

# George Kenanakis - Curriculum vitae<sup>1</sup>

## Personal data

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Name : George Kenanakis

Studies : Chemical Engineer, M.Sc., Ph.D.

Marital status : Married, 1 child

Nationality : Greek

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Researcher ID: <http://www.researcherid.com/rid/G-1283-2010>

## Education

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2011	Ph.D.	Institute :	University of Crete, Faculty of Sciences, Chemistry department. <i>Ph.D. dissertation: "Synthesis of ZnO and TiO<sub>2</sub> thin films and nanostructures using chemical techniques and study of their photocatalytic properties".</i>
2007	M.Sc.	Institute :	University of Crete, Faculty of Sciences, Chemistry department. Postgraduate Program in "Environmental Protection Technologies". <i>Grade scholarship prize during the postgraduate program "Environmental Protection Technologies".</i> M.Sc. dissertation: "Synthesis of ZnO nanostructures using aqueous solutions and study of their ozone sensing properties"
2003	B. Eng. (Chem.) & M.Sc.Eng. (Chem.)	Institute :	Aristotle University of Thessaloniki, Faculty of Engineering, Chemical Engineering department. <i>Diploma thesis: "The use of industrial minerals as soil enhancers in acidic soils".</i>

## Current position

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Principal Researcher in Foundation for Research and Technology - Hellas (FORTH) - Institute of Electronic Structure and Laser (IESL), in the field of "Photonic metamaterials and devices", since 02/12/20.

## Work experience

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Self employed chemical engineer from 30/10/2003 to 10/11/2016.

Registered chemical engineer in Prefecture of Lasithi's records since 17/09/2004.

Registered engineer in Greek Ministry of Environment, Energy and Climate change (ID No. 22384) since 01/06/2010.

Advanced auditor in Environmental Management Systems (ISO 14001) of TUV HELLAS since 20/12/04.

Advanced auditor in Quality Management Systems (ISO 9001) of EUROCERT since 10/07/05.

Collaborating researcher in Foundation for Research and Technology - Hellas (FORTH) - Institute of Electronic Structure and Laser (IESL), 01/01/06 - 03/11/16.

Assistant Researcher (Researcher C') in Foundation for Research and Technology - Hellas (FORTH) - Institute of Electronic Structure and Laser (IESL), in the field of "Photonic metamaterials and devices", 04/11/16 - 02/12/20.

Collaborating researcher in Center of Materials Science and Photonics of School of Applied Technology, Hellenic Mediterranean University (HMU), former Technological Educational Institute (TEI) of Crete, since 01/09/06.

Accredited instructor registered in Hellenic Food Authority of Greek Ministry of Health and Social Solidarity (E.F.E.T.); (ID No. 631).

Accredited instructor registered in Greek National Centre for Public Administration and Local Government (E.K.D.D.A.);

(ID No. 9088, Decision No: 4466-21/05/2019)

Cognitive subjects: environment (a), and research, design and evaluation of educational programs (b).

Accredited instructor registered in Manpower Agency of Greece (O.A.E.D.); (ID No. 28894).

## Administrative experience

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20/02/10 - 30/06/10 Member of Quality Assurance Unit (QAU - MODIP) of Hellenic Mediterranean University (HMU), former Technological Educational Institute (TEI) of Crete, according to provisions of L.4009/2011 and the decision no 27/27-03-2009 made by the Committee of the Institute.

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<sup>1</sup>Last update: February 2021

## Teaching experience

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### University of Crete

- ❖ Winter semester 2018 - Teaching of the theoretical lecture "Introduction to the study of proteins and biomolecules through infrared (FT-IR) and Raman spectroscopy", as part of the course "Structural Biotechnology" of the inter-disciplinary Postgraduate Program based on Protein Biotechnology organized by the departments of Biology and Chemistry at the University of Crete.

### Hellenic Mediterranean University (HMU), former Technological and Educational Institute (TEI) of Crete

Lecturer at the School of Applied Technology of the Technological and Educational Institute of Crete since 20/02/06.

- ❖ 07/10/13 - 28/02/14 Teaching of the theoretical course "Plastic's technology" in Mechanical Engineering department.
- ❖ 21/02/11 - 31/07/13 Teaching of the laboratorial course "Environmental technology" in Electrical Engineering department.
- ❖ 21/02/11 - 31/07/13 Teaching of the laboratorial course "Structural Materials" in Civil Engineering department.
- ❖ 23/02/09 - 30/06/09 Teaching of the laboratorial course "Chemical Technology" in Mechanical Engineering department.
- ❖ 01/10/07 - 15/02/08 Teaching of the theoretical course "Material's Science and Engineering" in Mechanical Engineering department.
- ❖ 01/10/07 - 24/02/12 Teaching of the theoretical course "Material's Science and Engineering" in Electrical Engineering department.
- ❖ 01/10/07 - 14/02/14 Teaching of the laboratorial course "Electrochemistry and Material's Science" in Electrical Engineering department.
- ❖ 01/10/07 - 27/06/08 Teaching of the theoretical course "Chemical Technology" in Civil Engineering department.
- ❖ 20/02/06 - 28/02/15 Teaching of the laboratorial course "Material's Technology" in Mechanical Engineering department.

## Advisor/Supervision of students, and post-docs

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### ▪ Post Doctorates (Post Docs)

04. Dr. A. Tasolamprou (2020 - currently), *Numerical simulations of advanced building components based on Phase Change Materials (PCMs), with low heating/cooling requirements, and electromagnetic shielding from wireless radiation*, IESL - FORTH.
03. Dr. V. Papadakis (2017 - currently), *FT-IR and Raman spectroscopy on biomedical samples*, IESL - FORTH.
02. Dr. Z. Viskadourakis (2016 - currently), *Metal Oxide nano-composites, via 3D printing and chemical syntheses, with novel environmental applications*, IESL - FORTH.
01. Dr. K. C. Vasilopoulos (2016 - 2017), *Electromagnetic shielding effectiveness of 3D printed polymer composites*, IESL - FORTH.

### ▪ Research Associates

01. Ms. C. Katsara (2019 - currently), *Spectroscopic analysis and characterization of biological samples (using FT-IR and Raman spectroscopy)*, IESL - FORTH.

### ▪ Doctorates (Ph.D.'s)

02. N. Vrithias, *3D composite porous materials for environmental applications*, Ph.D., Materials Science & Technology dept., University of Crete (on going work).
01. M. Sevastaki, *Three-dimensional ceramic and polymer composites with environmental applications*, Ph.D., Chemistry dept., University of Crete (on going work).

### ▪ Masters (M.Sc.'s)

08. D. Mentzaki, *3D printed metamaterials for electromagnetic applications*, M.Sc. Materials Science & Technology dept., University of Crete (2019).
07. E. Petromichelaki, *Chemical synthesis of ZnO nanostructures, following environmental friendly approaches, and study of their structural and optical properties*, M.Sc. Materials Science & Technology dept., University of Crete (2019).
06. I. Heliadis, *Chemical synthesis of zinc oxide (ZnO) powders and study of their photocatalytic efficiency against methylene blue degradation in aqueous solutions*, M.Sc., Chemistry dept., University of Crete (2010), co-supervision with Prof. N. Katsarakis, Electrical Engineering dept., Hellenic Mediterranean University (HMU), former Technological Educational Institute (TEI) of Crete.
05. I. Vamvasakis, *Chemical synthesis of tungsten oxide (WO<sub>3</sub>) powders and study of their photocatalytic efficiency against methylene blue degradation in aqueous solutions*, M.Sc., Chemistry dept., University of Crete (2010), co-supervision with Prof. N. Katsarakis, Electrical Engineering dept., Hellenic Mediterranean University (HMU), former Technological Educational Institute (TEI) of Crete.
04. A. Psaroudakis, *Chemical synthesis of titanium oxide (TiO<sub>2</sub>) powders, doped with iron (Fe<sup>2+/3+</sup>) and study of their photocatalytic efficiency against methylene blue degradation in aqueous solutions*, M.Sc., Chemistry dept., University of Crete (2010), co-supervision with Prof. N. Katsarakis, Electrical Engineering dept., Hellenic Mediterranean University (HMU), former Technological Educational Institute (TEI) of Crete.

03. M. Michailidis, *A study of the photocatalytic efficiency of ZnO and TiO<sub>2</sub> nano-powders against various pollutants*, M.Sc., Chemistry dept., University of Crete (2009), co-supervision with Prof. N. Katsarakis, Electrical Engineering dept., Hellenic Mediterranean University (HMU), former Technological Educational Institute (TEI) of Crete.
02. Z. Gianakoudakis, *Chemical deposition of Al-doped ZnO thin films (Zn<sub>1-x</sub>Al<sub>x</sub>O); Study of their photocatalytic efficiency against stearic acid's degradation*, M.Sc., Chemistry dept., University of Crete (2009) co-supervision with Prof. N. Katsarakis, Electrical Engineering dept., Hellenic Mediterranean University (HMU), former Technological Educational Institute (TEI) of Crete.
01. N. Lironi, *Study of the photocatalytic efficiency of ZnO and TiO<sub>2</sub> thin films on polymer substrates*, M.Sc., Material Science and Technology dept., University of Crete (2008), co-supervision with Prof. N. Katsarakis, Electrical Engineering dept., Hellenic Mediterranean University (HMU), former Technological Educational Institute (TEI) of Crete.

▪ **Undergraduate Senior Theses**

27. Th. Zavalis, *Chemical synthesis of Barium Titanate thin films for Nonvolatile Memory Applications*, Physics dept., University of Crete (on going work).
26. Chrysanthi Kolovou, *Microwave gratings and waveguides composed of high dielectric resonators*, Chemistry dpt., University of Crete (on going work)
25. P. Kastriti, *Expanded Perlite-based polymeric structures for thermal insulating applications*, Materials Science & Technology dept., University of Crete (on going work).
24. V. Mouzi, *3D printed metamaterials for microwave energy harvesting devices*, Materials Science & Technology dept., University of Crete (on going work).
23. A. Tzeiranidi, *3D printed photocatalysts, against everyday-use pollutants*, Materials Science & Technology dept., University of Crete (on going work).
22. A. Drymiskianaki, *3D printed polymeric samples for thermoelectric applications*, Physics dept., University of Crete (2020).
21. Ev. Tamiolakis, *3D printed metamaterial-based energy harvesting systems*, Physics dept., University of Crete (2020).
20. G. Fanourakis, *3D printed polymeric metamaterial samples with novel applications*, Physics dept., University of Crete (2019).
19. D. Kosmidis, *3D printed polymeric samples with novel applications*, Chemistry dept., University of Crete (2017).
18. D. Mentzaki, *Metabaterial-based sensors operating in microwaves*, Materials Science & Technology dept., University of Crete (2016), co-supervision with Prof. M. Kafesaki, Materials Science & Technology dept., University of Crete.
17. A. Arvanitakis, *Study of management and reuse dairy waste*, Electrical Engineering dept., Hellenic Mediterranean University (HMU), former Technological Educational Institute (TEI) of Crete (2014).
16. Th. Demertzis, *Environmental impacts from the production and use of chemical detergents and soaps*, Electrical Engineering dept., Hellenic Mediterranean University (HMU), former Technological Educational Institute (TEI) of Crete (2013).
15. Th. Leontarakis, *Waste combustion technologies; Specifications and financial data*, Mechanical Engineering dept., Hellenic Mediterranean University (HMU), former Technological Educational Institute (TEI) of Crete (2013).
14. A. Ninos, *Treatment and reuse of winery waste*, Mechanical Engineering dept., TEI of Crete (2013).
13. M. Konsolaki, *Biological and environmental impact of the electricity transmission networks*, Electrical Engineering dept., Hellenic Mediterranean University (HMU), former Technological Educational Institute (TEI) of Crete (2013).
12. C. Galanoulis, *Environmental impact of photovoltaics*, Electrical Engineering dept., Hellenic Mediterranean University (HMU), former Technological Educational Institute (TEI) of Crete (2013).
11. G. Dourountakis, *Environmental impacts of biomass thermal processing*, Electrical Engineering dept., Hellenic Mediterranean University (HMU), former Technological Educational Institute (TEI) of Crete (2012).
10. D. Kalogridakis, *Environmental impacts of hospital waste*, Electrical Engineering dept., Hellenic Mediterranean University (HMU), former Technological Educational Institute (TEI) of Crete (2011).
09. M. Glada, *Study of management and disposal of ships waste*, Electrical Engineering dept., Hellenic Mediterranean University (HMU), former Technological Educational Institute (TEI) of Crete (2011).
08. C. Georgakarakos, *Processing and exploitation of oil mill wastewater*, Mechanical Engineering dept., Hellenic Mediterranean University (HMU), former Technological Educational Institute (TEI) of Crete (2011).
07. M. Vachatsakis, *Deposition of Zn<sub>1-x</sub>Al<sub>x</sub>O (x = 0.0-5.0) thin films using ultrasonic spray pyrolysis (USP); Study of structural, morphological, optical and electrical properties*, Electrical Engineering dept., Hellenic Mediterranean University (HMU), former Technological Educational Institute (TEI) of Crete (2010).
06. C. Chatzis, *Deposition of Zn<sub>1-x</sub>Al<sub>x</sub>O (x = 0, 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 4.0, 5.0) thin films using the sol-gel technique; Study of the conductivity as a function of the stoichiometry*, Electrical Engineering dept., TEI of Crete (2010), co-supervision with Prof. N. Katsarakis, Electrical Engineering dept., Hellenic Mediterranean University (HMU), former Technological Educational Institute (TEI) of Crete.
05. N. Kaklamanos, *Chemical deposition of titanium dioxide (TiO<sub>2</sub>) thin films on glass substrates; Study of their photocatalytic and self-cleaning properties*, Civil Engineering dept., TEI of Crete (2010), co-supervision with Prof. N. Katsarakis, Electrical Engineering dept., Hellenic Mediterranean University (HMU), former Technological Educational Institute (TEI) of Crete.
04. G. Kamitsas, *Photocatalytic degradation of methylene blue using titanium dioxide (TiO<sub>2</sub>) thin films*, Mechanical Engineering

dept., TEI of Crete (2013), co-supervision with Prof. N. Katsarakis, Electrical Engineering dept., Hellenic Mediterranean University (HMU), former Technological Educational Institute (TEI) of Crete.

03. N. Kampitakis, *Chemical deposition of SiO<sub>2</sub>/TiO<sub>2</sub> bilayers on glass and study of their optical and photocatalytic properties*, Civil Engineering dept., TEI of Crete (2010), co-supervision with Prof. N. Katsarakis, Electrical Engineering dept., Hellenic Mediterranean University (HMU), former Technological Educational Institute (TEI) of Crete.
02. M. Egglezakis, *Electrical conductivity/photoconductivity measurements of ZnO thin films deposited by chemical methods using aqueous solutions*, Electrical Engineering dept., TEI of Crete (2009), co-supervision with Prof. N. Katsarakis, Electrical Engineering dept., TEI of Crete.
01. P. Milionis, *Synthesis of ZnO nanostructures and study of their photoconductivity*, Civil Engineering dept., TEI of Crete (2009), co-supervision with Prof. N. Katsarakis, Electrical Engineering dept., Hellenic Mediterranean University (HMU), former Technological Educational Institute (TEI) of Crete.

## Research interests

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Interdisciplinary research interests ranging between applied physics and electromagnetism to chemical synthesis of materials and structural characterization and instrumentation.

Specifically,

- ❖ Electromagnetic wave propagation in composite media, with emphasis on metamaterials, photonic crystals, plasmonic structures, and random dielectric and metalodielectric systems.
- ❖ Design and simulation of both passive and dynamically controllable chiral metamaterials, as well as electromagnetic characterization of such metamaterials in microwaves and IR
- ❖ Realization/calculation of Casimir force between chiral metamaterials.

and

- ❖ Synthesis and study of metal oxide thin films and nanostructures of (ZnO, InO<sub>x</sub>, WO<sub>3</sub>, TiO<sub>2</sub>, SiO<sub>2</sub>, VO<sub>2</sub>) emphasized in:
  - (a) photocatalysis of organic pollutants in liquid and gas phase,
  - (b) growth of novel metal oxide coatings with self-cleaning properties,
  - (c) growth of thermoelectric, thermochromic and electrochromic materials.

and

- ❖ 3D printing/additive manufacturing of polymeric nanostructures with multifunction properties:
  - (a) 3D printed circuits and electronics,
  - (b) Energy harvesting prototypes, using existing EM radiation (e.g. GSM, FM, WiFi),
  - (c) 3D printed flexible electrodes for batteries,
  - (d) Large scale 3D photocatalytic/self-cleaning filters and devices,
  - (e) Industrial scale thermoelectric devices, for potential applications in random access memory devices etc.

*The interaction between the synthesis of metal oxides using chemical techniques, and the electromagnetic properties of such materials, leads to metamaterials for novel applications such as perfect absorbers, electromagnetic shielding etc.*

- ❖ Indeed, during the last year we are working, both theoretically and experimentally, on perfect absorbers based on Metal-Insulator-Metal (MIM) structures consisting of metal and ZnO or TiO<sub>2</sub>, SiO<sub>2</sub>, etc. multilayers, tuning their absorption peaks by selecting optimum dielectric spacer, which find application in thermovoltaic and photovoltaic solar cells and optics. This way, we are exploring to what extent it is possible to manage the solar light efficiency using semiconductor metamaterials perfect absorbers/emitters integrated with solar devices (infrared detection, sensors, LEDs).
- ❖ Another field of interest stands on plasmonic metamaterials, tuning their absorption spectra by selecting optimum geometry. Such way, we study potential use of such plasmonic metamaterials in optics and microscopy beyond the diffraction limit using Luneburg and Eaton lenses that interact with surface plasmon polaritons, rather than photons. In addition, plasmonic metamaterials can improve the mechanical, optical and electromagnetic properties of sensors; several metamaterial designs with sharp Fano resonances are studied as potential sensors/bio-sensors, both theoretically and experimentally, from GHz to THz regime.
- ❖ Moreover, the electromagnetic shielding effectiveness of either flexible polymeric membranes, or porous ceramics, or even paint-like nanocomposite layers is yet another hot topic of interest, since they offer quite effective electromagnetic shielding, similar or even better than that of commercial products, depending on their thickness and electrical resistivity. Several conducting metal oxides (such as ZnO, Al-doped ZnO, Indium Tin oxide, etc.), and carbon nanomaterials such as carbon nanotubes, graphene oxide and graphene nanoplatelets, are used, while various ferrites e.g.  $\gamma$ -Fe<sub>2</sub>O<sub>3</sub>, Fe<sub>3</sub>O<sub>4</sub>, and other thermoelectrics, are considered as tunable EMI shielding materials under thermal excitation.
- ❖ Finally, energy harvesting and the conversion of microwave signal to electrical power is a hot topic, due largely to the increasing demand of wireless charging for portable electronic devices and electric vehicles. We are focusing on the implementation of magnetic metamaterials in a wireless power transfer (WPT) system with different designs. We are close to the fabrication of samples and the experimental verification that the power transfer efficiency can be improved significantly by a metamaterial.

## Scientific output and impact

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79 papers in peer reviewed journals, more than 1431 citations, h-index: 23 (Web of Science), 9 conference proceedings, 4 book chapters, more than 100 participations in National and International Conferences, 5 invited and plenary talks.

## **Research experience - List of funded projects as Coordinator or Partner**

Interdisciplinary experience and background ranging between natural sciences, chemical and structural characterization, instrumentation, technologies and electromagnetism.

- 01/01/06 – today Foundation for Research and Technology - Hellas (FORTH), Institute of Electronic Structure and Laser (IESL), Photonic-, Phononic- and Meta-Materials (PPM) Group (<http://esperia.iesl.forth.gr/~ppm/>)**
- ❖ **SEMI-WEB** (2020 - 2023), “Advanced Energy Upgrading Building Components Containing Phase Change Composites and/or Ceramic Foams with Electromagnetic Shielding Properties”, “Competitiveness, Entrepreneurship and Innovation” (EPAnEK) Operational Programme, Greek General Secretariat for Research and Technology (GSRT), Greece.  
*Role:* Principal Investigator - Coordinator.  
*Total budget:* ~600.000€  
*Budget for IESL-FORTH:* 180.000€
  - ❖ **Antifoul** (2020 - 2023), “Antifouling materials based on TiO<sub>2</sub> for aquaculture applications”, GSRT special actions: Aquaculture – Industrial materials - Open innovation culture, Greek General Secretariat for Research and Technology (GSRT), Greece.  
*Role:* Principal Investigator - Coordinator.  
*Total budget:* ~200.000€  
*Budget for IESL-FORTH:* 40.000€
  - ❖ **Scientist-in-charge of NanoBioPack** (2020 - 2023), “Sustainable food packaging based on essential oils in polymer matrices”, GSRT special actions: Aquaculture – Industrial materials – Open innovation culture, Greek General Secretariat for Research and Technology (GSRT), Greece.  
*Role:* Principal Investigator - Scientist-in-charge.  
*Total budget:* ~600.000€  
*Budget for IESL-FORTH:* 105.000€
  - ❖ **Coordinator of “Novel materials for fish farming nets exhibiting environmental friendly antifouling behavior”** (2020 - 2023), European Maritime and Fisheries Fund - Operational Programme for Greece  
*Role:* Principal Investigator - Coordinator.  
*Total budget:* ~522.000€  
*Budget for IESL-FORTH:* 87.000€
  - ❖ **NPRP11S-1128-170042** (2019 - 2022), “Advanced 3D-sculptured materials for catalysis”, Texas A&M University at Qatar.  
*Role:* Principal Investigator.  
*Total budget:* 156.000 €  
*Budget for IESL-FORTH:* 65.000€
  - ❖ **PANTHEON** (2019 - 2023), “Novel Approaches for Plant Health Monitoring”, Marie Skłodowska-Curie Actions: Research and Innovation Staff Exchange (RISE) Call: H2020-MSCA-RISE-2018, H2020.  
*Role:* Research-Partner.
  - ❖ **Coordinator of POLY-SHIELD** (2018 - 2021), “Polymeric Nanocomposites for Electromagnetic Shielding applications”, “Competitiveness, Entrepreneurship and Innovation” (EPAnEK) Operational Programme, Greek General Secretariat for Research and Technology (GSRT), Greece.  
*Role:* Principal Investigator - Coordinator.  
*Total budget:* ~1.000.000.000€  
*Budget for IESL-FORTH:* 225.000€
  - ❖ **VisorSURF** (01/01/2017 - 30/06/2020), “A Hardware Platform for Software-driven Functional Metasurfaces”, H2020 - FET Open research and innovation actions.  
*Role:* Research-Partner.
  - ❖ **PHOTOMETA** (01/03/13 - 28/02/18), “PHOTOnic METAMaterials: From Basic Research to Applications”, ERC Advanced Grant 2012.  
*Role:* Research-Partner.
  - ❖ **SolarNano** (01/11/13 - 30/10/15), “Nanostructured plasmonic reflectors for efficient thin film solar cells”, Greece-Germany Bilateral research cooperation.  
*Role:* Research-Partner.
  - ❖ **EXEL** (22/05/12 - 21/09/15), “EXtending ELectromagnetism through novel artificial materials”, ERC-02 by Greek General Secretariat for Research and Technology (GSRT).  
*Role:* Research-Partner.
  - ❖ **COST Action MP0803** (20/10/08 - 21/11/12), “Plasmonic Components and Devices”.  
*Role:* Research-Partner.
  - ❖ **COST Action MP0702** (21/01/08 - 20/01/12), “Towards Functional Sub-wavelength Photonic Structures”.  
*Role:* Research-Partner.
  - ❖ **NIM NIL** (01/09/09 - 31/08/12), “Large Area Fabrication of 3D Negative Index Materials by Nano-Imprint Lithography”, FP7 NMP EU project, Grant Agreement No:228637.  
*Role:* Research-Partner.

- ❖ ECONAM (01/04/08 - 31/03/11), *“Electromagnetic Characterization Of Nanostructured Materials”*, Coordination Action FP7 EU project.  
Role: Research-Partner.
- ❖ ENSEMBLE (01/05/08 - 30/04/12), *“Engineered Self-organized Multi-component structures with novel controllable Electromagnetic functionalities”*, FP7 NMP EU Project, Grant Agreement No: NMP4-SL-2008-213669.  
Role: Research-Partner.
- ❖ PHOME (01/06/08 - 31/05/11), *“PHOtonic MEtamaterials”*, FP7 ICT-FET Open Project, Project No: 213390.  
Role: Research-Partner.
- ❖ PHOREMOST (01/10/04 - 30/09/08), *“PHOtonics to REalize MOlecular Scale Technologies”*, Network of Excellence (NoE) EU project.  
Role: Research-Partner.
- ❖ METAMORHOSE (01/06/04 - 31/05/08), *“METAMaterials ORganised for radio, millimeter wave and PHOtonic Superlattice Engineering”*, Network of Excellence (NoE) EU project.  
Role: Research-Partner.
- ❖ Reinforcement Program of Human Research Manpower - PENED (01/01/06 - 30/04/06), *“Growth of gas sensors”*, co-funded by the European Social Fund and National Resources.  
Role: Research-Partner.

**15/09/05 – today Hellenic Mediterranean University (HMU), former Technological Educational Institute (TEI) of Crete, Center of Materials Science and Photonics of School of Applied Technology (CEMATEP)**  
**(<http://www.teicrete.gr/cmtl/cematep/>)**

- ❖ “Competitiveness, Entrepreneurship and Innovation” (EPAnEK) Operational Programme (10/10/18 - 08/09/2019), *“Construction of pre-composed high organic wastewater treatment plants with a combination of membrane technology (MBR) and bioreinforcement”*, Greek General Secretariat for Research and Technology (GSRT), Greece.  
Role: Research-Partner.
- ❖ G 5477, Science for Peace and Security (SPS) Programme - NATO (2018-2021), *“Nanostructured composite paints for electronics electromagnetic shielding”*.  
Role: Research-Partner.
- ❖ Operational Program “Education and Lifelong Learning”, Action ARCHIMEDES III (06/06/14 - 08/12/14), *“Growth and characterization of novel nanostructured materials suitable for electromagnetic shielding applications in the GHz regime”*, co-funded by the European Social Fund and National Resources.  
Role: Research-Partner.
- ❖ Operational Program “Education and Lifelong Learning”, Action ARCHIMEDES III (01/03/14 - today), *“Advanced low-cost electrochromic windows”*, co-funded by the European Social Fund and National Resources.  
Role: Research-Partner.
- ❖ Operational Program “Education and Lifelong Learning”, Action ARCHIMEDES III (01/09/12 - today), *“Growth of nanostructured metal oxides with enhanced photocatalytic properties under visible radiation”*, co-funded by the European Social Fund and National Resources.  
Role: Research-Partner.
- ❖ Project INTERREG III/A Greece-Cyprus (15/01/07 - 31/05/08), *“Innovative photovoltaic elements and high efficiency photovoltaic systems”*, co-funded by the European Social Fund and National Resources.  
Role: Research-Partner.
- ❖ Project EPEAEK II - ARCHIMEDES I (02/01/07 - 28/02/07), *“Growth of ZnO thin films and their gas-sensing use against oxidizing gases”*, co-funded by the European Social Fund and National Resources.  
Role: Research-Partner.
- ❖ Project EPEAEK II - ARCHIMEDES I (01/09/06 - 31/10/06), *“Growth of thin films and their use in high analysis optical depiction in near infra-red”*, co-funded by the European Social Fund and National Resources.  
Role: Research-Partner.
- ❖ Project EPEAEK II - ARCHIMEDES I (15/09/05 - 31/08/07), *“Semimetal ferromagnets and antiferromagnets”*, co-funded by the European Social Fund and National Resources.  
Role: Research-Partner.

***Publications in refereed journals (in chronological order – oldest to newest)***

84. L. Tympa L, K. Katsara, P. N. Moschou, G. Kenanakis, V. M. Papadakis, *Do microplastics enter our food chain via root vegetables? A Raman based spectroscopic study on Raphanus sativus*, Materials (2021), submitted.
83. Klytaimnistra Katsara, Konstantina Psatha, George Kenanakis, Michalis Aivaliotis, Vassilis M. Papadakis, *Subtyping on live lymphoma cell lines by Raman spectroscopy*, Vib. Spectrosc. (2021), submitted.
82. K. Katsara, G. Kenanakis, V. M. Papadakis, *Polyethylene migration from food packaging on cheese detected by Raman and Infrared (ATR/FT-IR) Spectroscopy*, Materials (2021), submitted.
81. Zacharias Viskadourakis, Argiri Drimiskianaki, Vasilis. M. Papadakis, Ioanna Ioannou, Theodora Kyratsi and George Kenanakis, *Thermoelectric Performance of Mechanically Mixed Bi<sub>x</sub>Sb<sub>2-x</sub>Te<sub>3</sub>-ABS Composites*, Materials (2021), accepted.
80. Waqas Ahmad, Bushra Jabbar, Imtiaz Ahmad, Badrul Mohamed Jan, Minas M. Stylianakis, George Kenanakis and Rabia Ikram, *Highly Sensitive Humidity Sensors Fabrication based on Polyethylene Oxide/CuO/Multi Walled Carbon Nanotubes composite nanofibers*, Materials **14** (2021), 1037.
79. Evangelia Takou, Anna C. Tasolamprou, Odysseas Tsilipakos, Zacharias Viskadourakis, Maria Kafesaki, George Kenanakis, and Eleftherios N. Economou, *Anapole tolerance to dissipation losses in thermally tunable water-based metasurfaces*, PR Applied, submitted (2020).
78. Panagiotis M. Angelopoulos, George Kenanakis, Zacharias Viskadourakis, P. Tsakiridis, Konstantinos C. Vasilopoulos, Michael A. Karakassides, Maria Taxiarchou, *Manufacturing of ABS/ expanded perlite filament for 3D printing of lightweight components through Fused Deposition Modeling*, Mater. Today-Proc., submitted (2020).
77. Alexander Zharov, Zacharias Viskadourakis, George Kenanakis, Vanessa Fierro and Alain Celzard, *Control of light transmission in a plasmonic liquid metacrystal*, Nanomaterials **11** (2021), 346.
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02. E. Spanou, A. Kyprianou, G.E. Georgiou, D. Vernardou, G. Kenanakis, E. Kymakis, N. Katsarakis, E. Koudoumas, *Metal oxide nanostructures for use in organic photovoltaic cells*, *Proc. DEMSEE 2008 International Conference on Deregulated Electricity Market Issues in South-Eastern Europe*, (Nicosia, Cyprus, September 22-23), ISBN: 86-80581-81-X, Paper ref No: 152 (2008).
01. G. Kenanakis, Z. Giannakoudakis, D. Vernardou, E. Koudoumas and N. Katsarakis, *Structural, optical and photocatalytic properties of ZnO thin films and nanostructures deposited by different chemical routes*, *Proc. 7th International Conference on Coatings on Glass and Plastics*, (Eindhoven - The Netherlands, 15-19 June), ISBN 978-90-5986-281-4, p.113-114 (2008).

### ***Book Chapters (in chronological order – oldest to newest)***

4. G. Kenanakis, I. Georgaki, N. Katsarakis, *Environmental Technology*, Notes for laboratory course "Environmental technology" in Electrical Engineering department, ed. TEI of Crete (2011).
3. G. Kenanakis, N. Katsarakis, E. Geneiatakis, *Electrochemistry and Materials Technology*, Notes for laboratory course "Electrochemistry and Material's Science" in Electrical Engineering department, ed. TEI of Crete (2008).
2. G. Kenanakis, Z. Viskadourakis, C. Savvakis, *Quality control and materials technology*, Notes for laboratory course "Material's Science and Engineering" in Mechanical Engineering department, ed. TEI of Crete (2007).
1. A. Myrilla, G. Kenanakis, *Bioremediation of contaminated Landfills - Chapter 6: Case studies*, Technical Camber of Greece, ISBN: 960-88663-0-8, Heraklion, May 2006.

### **Guest editor in Special Issues of refereed journals**

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- "Graphene-Based Metasurfaces", a special issue of *MDPI Crystals* (ISSN 2073-4352). This special issue belongs to the section "Hybrid and Composite Crystalline Materials". [https://www.mdpi.com/journal/crystals/special\\_issues/graphene\\_based\\_metasurfaces](https://www.mdpi.com/journal/crystals/special_issues/graphene_based_metasurfaces).
- "Advanced Nanomaterials for Electronic and Photonic Applications", a special issue of *MDPI Materials* (ISSN 1996-1944). This special issue belongs to the section "Electronic Materials". [https://www.mdpi.com/journal/materials/special\\_issues/electronic\\_meta\\_photonic](https://www.mdpi.com/journal/materials/special_issues/electronic_meta_photonic).
- "3D Printing/Additive Manufacturing of Polymeric Nanostructures with Multifunction Properties", a special issue of *MDPI Crystals* (ISSN 2073-4352). [https://www.mdpi.com/journal/crystals/special\\_issues/Printing\\_Additive](https://www.mdpi.com/journal/crystals/special_issues/Printing_Additive).

### **Distinctions - Awards**

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- Cover of ACS Photonics Journal, Volume 6 (Number 3), March 2019: "Experimental Demonstration of Ultrafast THz Modulation in a Graphene-Based Thin Film Absorber through Negative Photoinduced Conductivity".
- Cover of LaserLab-Europe Newsletter, Issue 24, December 2017: "Laser-made 3D zinc oxide nanostructures".
- Cover of Materials Today journal, December 2016: "ZnO grown on 3D structures".
- Member of project team "Extending electromagnetism through novel artificial materials - EXEL" which was awarded from the European Union with the "DESCARTES" Prize for Research Laureates for its innovative scientific work in left-handed meta-materials in December 2005 (coordinator of the project: Prof. Costas Soukoulis).

### **Invited talks to peer-reviewed, internationally established conferences and advanced schools**

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11. "3D printed (meta)material units" (keynote speaker), International Meet & Expo on 3D Printing and Additive Manufacturing (3DPRINTINGMEET2021), Valencia, Spain, October 11-13, 2021.
10. "Fused Deposition Modeling 3D printed mm-scaled metasurface units", International Meet on Polymer Science and Composite Materials (POLYMERMEET2021), Nice, France, November 01-03, 2021.
09. "3D printed nanocomposite materials and (meta)materials for energy applications", 4th International Conference on 3D Printing, 3D Bioprinting, Digital and Additive Manufacturing (I3D21), Thessaloniki, Greece, July 7-8, 2021.
08. "Fused Deposition Modeling 3D printed metasurfaces for microwave applications", Everbrite online conference on Materials and Structures for Additive Manufacturing, Centre for Additive Layer Manufacturing (CALM), University of Exeter, UK, September 6, 2020.
07. "Fabrication and characterization of Fused Deposition Modeling 3D printed mm-scaled metasurface units for microwave applications", 3rd International Conference on 3D Printing, 3D Bioprinting, Digital and Additive Manufacturing (I3D20), Thessaloniki, Greece, July 8-9, 2020.
06. "A platform for ultrafast control in THz graphene-based metasurfaces", SPIE's 'Defense + Commercial Sensing' (DCS) conference (Next-Generation Spectroscopic Technologies XII: Terahertz technologies, instrumentation, and applications), Anaheim, California, USA, April 26-30, 2020.
05. "3D printed nanocomposite structures for energy and environmental applications", 2nd International Conference on 3D Printing, 3D Bioprinting, Digital and Additive Manufacturing (I3D19), Thessaloniki, Greece, July 1-5, 2019.
04. "ZnO and TiO<sub>2</sub> nanostructured polymeric samples with enhanced photocatalytic behavior", Advances On PhotoCatalysis AdvPhotoCat2015 - International Workshop 1st Edition 2015, Iasi, Romania, July 6-8, 2015.
03. "Chiral metamaterials: A tool for THz polarization control", 16th International Conference on Transparent Optical Networks (ICTON 2014), Graz, Austria, July 6-10, 2014.
02. "Direct laser writing: principles, materials, and applications", 5th International Conference on Metamaterials, Photonic Crystals and Plasmonics (META'14), Singapore, May 20-23, 2014.
01. "Environmental impact assessments (EIA) for seawater desalination plants", 1<sup>st</sup> meeting on "Prospects of marine water desalination systems in Ierapetra and exploitation of Renewable Energy Sources", TEI of Crete, Ierapetra, Crete, Greece, February 16, 2008.

## ***Organization of international conferences/schools***

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12. July 2021: "Advances on Photocatalysis" (AdvPhotoCat-E 2021) - The 3rd International Workshop (online), Heraklion, Crete, Greece, July 14-16, 2021.
11. September 2018: "12th International Conference on Physics of Advanced Materials" (ICPAM-12), Heraklion, Crete, Greece, September 22-28, 2018.
10. September 2018: "3st Autumn School on Physics of Advanced Materials" (PAMS-1), Heraklion, Crete, Greece, September 22-28, 2018.
09. July 2017: "Advances on Photocatalysis" (AdvPhotoCat-E 2017) - The 2nd International Workshop, Heraklion, Crete, Greece, July 14-16, 2017.
08. September 2016: "The 10th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics" (Metamaterials 2016), Chania, Crete, Greece, September 17-22, 2016.
07. September 2014: "10th International Conference on Physics of Advanced Materials" (ICPAM-10), Iași, Romania, September 22-28, 2014.
06. September 2014: "1st Autumn School on Physics of Advanced Materials" (PAMS-1), Iași, Romania, September 22-28, 2014.
05. June 2011: "Wave Propagation: From Electrons to Photonic Crystals and Metamaterials" Rethymnon, Crete, Greece, June 8-11, 2011.
04. December 2010: "European School on Experimental Characterization of Electromagnetic Metamaterials", Heraklion, Greece, December 13-17, 2010.
03. June 2009: "The 8th International Conference on the Electrical, Transport and Optical Properties of Inhomogeneous Media" (ETOPIM8), Rethymnon, Crete, Greece, June 7-12, 2009.
02. June 2009: Metamorphose school on "Fabrication and Optical Properties of Nanostructured Metamaterials", Rethymnon, Crete, Greece, June 12-13, 2009.
01. April 2008: Metamorphose School, Women in Photonics, "School on Photonic Metamaterials", Paris, France, April 13-18, 2008.

## ***Active reviewer of Funding Organizations***

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- ❖ Czech Science Foundation (GAČR), Prague, Czech Republic
- ❖ Technology Foundation (STW), Netherlands
- ❖ King Fahd University of Petroleum & Minerals (KFUPM), Dhahran, Saudi Arabia
- ❖ Greek General Secretariat for Research and Technology (GSRT), Greece
- ❖ Hellenic Foundation for Research and Innovation (HFRI), Greece
- ❖ Research Promotion Foundation's (RPF) Innovation and Research Information System (IRIS), Cyprus

## ***Active reviewer of International Journals***

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| <ul style="list-style-type: none"><li>▪ Advanced Materials</li><li>▪ ACS Applied Materials &amp; Interfaces</li><li>▪ Carbon</li><li>▪ Applied Catalysis B: Environmental</li><li>▪ Applied Catalysis A: Chemistry</li><li>▪ Nanotechnology (IOPscience)</li><li>▪ Applied Physics Letters</li><li>▪ Chemical Engineering Journal</li><li>▪ Nanomaterials (MDPI open access publishing)</li><li>▪ Sensors (MDPI open access publishing)</li><li>▪ Materials (MDPI open access publishing)</li><li>▪ Crystals (MDPI open access publishing)</li><li>▪ Photonics (MDPI open access publishing)</li><li>▪ Applied Sciences (MDPI open access publishing)</li><li>▪ Journal of Photochemistry and Photobiology A: Chemistry</li><li>▪ Colloids and Surfaces A: Physicochemical and Engineering Aspects</li></ul> | <ul style="list-style-type: none"><li>▪ Optical Materials Express</li><li>▪ Optics Letters</li><li>▪ Solar Energy Materials and Solar Cells</li><li>▪ Surface and Coatings Technology</li><li>▪ Applied Physics A</li><li>▪ Applied Physics B</li><li>▪ Materials Letters</li><li>▪ Journal of Industrial and Engineering Chemistry</li><li>▪ Materials Science and Engineering B</li><li>▪ Microelectronic Engineering</li><li>▪ IEEE Photonics Journal</li><li>▪ Journal of the Optical Society of America A</li><li>▪ Superlattices and Microstructures</li><li>▪ Crystal Research and Technology</li><li>▪ Journal of Advanced Oxidation Technologies</li><li>▪ International Journal of Smart and Nano Materials</li></ul> |
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## **Academy memberships**

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- American Chemical Society, <http://www.acs.org/>
- American Physical Society, <http://www.aps.org/>
- Institute of Physics, <http://www.iop.org/>
- Metamorphose Virtual Institute, <http://www.metamorphose-vi.org/>
- Optical Society of America, <http://www.osa.org/>
- Hellenic Photonic Association, <http://photonicsgr.com/photonics-in-greece/>
- Nanotechnologies & Nanobiotechnologies (Nano|Net), <http://www.nano-net.gr/>
- Pan-Hellenic Association of Chemical Engineers, <http://www.psxm.org/>
- Technical Chamber of Greece, [http://portal.tee.gr/portal/page/portal/TEE\\_HOME](http://portal.tee.gr/portal/page/portal/TEE_HOME)
- Standing Committee on the environment, Technical Chamber of Greece, part of Eastern Crete (TEE/TAK): 2010-2013, <http://www.teetak.gr/>
- Standing Committee on research and new technologies, Technical Chamber of Greece, part of Eastern Crete (TEE/TAK): 2014-2017, <http://www.teetak.gr/>

## Collaborations

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- Prof. Costas Soukoulis, FORTH & ISU/Ames Lab, USA
- Prof. Ekmel Ozbay, Electrical and Electronics Engineering and Physics Depts., Bilkent University, Ankara, Turkey
- Prof. Sergei Tretyakov, Electronics and Nanoengineering Dept., Aalto University, Finland
- Prof. Phillippe Tassin, Chalmers University of Technology, Gothenburg, Sweden
- Prof. Vasilios Kovanis, Physics Dept., Nazarbayev University, Astana, Kazakhstan
- Prof. Costas Valagiannopoulos, Physics Dept., Nazarbayev University, Astana, Kazakhstan
- Prof. Roie Yerushalmi, Institute of Chemistry, Hebrew University of Jerusalem, Israel
- Prof. Alain Celzard, ENSTIB Engineering School (Epinal) University of Lorraine, France
- Prof. Stavroula Foteinopoulou, Electrical and Computer Engineering Dept., University of New Mexico, Albuquerque, New Mexico - USA
- Prof. Tsampikos Kottos, Wesleyan University, Middletown - Connecticut, USA
- Dr. Nikolaos Kehagias, Catalan Institute of Nanoscience and Nanotechnology (ICN2), Barcelona, Spain
- Dr. Kuzhir Polina, Mediterranean Institute of Fundamental Physics, Minsk, Belarus
- Dr. Alejandro Reyes-Coronado, Physics Dept., National Autonomous University of Mexico, Mexico City, Mexico
  
- Prof. Eleftherios Economou, FORTH & Univ. of Crete, Greece
- Prof. Emmanouel Kriezis, Electrical & Computer Engineering Dept., Aristotle University, Thessaloniki - Greece
- Prof. Traianos Gioultsis, Electrical & Computer Engineering Dept., Aristotle University, Thessaloniki - Greece
- Prof. Stylianos Tzortzakis, FORTH, Univ. of Crete & Texas A&M University, Qatar
- Prof. Michalis Karakasidis, Materials Science & Engineering Dept., University of Ioannina, Greece
- Prof. Dimitris Gournis, Materials Science & Engineering Dept., University of Ioannina, Greece
- Prof. Stelios Kouris, Physics Dept., University of Patras, Greece
- Prof. Ioannis Paspaliaris, School of Mining and Metallurgical Engineering, National Technical University of Athens
- Dr. Maria Taxiarchou, School of Mining and Metallurgical Engineering, National Technical University of Athens
- Prof. Christos Liaskos, Computer Science Dept., University of Ioannina, Greece
- Prof. Irene Athanassakis, Biology Dept., University of Crete, Greece
- Prof. Kriton Kalantidis, Biology Dept., University of Crete, Greece & IMBB - FORTH
- Prof. Charalampos Spilianakis, Biology Dept., University of Crete, Greece & IMBB - FORTH
- Dr. Nikos Papandroulakis, Institute of Marine Biology, Biotechnology and Aquaculture, Hellenic Centre for Marine Research
- Prof. Emmanouel Kymakis, Electrical & Computer Engineering Dept., Hellenic Mediterranean University, Greece
- Prof. Emmanouel Koudoumas, Electrical & Computer Engineering Dept., Hellenic Mediterranean University, Greece
- Prof. Nikolaos Katsarakis, Electrical & Computer Engineering Dept., Hellenic Mediterranean University, Greece
- Prof. E. N. Economou, Physics Dept., University of Crete, Greece & IESL - FORTH
- Prof. Maria Vamvakaki, Materials Science and Technology Dept., University of Crete, Greece & IESL - FORTH
- Prof. Maria Chatzinikolaidou, Materials Science and Technology Dept., University of Crete, Greece & IESL - FORTH
- Prof. Maria Kafesaki, Materials Science and Technology Dept., University of Crete, Greece & IESL - FORTH
- Dr. Emmanouel Stratakis, IESL - FORTH
- Dr. Maria Farsari, IESL - FORTH
  
- XPECTRALTEK LDA, Braga - Portugal, <https://www.xpectraltek.com/index.php>
- PLASTIKA KRITIS S.A., Heraklion, Crete - Greece, <https://www.plastikakritis.com/en>
- AKEK S.A., Heraklion, Crete - Greece, <https://www.akek.gr/1/index.php/en>
- Thrace Nonwovens & Geosynthetics S.A., member of Thrace Group, Xanthi - Greece <https://www.thracegroup.com/tr/en/companies/thrace-ng/>

## ***Presentations in international scientific conferences***

96. I. Syngelakis, E. Kabouraki, G. Kenanakis, A. Klini, M. Farsari, *Fabrication of 3D microstructures for photocatalysis*, 17th international conference of young scientists on energy and natural sciences issues, Kaunas, Lithuania, May 24-28, 2021.
95. G. Kenanakis, *Fused Deposition Modeling 3D printed metasurfaces for microwave applications* (invited talk), everbrite online conference on Materials and Structures for Additive Manufacturing, Centre for Additive Layer Manufacturing (CALM), University of Exeter, UK, September 6, 2020.
94. G. Kenanakis, *Fabrication and characterization of Fused Deposition Modeling 3D printed mm-scaled metasurface units for microwave applications* (invited talk), 3rd International Conference on 3D Printing, 3D Bioprinting, Digital and Additive Manufacturing (I3D20), Thessaloniki, Greece, July 8-9, 2020.
93. G. Kenanakis, *A platform for ultrafast control in THz graphene-based metasurfaces* (invited talk), SPIE's 'Defense + Commercial Sensing' (DCS) conference (Next-Generation Spectroscopic Technologies XII: Terahertz technologies, instrumentation, and applications), Anaheim, California, USA, April 26-30, 2020.
92. G. T. Oumbe Tekam, G. Kenanakis, J. Danckaert, and V. Ginis, *Microwave energy harvesting using metasurfaces with different polarizations*, 24th Annual Symposium of the IEEE Photonics Benelux Chapter, Amsterdam, The Netherlands, November 21-22, 2019.
91. O. Tsilipakos, A. Pitilakis, A. C. Tasolamprou, C. Liaskos, A. Tsioliariidou, F. Liu, M. S. Mirmoosa, X. Wang, K. Kossifos, J. Georgiou, A. Pitsillides, N. V. Kantartzis, D. Manassis, S. Ioannidis, G. Kenanakis, G. Deligeorgis, E. N. Economou, C. M. Soukoulis, S. A. Tretyakov, M. Kafesaki, *Software-Defined Metasurfaces: The VISORSURF Project Approach*, 13th International Congress on Artificial Materials for Novel Wave Phenomena - Metamaterials 2019, Rome, Italy, September 16-21, 2019.
90. A. Maniadi, N. Vidakis, M. Petousis, G. Kenanakis, Z. Viskadourakis, M. Sucheá, M. Vamvakaki, E. Koudoumas, *Mechanical properties of ABS/ZnO nanocomposites developed via 3D printing*, 34<sup>th</sup> annual Panhellenic Conference on Solid State Physics and Materials Science (XXXIV SSM 2019), Patras, Greece, September 11-14, 2019.
89. N. Vidakis, A. Maniadi, M. Petousis, G. Kenanakis, M. Sucheá, M. Vamvakaki, E. Koudoumas, *Basic characteristics and electrical behavior of Acrylonitrile Butadiene Styrene/Zinc Oxide nanocomposites*, 34<sup>th</sup> annual Panhellenic Conference on Solid State Physics and Materials Science (XXXIV SSM 2019), Patras, Greece, September 11-14, 2019.
88. Anastasios D. Koulouklidis, Anna C. Tasolamprou, Christina Daskalaki, Charalampos P. Mavidis, George Kenanakis, George Deligeorgis, Zacharias Viskadourakis, Polina Kuzhir, Maria Kafesaki, Eleftherios N. Economou, Costas M. Soukoulis, and Stelios Tzortzakís, *Demonstration of Ultrafast THz Absorption Modulation in a Graphene-Based Thin Absorber*, 44th International Conference on Infrared, Millimeter, and Terahertz Waves (IRMMW-THz 2019), Paris, France, September 1-6, 2019.
87. A. C. Tasolamprou, O. Tsilipakos, A. Pitilakis, C. Liaskos, A. Tsioliariidou, F. Liu, M. S. Mirmoosa, X. Wang, K. Kossifos, J. Georgiou, A. Pitsillides, N. V. Kantartzis, D. Manassis, S. Ioannidis, G. Kenanakis, G. Deligeorgis, E. N. Economou, C. M. Soukoulis, S. A. Tretyakov, M. Kafesaki, *The Software-Defined Metasurfaces Concept and Electromagnetic Aspects*, 10th International Conference on Metamaterials, Photonic Crystals and Plasmonics - META19, Lisbon, Portugal, July 23-26, 2019.
86. G. Kenanakis, *3D printed nanocomposite structures for energy and environmental applications* (invited talk), 2nd International Conference on 3D Printing, 3D Bioprinting, Digital and Additive Manufacturing (I3D19), Thessaloniki, Greece, July 1-5, 2019.
85. Vassilis M. Papadakis, and George Kenanakis, *Hybrid spectroscopic microscopy for the characterization of dried DNA samples*, SPIE Optical Metrology 2019, Munich, Germany, June 24-27, 2019.
84. Anastasios D. Koulouklidis, Anna C. Tasolamprou, Christina Daskalaki, Charalampos P. Mavidis, George Kenanakis, George Deligeorgis, Zacharias Viskadourakis, Polina Kuzhir, Maria Kafesaki, Eleftherios N. Economou, Costas M. Soukoulis, Stelios Tzortzakís, *Experimental Observation of Ultrafast THz Absorption Modulation in a Graphene-Based Metasurface*, 2019 Conference on Lasers & Electro-Optics/Europe and European Quantum Electronics Conference (CLEO®/Europe – EQEC), Munich, Germany, June 23-27, 2019.
83. Z. Viskadourakis, and G. Kenanakis, *3D printed nanocomposite structures for energy and environmental applications*, 12th International Conference on Physics of Advanced Materials" (ICPAM-12), Heraklion, Crete, Greece, September 22-28, 2018.
82. Zacharias Viskadourakis, K. C. Vassilopoulos, E. N. Economou, C. M. Soukoulis, and G. Kenanakis, *Electromagnetic shielding performance of 3D printed polymer composites*, 33rd annual Panhellenic Conference on Solid State Physics and Materials Science, Nicosia, Cyprus, September 17-19, 2018.
81. Anna C. Tasolamprou, Charalampos Mavidis, Anastasios D. Koulouklidis, Cristina Daskalaki, George Kenanakis, George Deligeorgis, Polina P. Kuzhir, Stelios Tzortzakís, Maria Kafesaki, Eleftherios Economou, and Costas Soukoulis, *Optically induced absorption modulation in a graphene-based metasurface*, International Conference on Nanotechnologies and Bionanoscience (NanoBio), Heraklion, Crete, September 24-28, 2018.
80. Spiros H. Anastasiadis, Melani A. Frysalí, George Kenanakis, Georgia Kaklamani, Lampros Papoutsakis, *Multi-functional surfaces with controllable wettability and water adhesion*, APS March Meeting 2017 (Session H10: Physics of Polymer Surfaces and Interfaces I), New Orleans, Louisiana - USA, March 13-17, 2017.
79. Ch. P. Mavidis, G. Kenanakis, G. Deligeorgis, Polina P. Kuzhir, M. Kafesaki, E. N. Economou, C. M. Soukoulis, *Graphene-Dielectric-Metal tunable THz perfect absorber*, 2nd Israel-Greece Joint Meeting on Nanotechnology and BioNanoscience, Heraklion, Greece, October 25-28, 2016.

78. E. Gavgiotaki, G. Filippidis, H. Markomanolaki, G. Kenanakis, S. Agelaki, V. Georgoulis, I. Athanassakis,, *Breast cancer cell lines discrimination by employing Third Harmonic Generation microscopy as a diagnostic tool*, 2nd Israel-Greece Joint Meeting on Nanotechnology and BioNanoscience, Heraklion, Greece, October 25-28, 2016.
77. Melani A. Frysalis, Georgia Kaklamani, Georgios Kenanakis, Lampros Papoutsakis, Spiros H. Anastasiadis, *Development of multi-functional surfaces with controllable wettability*, COST Action "Multi-Functional Nano-Carbon Composite Materials", Heraklion, Crete, October 19-20, 2016.
76. M. Kafesaki, G. Kenanakis, A.C. Tasolamprou, E.N. Economou, C.M. Soukoulis, *THz polarization control with chiral and bianisotropic metamaterials and metasurfaces*, International Conference on Transparent Optical Networks (ICTON 2016), Trento, Italy, July 10-14, 2016.
75. M. Kafesaki, A. Xomalis, E.N. Economou, G. Kenanakis, M. Farsari, G. Konstantinidis, C.M. Soukoulis, *THz and Far-IR Control with Chiral and Bianisotropic Metamaterials*, 7th Forum on New Materials (CIMTEC 2016), Perugia, Italy, June 5-9, 2016.
74. M. Farsari, A. Giakoumaki, G. Kenanakis, A. Klini, Z. Viskadourakis, *Three-Dimensional Patterning of ZnO Nanostructure*, 10th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics (Metamaterials' 2016), Platania-Chania, Greece, September 17-22, 2016.
73. C. P. Mavidis, G. Kenanakis, G. Deligeorgis, M. Kafesaki, E. N. Economou, C. M. Soukoulis, *Graphene-Dielectric-Metal Tunable THz Perfect Absorber*, 10th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics (Metamaterials' 2016), Platania-Chania, Greece, September 17-22, 2016.
72. G. Perrakis, G. Kenanakis, M. Kafesaki, C. M. Soukoulis, E. N. Economou, *Perfect Electromagnetic Absorbers and Sensors Based on Surface Plasmon Polaritons*, 10th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics (Metamaterials' 2016), Platania-Chania, Greece, September 17-22, 2016.
71. Konstantinos C. Vasilopoulos, George Kenanakis, and Spiros H. Anastasiadis, *In-situ FTIR and UV-VIS characterization possibilities using custom flow-cell and controlled temperature setups and apparatuses*, QualityNano Conference and Training Workshop, Heraklion, Crete – Greece, July 15-17, 2015.
70. M. A. Frysalis, L. Papoutsakis, G. Kenanakis, E. Stratakis, G. Mountrichas, S. Pispas, and S. H. Anastasiadis, *Controllably Wetted Rough Polymeric Surfaces exhibiting photocatalytic activity*, 12<sup>th</sup> International Conference on Nano sciences and Nanotechnology, Thessaloniki, Greece, July 7-10, 2015.
69. G. Kenanakis, D. Vernardou and N. Katsarakis, *ZnO and TiO<sub>2</sub> nanostructured polymeric samples with enhanced photocatalytic behavior*, Advances On PhotoCatalysis AdvPhotoCat2015 - International Workshop 1st Edition 2015, Iasi, Romania, July 6-8, 2015.
68. G. Kenanakis, M. Kafesaki, E.N. Economou, and C. M. Soukoulis, *THz Control Using Chiral and Switchable-Chiral Metamaterials*, presented in 8<sup>th</sup> International Conference on Materials for Advanced Technologies of the Materials Research Society of Singapore (ICMAT2015), Signapore, June 28 - July 3, 2015.
67. M. Kafesaki, G. Kenanakis, E.N. Economou, and C. M. Soukoulis, *THz polarization control with chiral and bianisotropic metamaterials*, presented in 10th International Electrical, Transport, and Optical Properties of Inhomogeneous Media (ETOPIM 10), Neveh Ilan, Israel, June 21-26, 2015.
66. M. A. Frysalis, L. Papoutsakis, G. Kenanakis, and S. H. Anastasiadis, *Combined Photo-Active and Controllably Wetted Rough Polymeric Surfaces*, presented in 10th HELLENIC POLYMER SOCIETY CONFERENCE with International Participation (10th HPSC), Conference Center of the University of Patras, Rio-Patras, Greece, December 4-6, 2014
65. G. Kenanakis, N. Katsarakis, M. Kafesaki, C.M. Soukoulis and E.N. Economou, *Optically controllable THz chiral metamaterials*, presented in 30th Pan-hellenic conference on Solid-State Physics and Materials Science, Heraklion, Greece, September 21-24, 2014
64. Aggelos Xomalis, G. Kenanakis, A. Selimis, M. Kafesaki, M. Farsari, *Three-dimensional photonic crystals and metamaterials made by direct laser writing*, presented in 30th Pan-hellenic conference on Solid-State Physics and Materials Science, Heraklion, Greece, September 21-24, 2014
63. G. Tzagkarakis, M. Sucheas, I.V. Tudose, G. Kenanakis, M. Katharakis, E. Drakakis, E. Koudoumas, *Nanostructured Coatings for Electromagnetic Shielding in the GHz Frequency Band*, presented in 30th Pan-hellenic conference on Solid-State Physics and Materials Science, Heraklion, Greece, September 21-24, 2014
62. M.A. Frysalis,, L. Papoutsakis, G. Kenanakis, E. Stratakis and S.H. Anastasiadis, *Polymeric surfaces with controlled wettability exhibiting unidirectional features*, presented in 30th Pan-hellenic conference on Solid-State Physics and Materials Science, Heraklion, Greece, September 21-24, 2014
61. Alexandros Selimis, George Kenanakis, Angelos Xomalis, Maria Kafesaki, Maria Farsari, *Direct laser writing: principles, materials, and applications (Invited Paper)*, presented in SPIE NanoScience + Engineering, part of SPIE Optics + Photonics, San Diego, California, United States, August 17-21, 2014
60. Maria Kafesaki, George Kenanakis, Eleftherios N. Economou, Costas M. Soukoulis, *THz polarization control using chiral metamaterials*, presented in SPIE NanoScience + Engineering, part of SPIE Optics + Photonics, San Diego, California, United States, August 17-21, 2014
59. M. Kafesaki, G. Kenanakis, E.N. Economou, C.M. Soukoulis, *Chiral metamaterials: A tool for THz polarization control (Invited)*, presented in the 16th International Conference on Transparent Optical Networks (ICTON 2014), Graz, Austria, July 6-10, 2014.

58. Elmina Kabouraki, Aggelos Xomalis, George Kenanakis, Maria Kafesaki, Maria Farsari, *Direct laser writing: principles, materials, and applications (Invited talk)*, presented in the 5th International Conference on Metamaterials, Photonic Crystals and Plasmonics (META'14), Singapore, May 20-23, 2014
57. E. Vasilaki, D. Vernardou, I. Georgaki, G. Kenanakis, N. Katsarakis, *TiO<sub>2</sub> / WO<sub>3</sub> photoactive bilayers in the visible-light region*, presented in the 8th European Meeting on Solar Chemistry and Photocatalysis: Environmental Applications (SPEA8) Thessaloniki, Greece, June 25-28, 2014.
56. I. Vamvasakis, I. Georgaki, D. Vernardou, G. Kenanakis, N. Katsarakis, *Synthesis of WO<sub>3</sub> catalytic powders: Evaluation of photocatalytic activity under Vis-irradiation and alkaline reaction pH*, presented in the 8th European Meeting on Solar Chemistry and Photocatalysis: Environmental Applications (SPEA8) Thessaloniki, Greece, June 25-28, 2014.
55. N. Katsarakis, G. Kenanakis, D. Vernardou, A. Dalamagkas, *Photocatalytic and electrochemical properties of TiO<sub>2</sub> thin films deposited by sol-gel*, presented in the 3rd European conference on environmental applications of Advanced Oxidation Processes (EAAOP-3), Almeria, Spain, October 27-30, 2013.
54. G. Kenanakis, N. Katsarakis, D. Vernardou, *Photocatalytic Response of Chemically Grown ZnO and TiO<sub>2</sub> Nanostructures on Polymer Substrates*, presented in the 3rd European conference on environmental applications of Advanced Oxidation Processes (EAAOP-3), Almeria, Spain, October 27-30, 2013.
53. N. Katsarakis, D. Vernardou, G. Kenanakis, E. Vasilaki, *Photocatalytic properties of WO<sub>3</sub> and WO<sub>3</sub>/TiO<sub>2</sub> composites under UV and solar light illumination*, presented in the 3rd European Symposium on Photocatalysis - JEP 2013, Portoroz, Slovenia, September 25-27, 2013.
52. N. Katsarakis and G. Kenanakis, *Photocatalytic properties of ZnO thin films and nanostructures deposited by Ultrasonic Spray Pyrolysis*, presented in the 3rd European Symposium on Photocatalysis - JEP 2013, Portoroz, Slovenia, September 25-27, 2013.
51. M. Kafesaki, G. Kenanakis, E.N. Economou and C.M. Soukoulis, *THz Control Using Chiral Metamaterials*, presented in the 7th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics - Metamaterials 2013, Bordeaux, France, September 16-21, 2013.
50. N. Katsarakis, G. Kenanakis, *Metal Oxide nano-structured thin films: the effect of the deposition conditions on their photocatalytic properties*, presented in the 12th Panhellenic Symposium of Catalysis, Chania, Greece, October 25-27, 2012.
49. G. Kenanakis, N. Katsarakis, *Light-induced photocatalytic degradation of stearic acid and Methylene Blue by c-axis oriented ZnO thin films and nanowires using aqueous solution approaches*, presented in the 4th International Symposium on Transparent Conductive Materials (TCM 2012, former TCOs), Hersonissos, Crete, Greece, October 21-26, 2012.
48. G. Kenanakis, N. Lyroni, D. Vernardou and N. Katsarakis, *Light-induced photocatalytic degradation of azo-dyes by ZnO and TiO<sub>2</sub> nanostructures deposited onto polymer substrates*, presented in the 4th International Symposium on Transparent Conductive Materials (TCM 2012, former TCOs), Hersonissos, Crete, Greece, October 21-26, 2012.
47. G. Kenanakis, N. Katsarakis, E. Koudoumas, *Electrical and optical properties of ZnO and ZnO:Al thin films grown by ultrasonic spray pyrolysis*, presented in the 4th International Symposium on Transparent Conductive Materials (TCM 2012, former TCOs), Hersonissos, Crete, Greece, October 21-26, 2012.
46. G. Kenanakis, N. Katsarakis, A. Stavrinidis, G. Konstantinidis, M. Kafesaki, C. M. Soukoulis, E. N. Economou, *Flexible Chiral metamaterials in the terahertz regime: A comparative study of various designs*, presented in "Micro&Nano2012" on Micro - Nanoelectronics, Nanotechnologies and MEMS, Kokkini Hani, Heraklion, Greece, October 7-10, 2012
45. I. Georgaki, M. Mihailidis, J. Iliadis, G. Kenanakis, D. Vernardou, N. Katsarakis, *Synthetic photo catalytic nano-powders of titanium and zinc oxides degrading persistent organic compounds in industrial effluents*, presented in the IWA Regional Conference on Wastewater Purification & Reuse 2012, Heraklion, Crete, Greece, March 28-30, 2012.
44. G. Kenanakis and N. Katsarakis, *Structural, Self-cleaning Properties of ZnO Nanowires Grown at Low Temperatures*, presented in the XXVII Panhellenic Conference on Solid State Physics and Materials Science, Limassol, Cyprus, September 18-21, 2011.
43. I. Georgaki, J. Vamvasakis, J. Iliadis, A. Psaroudakis, G. Kenanakis, D. Vernardou and N. Katsarakis, *Structural, Photocatalytic Properties of Metal Oxide Powders and Nanostructures (TiO<sub>2</sub>, ZnO and WO<sub>3</sub>) Grown at Low Temperatures*, presented in the XXVII Panhellenic Conference on Solid State Physics and Materials Science, Limassol, Cyprus, September 18-21, 2011.
42. M. Kafesaki, A. Reyes-Corronado, S. Foteinopoulou, G. Kenanakis, N. Katsarakis, M.A. Acosta, R.I. Merino, V.M. Orera, V. Myroshnychenko, J. de Abajo, E.N. Economou, C.M. Soukoulis, *THz manipulation and superlensing using polaritonic metamaterials*, presented in The Fifth International Congress on Advanced Electromagnetic Materials in Microwaves and Optics - Metamaterials'2011, Barcelona, Spain, October 10-15, 2011.
41. A. Reyes-Coronado, M.F. Acosta, R.I. Merino, V.M. Orera, G. Kenanakis, N. Katsarakis, M. Kafesaki and C.M. Soukoulis, *Electromagnetic response of anisotropic eutectic metamaterials in THz range*, presented in the 3<sup>rd</sup> International Workshop on Theoretical and Computational Nano-Photonics (TaCoNa-Photonics), Physikzentrum, Bad Honnef, Germany, November 3-5, 2010.
40. G. Kenanakis, M. Androulidaki, D. Vernardou, N. Katsarakis, E. Koudoumas, *Photoluminescence study of ZnO structures grown by Aqueous Chemical Growth*, presented in the 3rd International Symposium on Transparent Conductive Materials (TCM 2010), Analipsi/Hersonissos, Crete, Greece, October 17-21, 2010.
39. G. Kenanakis, C. Savvakis and N. Katsarakis, *Light-induced photocatalytic degradation of stearic acid by ZnO thin films and nanostructures deposited by Ultrasonic Spray Pyrolysis*, presented in the 3rd International Symposium on Transparent Conductive Materials (TCM 2010), Analipsi/Hersonissos, Crete, Greece, October 17-21, 2010.

38. R.I. Merino, M.F. Acosta, V.M. Orera, G. Kenanakis, A. Reyes-Coronado, N. Katsarakis, M. Kafesaki, *Hyperbolic Dispersion Relation in Directionally Solidified Eutectics in the THz Region*, presented in the 9<sup>th</sup> International Conference on Photonic and Electromagnetic Crystal Structures (PECS-IX 2010), Granada, Spain, September 26-30, 2010.
37. R.I. Merino, M.F. Acosta, V.M. Orera, G. Kenanakis, N. Katsarakis, M. Kafesaki, *Optical properties of NaCl-LiF directionally solidified eutectics in the THz region*, presented in the XI Congreso Nacional de Materiales, Zaragoza, Spain, June 23-25, 2010.
36. G. Kenanakis, C. Savvakis and N. Katsarakis, *Light-induced photocatalytic degradation of stearic acid by c-axis oriented ZnO nanowires grown at mild temperatures*, presented in the 8th International Conference on Coatings on Glass and Plastics (ICCG 8), Braunschweig, Germany, June 13-17, 2010.
35. G. Kenanakis, N. Lyroni, D. Vernardou, N. Katsarakis, *Light-induced photocatalytic degradation of azo dyes by ZnO and TiO<sub>2</sub> nanostructures deposited onto polymer substrates at mild temperatures*, presented in the 8th International Conference on Coatings on Glass and Plastics (ICCG 8), Braunschweig, Germany, June 13-17, 2010.
34. A. Klos, M. Gajc, G. Kenanakis, N. Katsarakis, A.E. Nikolaenko, N.I. Zheludev, D.A. Pawlak, *Directional solidifications of metallodielectric compounds*, presented in the 3rd Directionally solidified eutectic ceramics workshop, Seville, Spain, November 11-13, 2009.
33. G. Kenanakis, D. Vernardou, N. Katsarakis, *Light-induced photocatalytic degradation of stearic acid by c-axis ZnO oriented nanowires using aqueous solutions*, presented in the 2nd Hellenic Chemistry Post Grads Conference, Platania, Chania, Crete, September 16-21, 2009.
32. G. Kenanakis, C. Savvakis, and N. Katsarakis, *Light-induced photocatalytic degradation of stearic acid by c-axis ZnO oriented nanowires*, presented in the 1st International Workshop on Application of Redox Technologies in the Environment (Arte' 2009), Istanbul, Turkey, September 14-15, 2009.
31. G. Kenanakis, N. Lyroni, D. Vernardou and N. Katsarakis, *Light-induced photocatalytic degradation of methylene blue by ZnO and TiO<sub>2</sub> nanostructures deposited onto polymer substrates*, presented in the 1st International Workshop on Application of Redox Technologies in the Environment (Arte'2009), Istanbul, Turkey, September 14-15, 2009.
30. G. Kenanakis, C. Savvakis and N. Katsarakis, *Photocatalytic degradation of stearic by ZnO Thin Films and Nanostructures Deposited by Different Chemical Routes*, presented in the 2nd European conference on environmental applications of advanced oxidation (EAAOP 2), Nicosia, Cyprus, September 9-11, 2009.
29. K. Kolodziejak, D.A. Pawlak, M. Gajc, B. Andrzejewski, G. Kenanakis, N. Katsarakis, S. Foteinopoulou, M. Kafesaki, *Electromagnetic and other properties of MnTiO<sub>3</sub> – TiO<sub>2</sub> self - organized microstructure*, presented in the "Metamaterials 2009" conference, London, UK, August 30 - September 4, 2009.
28. G. Kenanakis, N. Katsarakis, M. Kafesaki, C. M. Soukoulis and E. N. Economou, *Experimental study of fishnet and short-slab pair metamaterials in the GHz regime*, presented in the 8th International Conference on the Electrical, Transport and Optical Properties of Inhomogeneous Media (ETOPIM 8), Rethymnon, Crete, Greece, 7 - 12 June, 2009.
27. K. Kolodziejak, S. Turczynski, A. Klos, D.A. Pawlak, N. Katsarakis, G. Kenanakis and K. Rozniatowski, *Self-organized TiO<sub>2</sub>-MnTiO<sub>3</sub> fishnet-like microstructure*, presented in the 2nd European Topical Meeting on Nanophotonics and Metamaterials (NANOMETA 2009), Seefeld ski resort, Tirol, Austria, 5 - 8 January, 2009.
26. G. Kenanakis, S. Foteinopoulou, M. Kafesaki, N. Katsarakis, E. N. Economou, C. M. Soukoulis, *Slab-pair-based microwave metamaterials*, presented in the 2nd European Topical Meeting on Nanophotonics and Metamaterials (NANOMETA 2009), Seefeld ski resort, Tirol, Austria, 5 - 8 January, 2009.
25. G. Kenanakis, S. Foteinopoulou, M. Kafesaki, N. Katsarakis, E. N. Economou, C. M. Soukoulis, *Fishnet Structure: The Occurrence of Left-Handed Behavior Over a Wide Range of Geometrical Parameters*, presented in the PhOREMOST Workshop "Advances in Nanophotonics", Barcelona, 30-31 October, 2008.
24. E. Spanou, A. Kyprianou, G.E. Georgiou, D. Vernardou, G. Kenanakis, E. Kymakis, N. Katsarakis, E. Koudoumas, *Metal oxide nanostructures for use in organic photovoltaic cells*, presented in the International Conference on Deregulated Electricity Market Issues in South-Eastern Europe (DEMSEE 2008), Nicosia, Cyprus, 22-23 September, 2008.
23. G. Kenanakis, D. Vernardou, Emm. Koudoumas, C. Savvakis and N. Katsarakis, *Structural, Optical and Photocatalytic properties of ZnO Thin Films and Nanostructures Deposited by Different Chemical Routes*, presented in the XXIV Panhellenic Conference on Solid State Physics and Materials Science, Heraklion, Crete, September 21-24, 2008.
22. G. Kenanakis, Z. Giannakoudakis, D. Vernardou, E. Kymakis, Emm. Koudoumas and Nikos Katsarakis, *Optical, electrical and photoresponse studies of ZnO thin films grown by chemical routes*, presented in the 2nd International Symposium on Transparent Conductive Oxides (TCOs 2008), Hersonissos, Crete, Greece, October 22 - 26, 2008.
21. D. Vernardou, E. Stratakis, A. Mohamed, G. Kenanakis, Emm. Koudoumas and N. Katsarakis, *Hydrothermal growth of Fe<sup>+3</sup> doped TiO<sub>2</sub> on glass for self-cleaning applications*, presented in the 2nd International Symposium on Transparent Conductive Oxides (TCOs 2008), Hersonissos, Crete, Greece, October 22 - 26, 2008.
20. D. Vernardou, K. Rizo, K. Moschovis, G. Kortidis, G. Kenanakis, Emm. Koudoumas, N. Katsarakis and G. Kiriakidis, *A comparative study of solution concentration and temperature on the hydrothermally grown ZnO ozone sensors*, presented in the 2nd International Symposium on Transparent Conductive Oxides (TCOs 2008), Hersonissos, Crete, Greece, October 22 - 26, 2008.

19. G. Kenanakis, Z. Giannakoudakis, D. Vernardou, Emm. Koudoumas and N. Katsarakis, *Structural, optical and photocatalytic properties of ZnO thin films and nanostructures deposited by different chemical routes*, presented in the 7th International Conference on Coatings on Glass and Plastics (ICCG 7), Eindhoven - The Netherlands, June 15-19, 2008.
18. G. Kenanakis, S. Foteinopoulou, I. Tsiapa, T. Gundogdu, R. Penciu, M. Kafesaki, N. Katsarakis, E. N. Economou, C. M. Soukoulis, *Photonic crystals and left-handed materials in FORTH*, presented in the Women in Photonics (WiP) School on Photonic Metamaterials, Organized by the European Networks of Excellence, Metamorphose-VI and Phoremest-NoE, Paris, April 14-18, 2008.
17. I. Tsiapa, N. Katsarakis, M. Kafesaki, G. Kenanakis, C. M. Soukoulis, E. N. Economou, *Fishnet Structure: The Occurrence of Left-Handed Behavior Over a Wide Range of Geometrical Parameters*, presented in the Women in Photonics (WiP) School on Photonic Metamaterials, Organized by the European Networks of Excellence, Metamorphose-VI and Phoremest-NoE, Paris, April 14-18, 2008.
16. George Kenanakis, Zacharias Giannakoudakis, Dimitra Vernardou, Emmanuel Koudoumas and Nikos Katsarakis, *Comparative study of Zn<sub>1-x</sub>Al<sub>x</sub>O thin films and nanostructures deposited by different chemical routes*, presented in the 3<sup>rd</sup> International Conference Micro & Nano 2007, NCSR Demokritos, Athens, Greece, November 18 - 21, 2007.
15. George Kenanakis, Nikos Katsarakis, Costas Savvakis, *Environmental impact assessments (EIA) for seawater desalination plants*, presented in the 1<sup>st</sup> meeting on "Prospects of marine water desalination systems in Ierapetra and exploitation of Renewable Energy Sources", TEI of Crete, Ierapetra, Crete, Greece, February 16, 2008.
14. G. Kenanakis, Z. Giannakoudakis, D. Vernardou, E. Koudoumas and N. Katsarakis, *Investigation of the Structural, Morphological and Photocatalytic Properties of ZnO Thin Films and Nanostructures Deposited by Different Chemical Routes*, presented in the XXIII Panhellenic Conference on Solid State Physics and Materials Science, NCSR Demokritos, Athens, September 23 - 26, 2007.
13. D. Vernardou, E. Stratakis, G. Kenanakis, H.M. Yates, S. Couris, M.E. Pemble, E. Koudoumas and N. Katsarakis, *Light-induced reversible hydrophilicity of hydrothermal grown TiO<sub>2</sub> films*, presented in the XXIII Panhellenic Conference on Solid State Physics and Materials Science, NCSR Demokritos, Athens, September 23 - 26, 2007.
12. K. Vlachou, G. Kalogerakis, D. Vernardou, E. Stratakis, G. Kenanakis, E. Koudoumas and N. Katsarakis, *Substrate and deposition time effect on the hydrothermally grown TiO<sub>2</sub> films*, presented in the XXIII Panhellenic Conference on Solid State Physics and Materials Science, NCSR Demokritos, Athens, September 23 - 26, 2007.
11. I. Tsiapa, N. Katsarakis, M. Kafesaki, G. Kenanakis, C.M. Soukoulis, and E.N. Economou, *Fishnet structure: The occurrence of left handed behavior over a wide range of geometrical parameters*, presented in the XXIII Panhellenic Conference on Solid State Physics and Materials Science, NCSR Demokritos, Athens, September 23 - 26, 2007.
10. Nikos Katsarakis, Maria Kafesaki, Irini Tsiapa, George Kenanakis, Eleftherios N. Economou, Costas M. Soukoulis, Thomas Koschny, *Fishnet structure: the occurrence of left-handed behavior over a wide range of geometrical parameters*, presented in the European Materials Research Society (E-MRS) 2007 conference, Strasbourg, France, May 28 - June 1, 2007.
09. D. Vernardou, E. Stratakis, G. Kenanakis, E. Koudoumas and N. Katsarakis, *Hydrophilicity of ZnO nanostructures grown by aqueous chemical growth*, presented in the European Materials Research Society (E-MRS) 2007 conference, Strasbourg, France, May 28 - June 1, 2007.
08. D. Vernardou, G. Kenanakis, E. Koudoumas, G. Kiriakidis and N. Katsarakis, *Effect of Deposition Parameters on the Growth of Zinc Oxide Nanostructures Using Chemical Methods*, presented in the European Materials Research Society (E-MRS) 2007 conference, Strasbourg, France, May 28 - June 1, 2007.
07. I. Tsiapa, G. Kenanakis, S. Foteinopoulou, T. Gundogdu, R. Penciu, M. Kafesaki, N. Katsarakis, E. N. Economou, C. M. Soukoulis, *Left-Handed Electromagnetism in Composite Metamaterials and PC surfaces*, presented in the European Doctoral School on Metamaterials, Warsaw, Poland, May 7-9, 2007.
06. G. Kenanakis, S. Foteinopoulou, I. Tsiapa, T. Gundogdu, R. Penciu, M. Kafesaki, N. Katsarakis, E. N. Economou, C. M. Soukoulis, *Photonic crystals and left-handed materials in FORTH*, presented in the Phoremest 2007 conference, Marsalomas, Gran Canaria, Spain, May 2-4, 2007.
05. G. Kenanakis, D. Vernardou, E. Koudoumas, N. Katsarakis, *Nanostructures for Ozone sensing: Growth of ZnO on glass by Aqueous Chemical Growth technique*, presented in the 4th International Workshop on ZnO and Related Materials, Giessen, Germany, October 3-6, 2006.
04. G Kenanakis, D. Vernardou, M. Sucheas, S. Christoulakis, E. Koudoumas, G. Kiriakidis, N. Katsarakis, *Ozone sensing properties of ZnO nanostructures grown by the aqueous chemical growth technique*, presented in the 1<sup>st</sup> International Symposium on Transparent Conductive Oxides (TCOs 2006), Hersonissos, Crete, Greece, October 23-25, 2006.
03. D. Vernardou, G. Kenanakis, S. Couris, E. Koudoumas, E. Kymakis, N. Katsarakis, *Initial studies of pH effect on growth of ZnO nanostructures by aqueous chemical growth*, presented in the 1<sup>st</sup> International Symposium on Transparent Conductive Oxides (TCOs 2006), Hersonissos, Crete, Greece, October 23-25, 2006.
02. G. Kenanakis, M. Androulidaki, E. Koudoumas, C. Savvakis, N. Katsarakis, *Photoluminescence of ZnO nanostructures grown by the aqueous chemical growth technique*, presented in the European Materials Research Society (E-MRS) 2006 conference, Nice, France, May 28 - June 1, 2006.
01. A. Myrilla, G. Kenanakis, *Bioremediation of Landfill Emissions - Case Studies*, presented in "Bioremediation of contaminated Landfills" meeting of Technical Chamber of Greece, Heraklion, Crete, Greece, June 20th, 2006.

### **Technical/Research skills**

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- ❖ Synthesis of metal oxide thin films and micro-/nano-structures using chemical and physical techniques such as solution growth, sol-gel, spin-/dip coating, CVD, thermal evaporation *etc.*
- ❖ Materials' characterization using X-ray diffraction (XRD), FT-IR, Raman and UV-Vis spectroscopy, along with microscopy techniques (SEM and AFM).
- ❖ Electrical characterization of materials using Impedance spectroscopy, such as Seebeck Coefficient (Thermoelectric power) measurements, employing the so-called 2-probe, 4-probe and Van der Pauw techniques.
- ❖ Mechanical properties of several samples using tension/compression and flexural tests
- ❖ Experimental study of linear characteristics of radio frequency (RF) components and devices, along with the analysis of signal integrity and materials measurement, using a vector Network analyzer.

### **Computer knowledge**

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- ❖ Excellent knowledge of operational systems (*Unix and Windows*); construction techniques; hardware development concepts, practices and procedures; technical and scientific software i.e., spreadsheets; drafting software (*AutoCAD, Microsoft Visio and Intergraph Microstation, Origin, Mathematica, MathCAD, MATLAB*).
- ❖ Excellent knowledge of simulation and finite element analysis software (*CST Microwave Studio, Comsol MultiPhysics*).
- ❖ Excellent knowledge of image editing software (*Adobe Photoshop, Paint Shop Pro, Corel Photo Paint, CorelDRAW*); 3D modeling, animation, and rendering software (*3D Studio MAX, Blender*).
- ❖ Excellent knowledge of web design software (*Macromedia Dreamweaver, Macromedia Flash, Microsoft FrontPage, Microsoft Visual Studio NET*).
- ❖ In-depth knowledge of programming languages: Large experience with Fortran 77 and knowledge of Fortran 90, Python programming language.
- ❖ Deep knowledge of page layout and publishing software (*Adobe PageMaker, QuarkXpress*).
- ❖ Profound skills in interpreting field notes and diagrams, performing complex calculations, and in the use of AM/FM/GIS technology (*ArcView, MapInfo*).