**, 2021, 11 (7), 1760 https://doi.org/10.3390/nano11071760

17. Capping technique for chemical vapor deposition of large and uniform MoS2 flakes, Menelaos Charalampos Tsigkourakos; Maria Kainourgiaki; Evangelos Skotadis; Konstantinos Giannakopoulos; Dimitris Tsoukalas; Yannis Raptis, **Thin Solid Films**, Volume 733, 1 September 2021, 138808 https://doi.org/10.1016/j.tsf.2021.138808

18. Effect of Pt nanoparticle decoration on the H2 storage performance of plasma-derived nanoporous graphene, Nikolaos Kostoglou, Chi-Wei Liao, Cheng-Yu Wang, Junko N. Kondo, Christos Tampaxis, Theodore Steriotis, Konstantinos Giannakopoulos, Athanassios G. Kontos, Steve Hinder, Mark Baker, Etienne Bousser, Allan Matthews, Claus Rebholz, Christian Mitterer, **Carbon**, Volume 171, January 2021, Pages 294-305 https://doi.org/10.1016/j.carbon.2020.08.061

19. Room Temperature Growth of Ultra-Porous Hot-Wire Deposited Tantalum Pentoxide, Giorgos Papadimitropoulos, Maria Vasilopoulou, Nikos Vourdas, Dimitris N. Kouvatsos, Kostas Giannakopoulos, Stella Kennou, Dimitris Davazoglou, **Advanced Materials Letters**, 2019, 10(6), 395-399 http://dx.doi.org/10.5185/amlett.2019.2283

20. Atomic Layer Deposited Al2O3 thin films as humidity barrier coatings for nanoparticle-based strain sensors, Patsiouras Lampros, Skotadis Evangelos, Gialama Niovi, Drivas Charalampos, Kennou Stella, Giannakopoulos Konstantinos, Tsoukalas Dimitris, **Nanotechnology,** 29 (46), 465706, 2018 https://doi.org/10.1088/1361-6528/aaddbe

21. Tuning resistive, capacitive and synaptic properties of forming free TiO2-x-based RRAM devices by embedded Pt and Ta nanocrystals, Panagiotis Bousoulas, Ismini Karageorgiou, Vaggelis Aslanidis, Kostas Giannakopoulos, Dimitris Tsoukalas, **Physica Status Solidi A: Applications and Materials Science** 215 (3) 2018 http://dx.doi.org/10.1002/pssa.201700440

22. Efficient electron injecting layer for PLEDs based on (PLAGH)2[ZnCl4], Miodrag G. Jelić · Dimitra G. Georgiadou · Mirjana M. Radanović · Nebojša Ž. Romčević · Konstantinos P. Giannakopoulos · Vukadin M. Leovac · Laslo F. Nađ · Ljiljana S. Vojinović-Ješić, **Opt Quant Electron** (2016) 48:276 https://doi.org/10.1007/s11082-016-0547-5

23. Characterization of carbon fractal-like aggregates by size distribution measurements and theoretical calculations, M. I. Gini, C. Helmis, A. D. Melas, D. Papanastasiou, G. Orfanopoulos, K. Giannakopoulos, Y. Drossinos & K. Eleftheriadis, **Aerosol Science and Technology**, 2016, VOL. 50, NO. 2, 133–147 https://doi.org/10.1080/02786826.2015.1134763

24. Inert ambient annealing effect on MANOS capacitor memory characteristics, N. Nikolaou,, P. Dimitrakis, P. Normand, D. Skarlatos, K. Giannakopoulos, K. Mergia, K; V. Ioannou-Sougleridis, K. Kukli, J. Niinisto, K. Mizohata, M. Ritala, M. Leskela, **Nanotechnology**, 26 (2015) 134004 (14pp) http://dx.doi.org/10.1088/0957-4484/26/13/134004

25. Synthesis and characterization of mesoporous and superparamagnetic bilayered-shell around silica core particles, MP Nikolić, KP Giannakopoulos, VV Srdić, **Ceramics International** 41 (10), 13480-13485, 2015 https://doi.org/10.1016/j.ceramint.2015.07.139

26. Synthesis of nanoporous graphene oxide adsorbents by freeze-drying or microwave radiation: Characterization and hydrogen storage properties, Nikolaos Kostoglou, Vasilios Tzitzios, Athanassios G Kontos, Konstantinos Giannakopoulos, Christos Tampaxis, Aggeliki Papavasiliou, Georgia Charalambopoulou, Theodore Steriotis, Yuanqing Li, Kin Liao, Kyriaki Polychronopoulou, Christian Mitterer, Claus Rebholz, **International Journal of Hydrogen Energy** 40 (21), 6844-6852, 2015 https://doi.org/10.1016/j.ijhydene.2015.03.053

27. Memory programming of TiO2-x films by Conductive Atomic Force Microscopy evidencing filamentary resistive switching, P. Bousoulas , J. Gianopoulos, K. Giannakopoulos, P. Dimitrakis, D. Tsoukalas, **Applied Surface Science,** 332, 55-61, 2015 https://doi.org/10.1016/j.apsusc.2015.01.133

28. Nitrogen induced modifications of MANOS memory properties, N Nikolaou, V Ioannou-Sougleridis, P Dimitrakis, P Normand, D Skarlatos, K Giannakopoulos, S Ladas, B Pecassou, G BenAssayag, K Kukli, J Niinistö, M Ritala, M Leskelä, **Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms,** Volume 365, Part A, 15 December 2015, Pages 61–65, 2015 https://doi.org/10.1016/j.nimb.2015.04.015

29. Temperature dependent retention characteristics of ion-beam modified SONOS memories, DP Simatos, P Dimitrakis, P Normand, N Nikolaou, K Giannakopoulos, S Ladas, B Pecassou, G BenAssayag, V Ioannou-Sougleridis,

Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms, Volume 365, Part A, 15 December 2015, Pages 66–69, 2015 https://doi.org/10.1016/j.nimb.2015.04.007

30. Influence of synthesis conditions on formation of core-shell titanate-ferrite particles and processing of composite ceramics, Bojana Mojić-Lanté, Jelena Vukmirović, Konstantinos P. Giannakopoulos, Devendraprakash Gautam, Akos Kukovecz, Vladimir V. Srdić,, **Ceramics International**, 41 (1), 1437-1445, 2015 https://doi.org/10.1016/j.ceramint.2014.09.076

31. Steps in growth of Nb-doped layered titanates with very high surface area suitable for water purification, M Milanović, LM Nikolić, I Stijepović, AG Kontos, KP Giannakopoulos, **Materials Chemistry and Physics,** 148 (2014), pp. 874-881 https://doi.org/10.1016/j.matchemphys.2014.08.064

32. Sol-gel synthesized, low-temperature processed, reduced molybdenum peroxides for organic optoelectronics applications, Antonios M. Douvas, Maria Vasilopoulou, Dimitra G. Georgiadou, Anastasia Soultati, Dimitris Davazoglou, Nikolaos Vourdas, Konstantinos P. Giannakopoulos, Athanassios G. Kontos, Stella Kennou and Panagiotis Argitis, **Journal of Materials Chemistry C,** 2014, 2, 6290 https://doi.org/10.1039/C4TC00301B

33. The Influence of Stoichiometry and Annealing Temperature on the Properties of CuIn0.7Ga0.3Se2 and CuIn0.7Ga0.3Te2 Thin Films, Songul Fiat, Panagiota Koralli, Emin Bacaksiz, Konstantinos P Giannakopoulos, Michael G. Kompitsas, Dimitrios E Manolakos, Guven Kankaya, **Thin Solid Films**,*545 (2013) 64–70 http://dx.doi.org/10.1016/j.tsf.2013.07.032*

34. The effect of oxygen source on atomic layer deposited Al2O3 as blocking oxide in metal/aluminum oxide/nitride/oxide/silicon memory capacitors, Nikolaos Nikolaou, Vassilios Ioannou-Sougleridis, Panagiotis Dimitrakis, Pascal Normand, Dimitrios Skarlatos, Konstantinos Giannakopoulos, Kaupo Kukli, Jaakko Niinistö, Mikko Ritala, Markku Leskelä, **Thin Solid Films**, 533, 5 (2013) https://doi.org/10.1016/j.tsf.2012.10.137

35. Structure and magnetic properties of Zn1–xInxFe2O4 and ZnYxFe2–xO4 nanoparticles prepared by coprecipitation, Marija Milanović, Evagelia G. Moshopoulou, Dimosthenis Stamopoulos, Eamonn Devlin, Konstantinos P. Giannakopoulos, Athanassios G. Kontos, Kostas Eleftheriadis, Maria I. Gini, Ljubica M. Nikolić, **Ceramics International,** (2013), vol. 39, 3, 3235-3242 https://doi.org/10.1016/j.ceramint.2012.10.011

36. High strain sensitivity controlled by the surface density of platinum nanoparticles, JL Tanner, D Mousadakos, K Giannakopoulos, E Skotadis, D Tsoukalas, **Nanotechnology,** 2012, 23 (28), 285501 http://dx.doi.org/10.1088/0957-4484/23/28/285501

37. Hot-wire deposited substoichiometric tungsten oxide films with n-type conductivity, Kostis, L. Michalas, M. Vasilopoulou, N. Konofaos, G. Papaioannou, A. A. Iliadis, S. Kennou, K. Giannakopoulos, G. Papadimitropoulos and D. Davazoglou, **J. Phys. D: Appl. Phys.** 2012, 45, 445101 http://dx.doi.org/10.1088/0022-3727/45/44/445101

38. Silica coated ferrite nanoparticles: Influence of citrate functionalization procedure on final particle morphology, Bojana Mojic; Konstantinos P Giannakopoulos; Željka Cvejić, Vladimir VSrdić, **Ceramics International**, 38 (2012) 6635–6641. One of my TEM images of this work appearsin the **front page** of this issue. https://doi.org/10.1016/j.ceramint.2012.05.050

39. Synthesis and characterization of silica core/nano-ferrite shell particles, Milan P. Nikolic, Konstantinos P. Giannakopoulos, Dimosthenis Stamopoulos, Evagelia G. Moshopoulou, Vladimir V. Srdic, **Materials Research Bulletin**, Volume 47, Issue 6, June 2012, Pages 1513–1519 https://doi.org/10.1016/j.materresbull.2012.02.034

➢ Research Activities
♦ Educational Activities
• Administrative info

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