

## **Dr. GEORGIOS Chr. PSARRAS**

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Smart Materials & Nanodielectrics Laboratory,  
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URL: smatlab.upatras.gr

### **Resume:**

110 referred journal papers, 124 papers in international conferences, 112 papers in national conferences, 6 chapters in books, 2 textbooks, participation in 17 funded research projects, over 3400 citations (excluding self-citations), *h*-index 33 (source: scopus.com), supervision of 9 PhD theses, 29 MSc theses, 118 BSc theses, over 20 years of teaching experience in the field of materials science and physics.

### **Education and Research Training:**

- Ph.D. in Materials Physics Engineering, Department of Materials Science & Engineering, School of Chemical Engineering, National Technical University of Athens, Greece, 1995.
- University Degree in Physics, Department of Physics, University of Ioannina, Greece, 1986.
- Greek Open University, Intensive Course in Distance Learning, 1999.
- Informatics and Systems' Analysis, Center of Economic Research, Athens University of Economics and Business, Greece, 1989.
- Polymers and Composite Materials Characterization, COMETT, National Technical University of Athens, Greece, 1993.
- Polymeric and Composite Materials, COMETT, National Technical University of Athens, Greece, 1993.
- Smart Materials, Erasmus, National Technical University of Athens, Greece, 1994.
- New Technological Materials, Continuous Training, National Technical University of Athens, Greece, 1994.

### **Academic/Employment History:**

- November 2019 – today: Professor, Department of Materials Science, University of Patras, Greece.
- April 2016: Visiting Professor, Department of Polymer Engineering, Faculty of Mechanical Engineering, Budapest University of Technology and Economics, Hungary.
- November 2015 – November 2019: Associate Professor, Department of Materials Science, University of Patras, Greece.
- July 2014: Visiting Professor, Department of Polymer Science and Engineering, University of Science and Technology of Beijing, China.
- January 2013 – November 2015: Tenured Assistant Professor, Department of Materials Science, University of Patras, Greece.
- August 2008 – January 2013: Assistant Professor, Department of Materials Science, University of Patras, Greece.

- December 2003 – August 2008: Lecturer, Department of Materials Science, University of Patras, Greece.
- September 2001 – December 2003: Assistant Professor (temporary employment under 407/80 contract), Department of Materials Science, University of Patras, Greece.
- October 2000 – August 2001: Lecturer (temporary employment under 407/80 contract), Department of Materials Science, University of Patras, Greece.
- 1998-2001: Researcher (full time), Institute of Chemical Engineering and High Temperature Chemical Processes, Foundation for Research and Technology, Patras, Greece
- 1994-1998: Post-Doctoral Research Fellow, Department of Materials Science & Engineering, School of Chemical Engineering, National Technical University of Athens, Greece.

#### **Research Interests:**

- Smart and functional materials, hybrid materials' systems incorporating: Shape Memory Alloys, piezo/ferroelectric elements and electrorheological fluids. Development, multiple characterization, and functionality.
- Nanocomposites and nanodielectrics, energy storage and harvesting.
- Dielectric spectroscopy, electrical properties of polymers and polymer composite materials: dielectric behaviour, AC and DC conductivity.
- Modeling the electrical response of polymer matrix composite materials.
- Thermal and Mechanical properties of polymers and composite materials.
- Magnetic properties of nanocomposites.
- Micromechanics of composite materials using the Laser Raman Spectroscopy.
- Anticorrosive behaviour of composite polymeric systems using impedance spectroscopy.
- Relaxation phenomena and electrical properties in biopolymers and biocompatible nanocomposites.

#### **Fellowships, Awards and Distinctions:**

- 1). 1991-1994: Greek State Scholarship for doctoral studies, School of Chemical Engineering, National Technical University of Athens.
- 2). 1998-1999: Greek Open University Scholarship for "Open and Distance Learning Studies".
- 3). 1999-2000: Greek State Scholarships Foundation, for post-doctoral research studies.
- 4). The paper «Graphite Nanoplatelets and/or Barium Titanate / Polymer Nanocomposites: Fabrication, Thermomechanical Properties, Dielectric Response and Energy Storage. A. C. Patsidis, K. Kalaitzidou, D. L. Anastassopoulos, A. A. Vradis, G. C. Psarras, Journal of the Chinese Advanced Materials Society, vol. 2(3), (2014), p. 207-221» is included in the «Physics Best of 2014» of the scientific publishing house Taylor & Francis.
- 5). The work «The impact of grain size/interface at Boron Carbide/epoxy composites: dielectric properties and molecular dynamics. E. C. Senis, G.C. Psarras, was awarded the best oral presentation in XXXI Panhellenic Conference on Solid State Physics & Materials Science, Thessaloniki, 20-23 September 2015.
- 6). Outstanding Reviewer for the "Journal of Physics D: Applied Physics", Institute of Physics (IOP), <https://publishingsupport.iopscience.iop.org/questions/journal-physics-d-applied-physics-2017-reviewer-awards/>.

7). Member of the "Advisory Panel of Journal of Physics D: Applied Physics (JPhysD)", Institute of Physics (IOP), <http://iopscience.iop.org/journal/0022-3727/page/Advisory%20panel>.

8). G. C. Psarras is included in the top 2% of global researchers, according to Stanford University & Elsevier BV. September 2022 data-update for "Updated science-wide author databases of standardized citation indicators", Published: 3 November 2022| Version 5 | DOI: 10.17632/btchxktzyw.5. <https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw>.

### **Participation in Funded Research Projects:**

Participation in 17 international and national research projects:

- 1). "Integrating Multi-Functionality and Smart Performance in Hybrid Polymer Nanodielectrics".  
Hellenic Foundation for Research & Innovation, 1<sup>st</sup> Call for HFRI's research projects to support Faculty members and Researchers, Scientific Responsible: G. C. Psarras.  
Duration: 2020-2022.
- 2). "Development, characterization and functionality of nanocomposite systems consisted of an epoxy resin reinforced with carbides and forms of carbon".  
Greek State Scholarships Foundation (IKY), Programme for Doctoral Research, Scientific Responsible: G. C. Psarras, PhD student: Th. Velmachos. Duration 2018-2021.
- 3). "Development, characterization and functional behaviour of multi-responsive composite materials of elastomeric matrix/ceramic inclusions/forms of carbon".  
Greek State Scholarships Foundation, Programme for Post-doctoral Research, Scientific Responsible: G. C. Psarras, Post-doctoral researcher: A. C. Patsidis. Duration: 2017-2019.
- 4). "Polymer matrix/magnetic inclusions composite nanodielectrics: Development, characterization and functionality".  
Hellenic Foundation for Research & Innovation, 1<sup>st</sup> call for doctorate students' scholarships, Scientific Responsible: G. C. Psarras, PhD student: A. Sanida. Duration: 2017-2019.
- 5). "Polymer matrix/carbon allotropic forms multifunctional nanodielectrics: Development, characterization, and energy storage".  
Hellenic Foundation for Research & Innovation, 1<sup>st</sup> call for doctorate students' scholarships, Scientific Responsible: G. C. Psarras, PhD student: S. Stavropoulos. Duration: 2017-2019.
- 6). "Research and development of novel multifunctional polymer nanocomposites".  
General Secretariat for Research and Technology, "Thalis" research framework. Scientific Responsible: G. C. Psarras, U. of Patras, General coordinator: A. Kanapitsas, TEI of Sterea Ellada. Duration: 2012-2016.  
*Partners:* 1). Dep. of Electronics, TEI of Lamia, 2) Dep. of Materials Science, U. of Patras, 3) Physics Dep. of U. of Patras, 4) Dep. of

- Electronics, TEI of Athens, 5). National Center for Scientific Research "Demokritos", Athens Center.
- 7). "Electrical and Thermomechanical Characterization of Smart Systems consisting of Polymer Matrix and Piezo/Ferro-electric Inclusions".  
General Secretariat for Research and Technology, bilateral agreement between Greece and Tunisia. Scientific Responsible: G. C. Psarras. Duration: 2007-2008.  
*Partners:* 1). Dep. of Materials Science, U. of Patras, 2). Physics Department, Faculty of Science, University of Sfax, Tunisia.
  - 8). "Thermomechanical and Dielectric Response of Rubber Latex/Inorganic Nanofiller Systems"  
Bilateral agreement between Greece and Germany, IKYDAAD 2005. Scientific Responsible: G. C. Psarras. Duration: 2006-2008.  
*Partners:* 1). Dep. of Materials Science, U. of Patras, 2). Institute for Composite Materials, Technical University of Kaiserslautern, Germany.
  - 9). "Fabrication technology, characterization and study of properties of bulk amorphous and nanophase metallic alloys".  
General Secretariat for Research and Technology, bilateral agreement between Greece and Hungary. Scientific Responsible: S. Baskoutas, U. of Patras. Duration: 2003 – 2006.  
*Partners:* 1). Dep. of Materials Science, U. of Patras, 2). Research Institute for Solid State Physics and Optics, Budapest.
  - 10). "Development and study of smart composite systems consisted of polymer matrix with embedded shape memory wires".  
Secretariat for Research and Technology (PENED). Scientific Responsible: C. Galiotis, ICE-HT/FORT. Duration: 2002-2005.
  - 11). "Development of a MW scale wind turbine for high wind complex terrain sites".  
Growth (Energie) (Nº: NNE5-2000-00327).  
Scientific Responsible: C. Galiotis ICE-HT/FORTH. General coordinator: P. Vionis, Centre for Renewable Energy Sources and Saving (CRES). Duration: 2001-2004.  
*Partners:* 1). Centre for Renewable Energy Sources and Saving, Greece, 2). MADE Tecnologias Renovables, Spain, 3). NESCO Entrecanales Cubiertas S.A., Spain, 4). Gevbiologiki SA, Greece, 5). Centro de Investigaciones Energeticas Edioambientales y Technologicas, Spain, 6). Joint Research Centre, EC-ISIS, Italy, 7). EIXHMYΘ/ITE, Ελλάς, 8) Dep. of Mechanical and Aeronautical Engineering, U. of Patras, Greece, 9). School of Mechanical Engineering, NTUA, Greece 10). Design Unit, Gear Technology Centre, University of Newcastle, U.K.
  - 12). "Industrial applications of composite materials"  
General Secretariat for Research and Technology (EPET II). Scientific Responsible: J. Yiakoumis, IGVP R & D Ltd. Duration: Feb. 2000 – July 2001.  
*Partners:* 1). Dep. of Chemistry, U. of Athens, 2) IESL/FORTH, 3). Dep. of Chemical Engineering, AUTH, 4). School of Chemical Engineering, NTUA, 5). Dep. of Chemical Engineering, U. of Patras, 6). ICE-HT/FORTH, 7).

Theoretical and Physical Chemistry Institute (TPCI), National Hellenic Research Foundation, 8) IGVP R & D Ltd, 9). Adhesives Research Institute, 10). Intercem Hellas, 11). Lavipharm, 12). S. K. Egis, 13.) "Peverplast" G. Banoutsos, 14). Bureau Veritas.

- 13). "Adaptive Composites with Embedded Shape Memory Alloy Wires". Brite-Euram (N<sup>o</sup>: BRPR-CT97-468). Scientific Responsible: C. Galiotis ICE-HT/FORTH. General coordinator: Rudy Stalmans, Dep. MTM, KULeuven. Duration: 1998 – 2001.  
*Partners:* 1). KULeuven, Belgium, 2). Ecole Polytechnique Federale de Lausanne, Swiss, 3). Dalmer-Chrysler, Germany, 4). European Aeronautics Defense and Space Company (EADS), Germany, 5). British Aerospace, Sowerby Research Center, U.K., 6) ICE-HT/FORTH, Greece.
- 14). "Dielectric behaviour and conductivity (dc, ac) of metal particles/polymer matrix composite materials". 2<sup>nd</sup> Programme for Post-Doctoral Research in Greece, Greek State Scholarships Foundation. G. C. Psarras, duration: 1999-2000.
- 15). "Development of new materials for surface and structural conservation of monuments based on the fabrication materials and the damage mechanisms". General Secretariat for Research and Technology (EPET II). Scientific Responsible: P. Vassiliou, National Technical University of Athens. Duration: 1995-1997.
- 16). "Study of the anti-corrosive properties of polymer coatings". General Secretariat for Research and Technology, bilateral agreement between Greece and Hungary, G-MATERIALS JRP-2. Scientific Responsible: N. Kouloumbi, National Technical University of Athens. Duration: 1994-1996.  
*Partners:* National Technical University of Athens and University of Veszprem.
- 17). "Polymer matrix/metal particles composite materials: preparation and study of their electrical and magnetic properties targeting to performance optimization". General Secretariat for Research and Technology (PENED). Scientific Responsible: G. M. Tsangaris, National Technical University of Athens. Duration: 1994-1996.

### **Publications/Citations:**

105 Refereed papers, 30 full papers in refereed proceedings of international conferences, 91 extended abstracts in proceedings of international conferences, 110 papers in proceedings of national conferences, 2 textbooks, 6 chapters in books, translation of 2 textbooks in Greek.

### *Citations*

- Over 3300 citations (excluding self-citations, source: Science Citation Index, google.com, scholar.google.com, books.google.com, scopus.com, September 2022), *h*-index 32 (source: scopus.com).

### **Conference Participation/Attendance:**

26 International conferences, 38 national conferences, 14 invited lectures.

### **Editorial Activity/Invited Lectures**

#### *Editorial membership*

- Subject Editor (Polymer Composite Nanodielectrics) and member of the Editorial Board of the scientific journal "IET Nanodielectrics", The Institution of Engineering and Technology, <http://digital-library.theiet.org/journals/iet-nde/editorial-board>.
- Member of the Editorial Board of the scientific journal "Express Polymer Letters", BME-PT, [www.expresspolymlett.com](http://www.expresspolymlett.com).
- Member of the Editorial Board of the scientific journal "Journal of Advanced Physics", American Scientific Publishers, <http://www.aspbs.com/jap.htm>.
- Member of the Editorial Board of the scientific journal "Materials", (ISSN 1996-1944; CODEN: MATEG9), <https://www.mdpi.com/journal/materials/editors>.

#### *Active reviewer in the journals:*

1. ACS Applied Electronic Materials
2. Advanced Composites Letters
3. Advanced Functional Materials
4. Advanced Materials
5. Applied Materials & Interfaces
6. Applied Physics A: Materials Science & Processing
7. Applied Physics Letters
8. E-Polymer
9. European Polymer Journal
10. Express Polymer Letters
11. Carbon
12. Cellulose
13. Ceramic International
14. Chemical Physics Letters
15. Communication Materials
16. Composites Part A: Applied Science and Manufacturing
17. Composites Part B: Engineering
18. Composites Science and Technology
19. Computer and Chemical Engineering
20. Dalton Transactions
21. Fullerenes, Nanotubes and Carbon Nanostructures
22. High Voltage
23. IEEE Transactions on Dielectrics and Electrical Insulation
24. IEEE Transactions on Nanotechnology
25. Industrial & Engineering Chemistry Research
26. International Journal of Applied Ceramic Technology
27. International Journal of Energy Research
28. International Journal of Modern Physics B
29. Journal of Advanced Physics
30. Journal of Applied Physics

31. Journal of Composite Materials
32. Journal of Experimental Nanoscience
33. Journal of Materials Chemistry
34. Journal of Materials Research
35. Journal of Materials Science
36. Journal of Materials Science: Materials in Electronics
37. Journal of Materiomics
38. Journal of Molecular Liquids
39. Journal of Molecular Structure
40. Journal of Nanoresearch
41. Journal of Nanostructure in Chemistry
42. Journal of Nanostructured Polymers and Nanocomposites
43. Journal of Physical Chemistry
44. Journal of Physics and Chemistry of Solids
45. Journal of Physics: Condensed Matter
46. Journal of Physics D: Applied Physics
47. Journal of Polymer Research
48. Journal of Polymer Science B: Polymer Physics
49. Journal of Reinforced Plastics and Composites
50. Journal of the American Ceramic Society
51. Journal of Theoretical and Allied Physics
52. Journal of Thermal Analysis and Calorimetry
53. Journal of Thermoplastic Composite Materials
54. KMUTNB International Journal of Applied Science and Technology
55. Macromolecular Rapid Communications
56. Macromolecules
57. Materials
58. Materials Design
59. Materials Chemistry and Physics
60. Materials Letters
61. Materials Research Bulletin
62. Materials Science and Engineering B: Solid State Materials for Advanced Technology
63. Materials Science and Technology
64. Materiaux et Techniques
65. Microsystem Technologies
66. Modern Physics Letters B
67. Nanodielectrics
68. Nanoscale
69. Nanotechnology
70. New Journal of Physics
71. Physica Scripta
72. Plastics, Rubbers and Composites
73. Polymer
74. Polymer Composites
75. Polymer Bulletin
76. Polymer Engineering & Science
77. Polymer Testing
78. Semiconductor Science and Technology
79. Soft Matter
80. Spectroscopy Letters
81. The Journal of Physical Chemistry

*Invited Lectures*

- (a) "Materials Matter! Materials Science and its improvements on the human potential",  
(b) "Smart Materials",  
Young European Engineers, Board of European Students of Technology, Local Group of Patras, May 2006 (scientific responsible and speaker of the seminar on materials).
- "Electrical Properties of Polymer Matrix/Conductive Inclusions Composites", summer graduated school on "Composites Materials", Kaiserslautern University of Technology, Kaiserslautern, Germany, 20 July 2006.
- "Probing the Reverse Martensitic Transformation in Constrained Shape Memory Alloys via the Variation of Electrical Resistance" Key-Note Lecture in the session of "Smart Materials", International Conference on Structural Analysis of Advanced Materials, ICSAM-2007, September 2-6, 2007, Patras, Greece.
- "Dielectric Response of Polymer Matrix Micro- and Nanocomposites", summer graduated school on "Composites Materials", Kaiserslautern University of Technology, Kaiserslautern, Germany, 3 July 2008.
- "Dielectric Materials and Broadband Dielectric Spectroscopy: Introductory Remarks", Department of Polymer Science and Engineering, University of Science and Technology of Beijing, China, July 2014.
- "Dielectric Response of Polymers and Polymer Matrix Composites (Structure Properties Relationship)", Department of Polymer Science and Engineering, University of Science and Technology of Beijing, China, July 2014.
- "Conductivity and Electrical Percolation in Polymers and Polymer Matrix Micro/Nano-Composites", Department of Polymer Science and Engineering, University of Science and Technology of Beijing, China, July 2014.
- "Current Applications and Future Trends of Polymers and Polymer Matrix Micro/Nano-Composites", Department of Polymer Science and Engineering, University of Science and Technology of Beijing, China, July 2014.
- "Smart Materials Incorporating Shape Memory Alloys", Department of Polymer Science and Engineering, University of Science and Technology of Beijing, China, July 2014.
- "Electrical Response of Polymers and Polymer Matrix Micro/Nano-Composites", National Technical University of Athens, School of Chemical Engineering, Master's Programme in "Materials Science", May 2015.
- "Conductivity and Electrical Percolation in Polymers and Polymer Matrix Micro/Nano-Composites", Master's Programme in "Materials Science", May 2015.
- "Ceramic particles/epoxy resin nanodielectrics: development, electrical response, functionality and energy storage", Workshop, Polymer Nanocomposites: Synthesis, Properties, Modeling, Applications, 16-17 June 2015, National Technical University of Athens, Athens, Greece.
- "Dielectric Materials and Broadband Dielectric Spectroscopy: Introductory Remarks", Faculty of Mechanical Engineering, Department of Polymer



Engineering, Budapest University of Technology and Economics, Hungary, April 2016.

- "Ceramic Particles/Epoxy Resin Nanodielectrics: Development, Electrical Response, Functionality and Energy Storage", Faculty of Mechanical Engineering, Department of Polymer Engineering, Budapest University of Technology and Economics, Hungary, April 2016.
- "Conductivity and Electrical Percolation in Polymers and Polymer Matrix Micro/Nano-Composites", Faculty of Mechanical Engineering, Department of Polymer Engineering, Budapest University of Technology and Economics, Hungary, April 2016.
- "Polymer Matrix Nanocomposites: Development, Characterization, and Properties", Department of Materials Science, University of Patras, 1st Summer School of nanoQIQO on the "Electronic & Optical Properties of Nanomaterials (Methods and Techniques)", July 2022.
- "Ceramic inclusions/polymer matrix nanocomposites, following a route to multifunctional performance", Smart Materials and Surfaces International Conference-SMS2022, 26-28 October 2022, Athens- Greece.

#### **Professional Affiliations:**

- Member of the Hellenic Society of Science and Technology of Condensed Matter.
- Member of the Hellenic Polymer Society.
- Member of the Hellenic Society of Composite Materials.
- Member of the Hellenic Society for Thermal Analysis.
- Member of the European Society for Composite Materials.
- Member of the Advisory Committee of the International Union of Advanced Materials Society.

#### **Publications:**

##### ***a) Refereed Papers***

- 110). Epoxy-Silicon composite materials from end-of-life photovoltaic panels. C. Pavlopoulos, A. Christoula, A. C. Patsidis, D. Semitekolos, K. Papadopoulou, **G. C. Psarras**, L. Zoumpoulakis, G. Lyberatos, Waste and Biomass Valorization, accepted April 2023.
- 109). Polymer nanocomposites and transport (in their) properties. **G. C. Psarras**, Express Polymer Letters, vol. 17(6), (2023), p. 563, <https://doi.org/10.3144/expresspolymlett.2023.41>.
- 108). Multifunctional Performance of Hybrid SrFe<sub>12</sub>O<sub>19</sub>/BaTiO<sub>3</sub>/Epoxy Resin Nanocomposites. G. C. Manika, S. Gioti, A. Sanida, G. N. Mathioudakis, A. Abazi, Th. Speliotis, A. C. Patsidis, **G. C. Psarras**, Polymers, vol. 14, (2022), art. No 4817, <https://doi.org/10.3390/polym14224817>.

- 107). Flexible Polymer-Based Nanodielectrics Reinforced with Electrospun Composite Nanofibers for Capacitive Energy Storage.  
S. X. Drakopoulos, J. Jang, O. Vryonis, L. Williams, **G. C. Psarras**,  
E. Mele,  
ACS Applied Polymer Materials,  
vol. 4, (2022), p. 8203–8215, <https://doi.org/10.1021/acsapm.2c01162>.
- 106). Thermomechanical Properties of Carbon Nanocomposites PEGDA Photopolymers.  
P. Loginos, A. Patsidis, K. Vrettos, G. Sotiriadis, **G. C. Psarras**,  
V. Kostopoulos, V. Georgakilas,  
Molecules,  
vol. 27, (2022), art. No 6996.
- 105). Dielectric Properties and Energy Storage of Hybrid/Boron Nitride/Titanium Carbide/Epoxy Nanocomposites.  
C. Blatsi, A. C. Patsidis, **G. C. Psarras**,  
Journal of Composites Science,  
vol. 6, (2022), art. No 259,  
<https://doi.org/10.3390/jcs6090259>.
- 104). Assessing the Effect of Fe<sub>3</sub>O<sub>4</sub> Nanoparticles on the Thermomechanical Performance of Different Forms of Carbon Allotropes/Epoxy Hybrid Nanocomposites.  
S. G. Stavropoulos, A. Sanida, **G. C. Psarras**,  
Applied Mechanics,  
vol. 3, (2022), p. 560-572.
- 103). Multitasking Performance of Fe<sub>3</sub>O<sub>4</sub>/BaTiO<sub>3</sub>/Epoxy Resin Hybrid Nanocomposites.  
S. Gioti, A. Sanida, G. N. Mathioudakis, A. C. Patsidis, Th. Speliotis,  
**G. C. Psarras**,  
Materials,  
vol. 15, (2022), art. No 1784,  
<https://doi.org/10.3390/ma15051784>
- 102). Epoxy-based/BaTiO<sub>3</sub> nanodielectrics: Relaxation dynamics, charge transport and energy storage.  
S. X. Drakopoulos, A. C. Patsidis, **G. C. Psarras**,  
Materials Research Bulletin,  
vol. 145, (2022), art. no 111537.
- 101). Epoxy-Based/BaMnO<sub>4</sub> Nanodielectrics: Dielectric Response and Energy Storage Efficiency.  
D. I. Batsouli, A. C. Patsidis, **G. C. Psarras**,  
Electronics,  
vol. 10, (2021), art. No 2803,  
<https://doi.org/10.3390/electronics10222803>

- 100). Evaluating the multifunctional performance of polymer matrix nanodielectrics incorporating magnetic nanoparticles: A comparative study.  
A. Sanida, S.G. Stavropoulos, Th. Speliotis, **G. C. Psarras**,  
*Polymer*,  
vol. 236, (2021), art. no 124311.
- 99). Boron nitride/epoxy resin nanocomposites: development, characterization and functionality.  
A. C. Konstantinou, A. C. Patsidis, **G. C. Psarras**,  
*Journal of Thermal Analysis and Calorimetry*,  
vol. 145, (2021), p. 2925–2933.
- 98). Carbon Allotropes/Epoxy Nanocomposites as Capacitive Energy Storage/Harvesting Systems.  
S. G. Stavropoulos, A. Sanida, **G. C. Psarras**,  
*Applied Sciences*,  
vol. 11, (2021), 11, art. no 7059, <https://doi.org/10.3390/app11157059>
- 97). Gold/ultra-high molecular weight polyethylene nanocomposites for electrical energy storage: Enhanced recovery efficiency upon uniaxial deformation.  
S. X. Drakopoulos, G. C. Manika, A. Nogales, T. Kim, A. B. Robbins, G. Claudio, A. J. Minnich, T. A. Ezquerro, **G. C. Psarras**, I. Martin-Fabiani, S. Ronca,  
*Journal of Applied Polymer Science*,  
Vol. 138, (2021), e:51232, <https://doi.org/10.1002/app.51232>.
- 96). Oriented ultra-high molecular weight polyethylene/gold nanocomposites: Electrical conductivity and chain entanglement dynamics.  
S. X. Drakopoulos, **G. C. Psarras**, S. Ronca,  
*Express Polymer Letters*,  
vol. 15(6), (2021), p. 492-502.
- 95). Development and characterization of multifunctional Yttrium Iron Garnet /epoxy nanodielectrics.  
A. Sanida, S. G. Stavropoulos, Th. Speliotis, **G. C. Psarras**,  
*Journal of Thermal Analysis and Calorimetry*,  
vol. 142, (2020), p. 1701–1708.
- 94). A comparative study on the thermomechanical and electrical properties of carbide/ or graphite/epoxy reinforced composites.  
S. Gioti, S. G. Stavropoulos, A. Sanida, **G. C. Psarras**,  
*Journal of Thermal Analysis and Calorimetry*,  
vol. 142, (2020), p. 1649–1657.
- 93). *Panacea*: A Greek ancient myth “living” in materials science?  
**G. C. Psarras**,  
*Express Polymer Letters*,  
vol.14(12), (2020), p. 1105.
- 92). The effect of micro-fibrillated cellulose upon the dielectric relaxations and DC conductivity in thermoplastic starch bio-composites.

- S. X. Drakopoulos, J. Karger-Kocsis, **G. C. Psarras**,  
Journal of Applied Polymer Science,  
doi.org/10.1002/app.49573, (2020).
- 91). On the ferroelectric to paraelectric structural transition of BaTiO<sub>3</sub> micro/nano particles and their epoxy nanocomposites.  
G. C. Manika, K. S. Andrikopoulos, **G. C. Psarras**,  
Molecules,  
vol. 25, (2020), art. no 2686.
- 90). Probing the multifunctional behaviour of barium zirconate/barium titanate/epoxy resin hybrid nanodielectrics.  
Z. M. Tsikriteas, G. C. Manika, A. C. Patsidis, **G. C. Psarras**,  
Journal of Thermal Analysis and Calorimetry,  
vol. 142, (2020), p. 231–243.
- 89). Probing the magnetoelectric response and energy efficiency in Fe<sub>3</sub>O<sub>4</sub>/epoxy nanocomposites.  
A. Sanida, S. G. Stavropoulos, Th. Speliotis, **G. C. Psarras**,  
Polymer Testing,  
vol. 88, (2020), art. no 106560.
- 88). A comparative study on the electrical properties of different forms of carbon allotropes – epoxy nanocomposites.  
S. G. Stavropoulos, A. Sanida, **G. C. Psarras**,  
Express Polymer Letters,  
vol. 14(5), (2020), p. 477–490.
- 87). SrTiO<sub>3</sub>/epoxy nanodielectrics as bulk energy storage and harvesting systems: The role of conductivity.  
G. C. Manika, **G. C. Psarras**,  
ACS Applied Energy Materials,  
vol. 3, (2020), p. 831–842.
- 86). Investigating the Effect of Zn ferrite nanoparticles on the thermomechanical, dielectric and magnetic properties of polymer nanocomposites.  
A. Sanida, S. G. Stavropoulos, Th. Speliotis, **G. C. Psarras**,  
Materials,  
vol. 12, (2019), art, no. 3015 (12p).
- 85). Development, Dielectric Response and Functionality of SrTiO<sub>3</sub>/Epoxy Nanocomposites.  
G. C. Manika, **G. C. Psarras**,  
Journal of Materials Science : Materials in Electronics,  
vol. 30(14), (2019), p. 13740–13748.
- 84). Atmospheric Plasma Nanotexturing of Organic–Inorganic Nanocomposite Coatings for Multifunctional Surface Fabrication.  
P. Dimitrakellis, A. C. Patsidis, A. Smyrnakis, **G. C. Psarras**, E. Gogolides,  
ACS Applied Nanomaterials,  
vol. 2(5), (2019), p. 2969–2978.

- 83). ZnTiO<sub>3</sub>/Epoxy Resin Nanocomposites: Development, Dielectric Behaviour and Functionality.  
E. Koufakis, G. N. Mathioudakis, A. C. Patsidis, **G. C. Psarras**,  
Polymer Testing,  
vol. 77, (2019), art. no 105870.
- 82). Barium titanate/epoxy resin composite nanodielectrics as compact capacitive energy storing systems.  
G. C. Manika, **G. C. Psarras**,  
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  - 38). ZnO/epoxy resin and BaTiO<sub>3</sub>/epoxy resin nanocomposites: Development,  
Electrical characterisation and Relaxation dynamics.  
G. N. Tomara, **G.C. Psarras**, A. Kanapitsas, C. Tsonos,  
Fourth International Symposium Frontiers in Polymer Science  
in association with the journal Polymer,  
20-22 May 2015, Riva del Garda (on Lake Garda), Italy.
  - 37). Epoxy Resin/Barium Ferrite (BaFe) nanocomposites: A study of water  
sorption dynamics.  
A. Georgakilas, S. Kriptomou, A. Kanapitsas, C. Tsonos, **G. C. Psarras**,  
Eurofillers Polymer Blends 2015, Montpellier, France, April 26th – 30th,  
2015
  - 36). Dielectric response, functionality and energy storage in perovskite type  
ceramics/epoxy resin nanodielectrics.  
S. Kriptomou, A. Kanapitsas, C. Tsonos, **G. C. Psarras**,  
Fourth International Conference on Multifunctional, Hybrid and  
Nanomaterials (HYMA 2015),  
9-13 March, 2015, Sitges (near Barcelona), Spain.
  - 35). Dielectric and functional properties of polymer matrix/ZnO/BaTiO<sub>3</sub> hybrid  
nano-composites.  
S. Kriptomou, A. Kanapitsas, C. Tsonos, **G. C. Psarras**,  
Fourth International Conference on Multifunctional, Hybrid and  
Nanomaterials (HYMA 2015),  
9-13 March, 2015, Sitges (near Barcelona), Spain.
  - 34). Barium Titanate Nano- and/or Micro- Polymer Composites:  
Development, Characterization, and Energy Storage.  
A. C. Patsidis, A. Kanapitsas, C. Tsonos, **G. C. Psarras**,  
9<sup>th</sup> NANOSMAT, International Conference on Surfaces, Coatings and  
Nanostructured Materials, Trinity College Dublin,  
Republic of Ireland, 8-11 September 2014.
  - 33). Development, Characterization, and Energy Storage of  
Polar Oxides/Polymer Matrix Nanodielectrics.  
G. N. Tomara, C. Tsonos, A. Kanapitsas, **G. C. Psarras**,

- 9<sup>th</sup> NANOSMAT, International Conference on Surfaces, Coatings and Nanostructured Materials, Trinity College Dublin, Republic of Ireland, 8-11 September 2014.
- 32). Graphite Nanoplatelets or Barium Titanate-Polydimethylsiloxane Nano/Micro-composites: Development, Characterization, and Energy Storage.  
A. C. Patsidis, K. Kalaitzidou, **G. C. Psarras**,  
9<sup>th</sup> NANOSMAT, International Conference on Surfaces, Coatings and Nanostructured Materials, Trinity College Dublin, Republic of Ireland, 8-11 September 2014.
- 31). Dielectric and Magnetic Properties of Barium Ferrite/Epoxy resin nanocomposite system.  
Th. Speliotis, E. G. Moshopoulou, S. Thanos, A. Kanapitsas, C. Tsonos, **G. C. Psarras**,  
2<sup>nd</sup> USA International Conference on Surfaces, Coatings and Nanostructured Materials (NANOSMAT-USA 2014),  
19-22 May 2014, Houston, Texas, USA.
- 30). Barium titanate- epoxy resin nanocomposites: development, dielectric response, functionality and energy storage.  
A. C. Patsidis, A. Kanapitsas, C. Tsonos, **G. C. Psarras**,  
The 5<sup>th</sup> International Conference on Structural Analysis of Advanced Materials (ICSAAM 2013),  
23 - 26 September 2013, Island of Kos, Greece.
- 29). Barium Ferrite/epoxy resin nanocomposite as a multifunctional nanomaterial system: development, dielectric response, magnetic properties and energy storage.  
Th. Speliotis, E. G. Moshopoulou, S. Thanos, A. Kanapitsas, C. Tsonos, **G. C. Psarras**,  
The 5<sup>th</sup> International Conference on Structural Analysis of Advanced Materials (ICSAAM 2013),  
23 - 26 September 2013, Island of Kos, Greece.
- 28). Zinc titanate/epoxy resin nanodielectrics: morphology, dielectric response and energy storage.  
**G. C. Psarras**, A. Kanapitsas, C. Tsonos,  
8th International Conference on Surfaces, Coatings and Nanostructured Materials (NANOSMAT 2013),  
22-25 September 2013, Granada, Spain.
- 27). Graphite nanoplatelets / barium titanate / epoxy resin hybrid nanocomposites: thermomechanical, dielectric and functional behaviour  
A.C. Patsidis, K. Kalaitzidou, **G. C. Psarras**,  
8th International Conference on Surfaces, Coatings and Nanostructured Materials (NANOSMAT 2013),  
22-25 September 2013, Granada, Spain.
- 26). Dielectric and thermal response of ZnO/epoxy resin nanocomposites.  
C. Tsonos, A. Kanapitsas, **G. C. Psarras**, E. G. Moshopoulou, S. Thanos, Th. Speliotis,

- 7<sup>th</sup> International Discussion Meeting on Relaxations on Complex Systems, 21-26 July 2013, Barcelona, Spain.
- 25). Thermal and dielectric functional properties of epoxy resin-titanium carbide nanocomposites.  
A Kanapitsas, C Tsonos, **G. C. Psarras**,  
7<sup>th</sup> International Discussion Meeting on Relaxations on Complex Systems, 21-26 July 2013, Barcelona, Spain.
  - 24). Broadband dielectric response and energy storage in elastomeric/inorganic filler nanocomposites.  
A.C. Patsidis, E. Pappa, **G.C. Psarras**,  
1<sup>st</sup> International Congress on Materials and Renewable Energy, 1-3 July 2013, Athens, Greece, University of Bolton.
  - 23). Graphite nanoplatelets and/or barium titanate / polymer nanocomposites: thermomechanical properties, dielectric response and energy storage.  
A.C. Patsidis, K. Kalaitzidou, **G. C. Psarras**,  
1<sup>st</sup> International Congress on Materials and Renewable Energy, 1-3 July 2013, Athens, Greece, University of Bolton.
  - 22). Influence of the TiO<sub>2</sub> filler concentration in polymer matrices on the energy storage using Isothermal Depolarization Currents.  
D. Triantis, I. Stavrakas, K. Moutzouris, T. G. Maliaros, **G. C. Psarras**,  
A. Kanapitsas, C. Tsonos,  
1<sup>st</sup> International Congress on Materials and Renewable Energy, 1-3 July 2013, Athens, Greece, University of Bolton.
  - 21). Electrical relaxation phenomena in TiO<sub>2</sub>-polymer matrix nanocomposites.  
G. N. Tomara, A. P. Kerasidou, P. K. Karahaliou, **G. C. Psarras**,  
S. N. Georga, C. A. Krontiras,  
4<sup>th</sup> International Conference from Nanoparticles and Nanomaterials to Nanodevices and Nanosystems (IC4N),  
16-20 June 2013, Corfu, Greece.
  - 20). Graphite nanoplatelets/ polymer nanocomposites: thermomechanical, dielectric and functional behaviour.  
A. C. Patsidis, K. Kalaitzidou, **G. C. Psarras**,  
11<sup>th</sup> Mediterranean Conference on Calorimetry and Thermal Analysis (MEDICTA 2013), 12-15 June 2013, Athens, Greece.
  - 19). Dynamic electrical thermal analysis on ZnO-epoxy resin nanodielectrics.  
G. N. Mathioudakis, A. C. Patsidis, **G. C. Psarras**,  
11<sup>th</sup> Mediterranean Conference on Calorimetry and Thermal Analysis (MEDICTA 2013), 12-15 June 2013, Athens, Greece.
  - 18). Hybrid nanocomposites of ZnTiO<sub>3</sub>/BaTiO<sub>3</sub>/ epoxy resin: functionality, dielectric and thermal properties.  
E. I. Koufakis, A. C. Patsidis, **G. C. Psarras**,  
11<sup>th</sup> Mediterranean Conference on Calorimetry and Thermal Analysis (MEDICTA 2013), 12-15 June 2013, Athens, Greece.

- 17). Polar oxides/epoxy resin hybrid composites: thermal, electrical and functional behaviour.  
D. Triantis, A. Kanapitsas, C. Tsonos, **G. C. Psarras**,  
EMRS 2013 SPRING MEETING  
May 27-31, 2013, Palais des congres, Strasburg, France,  
Symposium F: Nanomaterials for energy conversion and storage.
- 16). Mechanical and dielectric properties of barium titanate/polyester nano-composite materials.  
I. A. Asimakopoulos, **G. C. Psarras**, L. Zoumpoulakis,  
9<sup>th</sup> International Conference on Nanosciences & Nanotechnologies (NN12),  
3-6 July 2012, I. Vellidis Congress Center, Thessaloniki Greece.
- 15). Physical and dielectric properties of functionalized graphene/poly(vinyl alcohol) nanocomposites.  
I. Tantis, **G. C. Psarras**, D. Tasis,  
Fullerene Silver Anniversary Symposium, FSAS 2010,  
4-10 October 2010, Hersonissos, Crete, Greece.
- 14). Dielectric relaxations and thermal properties in epoxy resin-TiO<sub>2</sub> composites.  
C. Tsonos, A. Kanapitsas, H. Zois, **G. C. Psarras**,  
10<sup>th</sup> International Workshop on Non Crystalline Solids, IWNCS 10,  
20-23 April 2010, Barcelona, Spain.
- 13). Temperature dependence of the dielectric response of epoxy resin-ZnO microcomposites.  
A. Soulintzis, G. Kontos, P. K. Karahaliou, **G. C. Psarras**,  
S. N. Georga, C. A. Krontiras,  
7<sup>th</sup> General Conference of the Balkan Physical Union, 9-13 September  
2009, Alexandroupolis, Greece.
- 12). Electrical relaxation and conductivity processes in polymer matrix – ZnO composites.  
A. Soulintzis, G. Kontos, P. K. Karahaliou, **G. C. Psarras**,  
S. N. Georga, C. A. Krontiras, M. N. Pisanias,  
International Conference on Structural Analysis of Advanced Materials,  
ICSAM-2007, September 2-6, 2007, Patras, Greece.
- 11). Dielectric and conductivity dispersions in natural and polyurethane rubber blend-layered silicate loaded nanocomposites.  
A. Kalini, K. G. Gatos, P. K. Karahaliou, S. N. Georga, C. A. Krontiras,  
**G. C. Psarras**, J. Karger-Kocsis,  
International Conference on Structural Analysis of Advanced Materials,  
ICSAM-2007, September 2-6, 2007, Patras, Greece.
- 10). Electrical relaxation dynamics in polymer matrix – TiO<sub>2</sub> composites  
G. Kontos, A. Soulintzis, P. K. Karahaliou, **G. C. Psarras**, S. N. Georga,  
C. A. Krontiras, M. N. Pisanias.  
3<sup>rd</sup> China-Europe Symposium on Processing and Properties of Reinforced  
Polymers,  
Budapest University of Technology and Economics,  
Budapest, Hungary, June 11-15, 2007.

- 9). Relaxation phenomena in rubber/layered silicate nanocomposites.  
**G. C. Psarras**, K. G. Gatos, P. K. Karahaliou, S. N. Georga,  
C. A. Krontiras, J. Karger-Kocsis.  
3<sup>rd</sup> China-Europe Symposium on Processing and Properties of Reinforced  
Polymers,  
Budapest University of Technology and Economics,  
Budapest, Hungary, June 11-15, 2007.
- 8). Optical and dielectric properties of ZnO/PVA nanocomposites.  
S. Baskoutas, N. Bouropoulos, N. Moustakas, **G. C. Psarras**  
EMRS 2007 SPRING MEETING  
May 27<sup>th</sup>-June 1<sup>st</sup>, 2007, Palais des congres, Strasburg, France,  
Symposium I: Advances in transparent electronics:  
from materials to devices - II.
- 7). Effect of mechanical and thermal load on the Raman spectra of aramid  
fibres.  
D. Bollas, J. Parthenios, **G. C. Psarras**, C. Galiotis,  
15<sup>th</sup> European Symposium On Polymer Spectroscopy,  
ESOPS 15, June 8-12, 2003, Crete, Greece.
- 6). Adaptive composites incorporating Shape Memory Alloy wires; effect of  
wire/resin interface upon internal stress transmission.  
J. Parthenios, **G. C. Psarras**, D. Bollas, C. Galiotis,  
Seventh International Conference on Interfacial Phenomena in Composite  
Materials, IPCM 2001,  
11 to 14 September 2001,  
Palais des Congrès d' Arcachon, Arcachon, France.
- 5). *In Situ* measurements of the stress transfer efficiency of full composites  
during mechanical loading.  
**G. C. Psarras**, J. Parthenios, C. Koimtzoglou, C. Galiotis,  
Seventh International Conference on Interfacial Phenomena in Composite  
Materials, IPCM 2001,  
11 to 14 September 2001,  
Palais des Congrès d' Arcachon, Arcachon, France.
- 4). Aramid Fibres; a Multifunctional Sensor for Monitoring Stress and Strain  
Fields and Damage Development in Composite Materials.  
J. Parthenios, D. G. Katerelos, **G. C. Psarras**, C. Galiotis,  
High Performance Fibres Conference, European Science Foundation in  
association with UPM, UIB, CICYT, NASA and DuPont,  
October 19-24, 2000, Palma de Mallorca, Spain.
- 3). Modelling the dielectric behaviour of an hybrid composite.  
G. M. Tsangaris, **G. C. Psarras**, S. Sapalidis,  
2nd International Discussion Meeting on Relaxations of Complex Systems,  
28 June-8 July 1993, Alicante Spain.

- 2). Modelling the dielectric behaviour of a non conductor loaded dielectric.  
G. M. Tsangaris, **G. C. Psarras**, G. Maistros,  
2nd International Discussion Meeting on Relaxations of Complex Systems,  
28 June-8 July 1993, Alicante Spain.
- 1). Dielectric permittivity and loss of an aluminum - filled epoxy resin.  
G. M. Tsangaris, **G. C. Psarras**, A. Kontopoulos,  
1st International Discussion Meeting on Relaxations of Complex Systems,  
18-29 June 1990, Iraklion Crete, Greece.

**d) Chapters in books / Textbooks**

- 1). Conductivity and dielectric characterization of polymer nanocomposites,  
**G. C. Psarras**, p. 31-69, in "Polymer nanocomposites: Physical properties and applications", edited by S. C. Tjong and Y.-M. Mai, ISBN: 978-1-84569-672-6. Woodhead Publishing Limited, Cambridge, 2010.
- 2). Relaxation phenomena in elastomeric nanocomposites,  
**G. C. Psarras** and K. G. Gatos, p. 89-118, in "Recent advances in elastomeric nanocomposites", edited by V. Mittal, J. K. Kim and K. Pal, ISBN: 978-3-642-15786-8. Springer-Verlag, Berlin-Heidelberg, 2011.
- 3). Nanographite-polymer composites,  
**G. C. Psarras**, p. 647-673, in "Carbon Nanomaterials Sourcebook: Nanoparticles, Nanocapsules, Nanofibers, Nanoporous Structures and Nanocomposites", edited by K. D. Sattler, ISBN: 13:978-1-4822-5270-. Taylor & Francis, 2016.
- 4). Fundamentals of dielectric theories,  
**G. C. Psarras**, p. 11-57, in "Dielectric polymer materials for high-density energy storage", edited by Zhi-Min Dang, ISBN: 978-0-12-813215-9, <https://doi.org/10.1016/C2016-0-04505-9>, Elsevier, 2018.
- 5). Applications of dielectric analysis (DEA) to multi-component polymeric systems,  
A. C. Patsidis, **G. C. Psarras**, chapter 11, p. 245-272, in "Polymers and Multicomponent Polymeric Systems: Thermal, Thermo-Mechanical and Dielectric Analysis", edited by Sabu Thomas, CRC Press, Taylor & Francis Group, ISBN 9781138598140 - CAT# K387622, 2020.
- 6). Dielectric and conductivity studies of epoxy composites,  
A. C. Patsidis, **G. C. Psarras**, chapter 11, p. 299-348, in "Epoxy Composites. Fabrication, Characterization and Applications", edited by Jyotishkumar Parameswaranpillai, Harikrishnan Pulikkalparambil, Sanjay Mavinkere Rangappa, Suchart Siengchin, ISBN 978-3-527-34678-3, Wiley, 2021.
- 7). Composite Materials,  
C. Galiotis, D. Mouzakis, **G. C. Psarras**,  
University of Patras,

- Patras, Greece, 2003  
p. 180.
- 8). Smart Materials,  
**G. C. Psarras**,  
University of Patras,  
Patras, Greece, 2004  
p. 135.
- 9). Materials Science and Engineering an Introduction.  
W. D. Callister Jr., 9<sup>th</sup> Edition, John Wiley and Sons Inc., 2015.  
Translation in Greek, S. Bogiatzis, C. Galiotis, C. Pliangos, **G. C. Psarras** ,  
V. Tangoulis, A. Vanakaras  
Copyright © for the Greek language Tziollas publishing co, 2016.  
Translation of chapters 8 (Mechanical Properties of Metals), 10 (Failure),  
and 19 (Electrical Properties).
- 10). Materials: Engineering, Science, Processing and Design.  
M. Ashby, H. Shercliff, D. Cebon, 2<sup>nd</sup> Edition, Elsevier Limited, Oxford,  
2010. Translation in Greek, scientific editing, **G. C. Psarras**.  
Copyright © for the Greek language Klidarithmos publishing co, 2011.

**(f) 112 Papers in Proceedings of National Conferences**  
(mostly in Greek language)

**Participation in Scientific and Organizing Conferences' Committees**

- Member of the organizing committee of the "XXII Panhellenic Conference on Solid State Physics and Materials Science", University of Patras, 24-27 September 2006, Patras, Greece.
- Member of the organizing committee of the "XXVIII Panhellenic Conference on Solid State Physics and Materials Science", University of Patras, 23-26 September 2012, Patras, Greece.
- Member of the Scientific Advisory Board of the international conference "Advanced Materials World Congress (AMWC 2013)", 16-19 September, 2013, Çeşme, Turkey.
- Member of the Scientific Advisory Board of the international conference "Smart Materials and Surfaces (SMS)", 26-28 August 2014, Bangkok, Thailand.
- Member of the organizing committee of the "10<sup>th</sup> Hellenic Polymer Society Conference", University of Patras, 4-6 December 2014, Patras, Greece.
- Member of the Scientific Advisory Board of the international conference "Advanced Materials World Congress (AMWC 2015)", 23-26 August 2015, Viking Line, Stockholm, Sweden.
- Co-chairman of the organizing committee of the "XXXIV Panhellenic Conference on Solid State Physics and Materials Science", University of Patras, 11-14 September 2019, Patras, Greece.



## Teaching Activities:

### *Graduate courses:*

2004-2019: "Methods of Materials Characterization I", "Methods of Materials Characterization II", "Composite Materials", in the master's degree program of *Materials Science*, University of Patras.

2019-2023: "Advanced Experimental Techniques for Materials Characterization", in the master's degree program of *Materials Science (Advanced Functional Materials)*, University of Patras.

2019-2023: "Advanced Composite and Hybrid Materials" in the master's degree program of *Materials Science (Advanced Functional Materials)*, University of Patras.

2010-2019: "Structure Properties Relationships in Polymers", "Methods of Polymer Characterization, theory and lab" in the master's degree programme of *Science and Technology of Polymers*, University of Patras.

2012-2023: "Materials' Characterization Techniques" in the master's degree program of *Materials Physics*, University of Patras.

2019-2023: "Composite Materials", "Methods of Polymer Characterization, theory and lab" in the master's degree programme of *Science and Technology of Polymers and Composites*, University of Patras.

1998-2000: "Mechanics of Polymers" (lab teaching assistant), in the master's degree program of *Science and Technology of Polymers*, University of Patras.

### *Undergraduate courses:*

2000-2023: "Materials Science I: Introduction, crystal structure, diffusion, mechanical properties" (theory and lab.), "Materials Science VI: Electronic properties of materials" (theory and lab.), "Composite Materials", "Smart Materials", "Physics III: Electromagnetism" (theory and lab.), Department of Materials Science, University of Patras.

2016-2019: "Physics of Polymers, Composites and Liquid Crystals", Department of Physics, University of Patras.

1990-1993: Teaching assistant in the "Physical Chemistry-Electrochemistry" laboratory course, in the departments of Chemical Engineering, Mining and Metallurgist Engineering of National Technical University of Athens.

## Research Supervision:

### *PhD supervision*

- "Polymer matrix composite nanodielectrics reinforced with complex barium oxides and/or carbon nanostructures: Development, characterization, and energy storage". D. I Batsouli, PhD Thesis, Department of Materials Science, University of Patras, Patras, Greece, in progress.
- "Designing dielectric bio-polymers by employing artificial intelligence methods". N. Paliogiannis, PhD Thesis, Department of Materials Science, University of Patras, Patras, Greece, in progress.
- "Development, characterization and multi-functional performance of polymer matrix multi-layer composite materials". S. Gioti, PhD Thesis, Department of Materials Science, University of Patras, Patras, Greece, in progress.
- "Development, characterization and functionality of nanocomposite systems consisted of an epoxy resin reinforced with carbides and forms of

- carbon". Th. Velmachos, PhD Thesis, Department of Materials Science, University of Patras, Patras, Greece, in progress.
- "Polymer matrix/carbon allotropic forms multifunctional nanodielectrics: Development, characterization, and energy storage". S. Stavropoulos, PhD Thesis, Department of Materials Science, University of Patras, Patras, Greece, in progress.
  - "Polymer matrix/magnetic inclusions composite nanodielectrics: Development, characterization and functionality". A. Sanida, PhD Thesis, Department of Materials Science, University of Patras, Patras, Greece, July 2020.
  - "Polymer composite nanodielectrics as bulk devices for storing energy". G. Manika, PhD Thesis, Department of Materials Science, University of Patras, Patras, Greece, January 2019.
  - "Spectroscopic monitoring of any release of (nano)materials from biopolymeric packaging matrixes into food simulants". S. Andrikaki, PhD Thesis, Department of Materials Science, University of Patras, Patras, Greece, March 2019.
  - "Hybrid nanodielectrics of polymer matrix/functional inclusions: Development, characterization and functionality". A. C. Patsidis, PhD Thesis, Polymer Science and Technology Interdepartmental Program, University of Patras, Patras, Greece, February 2015.

#### *MSc supervision*

- "Development, characterization, and functionality of titanium nitride/epoxy resin nanocomposites". N. Ploumis, MSc Thesis, Science and Technology of Polymers and Composites Interdepartmental Programme, University of Patras, Patras, Greece, in progress.
- "Development, characterization, and functionality of calcium carbonate/epoxy resin nanocomposites". Andrea Duka, MSc Thesis, Science and Technology of Polymers and Composites Interdepartmental Programme, University of Patras, Patras, Greece, in progress.
- "Degradation of industrial polymers used in the packaging of liquid foods and drinks because of the influence of environmental effects". J. Panagopoulou, MSc Thesis, Science and Technology of Polymers and Composites Interdepartmental Programme, University of Patras, Patras, Greece, in progress.
- "Zinc oxide/green epoxy nanocomposites: development, characterization, and functional behaviour". V. Georgopoulou, MSc Thesis, Science and Technology of Polymers and Composites Interdepartmental Programme, University of Patras, Patras, Greece, in progress
- "Hybrid nanocomposites of epoxy resin/copper particles/carbon nanotubes: Development, characterization, and functional behaviour". M.-D. Bora, MSc Thesis, Science and Technology of Polymers and Composites Interdepartmental Programme, University of Patras, Patras, Greece, in progress.
- "Development, characterization, and functional behaviour of the hybrid composite system of barium tungstate/carbon nanoparticles/epoxy resin". S.-H. Stamati, MSc Thesis, Science and Technology of Polymers and Composites Interdepartmental Programme, University of Patras, Patras, Greece, in progress.
- "Development, characterization, and functional behaviour of the hybrid composite system consisting of barium zirconate/carbon nanotubes/epoxy

- resin". G. Anagnostopoulos, MSc Thesis, Science and Technology of Polymers and Composites Interdepartmental Programme, University of Patras, Patras, Greece, in progress.
- "Development, electrical response and functionality of the epoxy resin/tin oxide nanoparticles composite system". St. Kavvas, MSc Thesis, Department of Materials Science, University of Patras, Patras, Greece, in progress.
  - "2D reinforced polymer matrix nanodielectrics: development, characterization and multi-functional performance". Ch. Blatsi, MSc Thesis, Science and Technology of Polymers and Composites Interdepartmental Programme, University of Patras, Patras, Greece, March 2022.
  - "Development, characterization and functional behaviour of hybrid composite nanodielectrics of BaZrO<sub>3</sub>/ZnTiO<sub>3</sub>/epoxy resin". I. Gondas, MSc Thesis, Polymer Science and Technology Interdepartmental Programme, University of Patras, Patras, Greece, September 2020.
  - "Studying the multifunctional behaviour of the composite hybrid system consisted of carbon fibres/TiC nanoparticles/epoxy resin". S. Gioti, MSc Thesis, Polymer Science and Technology Interdepartmental Programme, University of Patras, Patras, Greece, June 2019.
  - "Development and characterization of polymer matrix/titanium boride/boron carbide/tungsten boride". A. Kallinikou, MSc Thesis, Polymer Science and Technology Interdepartmental Programme, University of Patras, Patras, Greece, June 2019.
  - "Multifunctional hybrid nanodielectrics of BaZrO<sub>3</sub>/BaTiO<sub>3</sub>/epoxy resin: development and characterization". Z.-M. Tsikriteas, MSc Thesis, Polymer Science and Technology Interdepartmental Programme, University of Patras, Patras, Greece, February 2019.
  - "Development and characterization of composite materials consisted of polydimethylsiloxane (PDMS)/Boron nitride". A. C. Konstantinou, MSc Thesis, Polymer Science and Technology Interdepartmental Programme, University of Patras, Patras, Greece, February 2019.
  - "Development, characterization and functional behaviour of silicon carbide (SiC)/polymer matrix composite nanodielectrics". Th. Velmachos, MSc Thesis, Polymer Science and Technology Interdepartmental Programme, University of Patras, Patras, Greece, February 2017.
  - "Electrical response of polymer matrix composite nanodielectrics". A. Karavitis, MSc Thesis, Polymer Science and Technology Interdepartmental Programme, University of Patras, Patras, Greece, June 2016.
  - "Self-healing hydrogels: synthesis and characterization". Th. Sentoukas, MSc Thesis, Polymer Science and Technology Interdepartmental Programme, University of Patras, Patras, Greece, June 2016.
  - "Development, characterization and functional behaviour of Zinc Iron Oxide/epoxy resin nanocomposites". S. Stavropoulos, MSc Thesis, Department of Materials Science, University of Patras, Patras, Greece, November 2015.
  - "Development, characterization, and functional behaviour of Strontium Ferrite/epoxy resin nanocomposites". A. Sanida, MSc Thesis, Department of Materials Science, University of Patras, Patras, Greece, November 2015.
  - "Studying the dynamic mechanical behaviour of composite materials consisting of epoxy resin and micro- or nano- BaTiO<sub>3</sub> particles". M. Athanasopoulos, MSc Thesis, Department of Materials Science, University of Patras, Patras, Greece, November 2015.

- "Development characterization, and functional behaviour of Boron Carbide/epoxy resin nanocomposites". E. Senis, MSc Thesis, Polymer Science and Technology Interdepartmental Programme, University of Patras, Patras, Greece, July 2015.
- "Development, characterization, and functional behavior of Barium Strontium Titanate/epoxy resin nanocomposites". O. Vryonis MSc Thesis, Polymer Science and Technology Interdepartmental Programme, University of Patras, Patras, Greece, October 2014.
- "Zinc oxide/titanium carbide/polymer matrix: development, characterization and functional, behaviour". G. Mathioudakis, MSc Thesis, Polymer Science and Technology Interdepartmental Programme, University of Patras, Patras, Greece, March 2013.
- "Development, characterization, and functional behavior of the hybrid nanocomposite system: epoxy resin/zinc titanate/barium titanate". E. Koufakis, MSc Thesis, Polymer Science and Technology Interdepartmental Programme, University of Patras, Patras, Greece, November 2012.
- "Electrical response of Hydrogenated Nitrile Rubber (HNBR) and rubber blends with Fluorocarbon Elastomer (HNBR/FKM) which incorporate MWCNTs". G. A. Sofos, MSc Thesis, Polymer Science and Technology Interdepartmental Programme, University of Patras, Patras, Greece, November 2009.
- "Electric response of Poly(ethylene Oxide)/modified multiwall carbon nanotubes nanocomposites". P. Pontikopoulos, MSc Thesis, Department of Materials Science, University of Patras, Patras, Greece, July 2009.
- "Epoxy resin/BaTiO<sub>3</sub> nanodielectrics: development, electrical response and functionality". A. C. Patsidis, MSc Thesis, Polymer Science and Technology Interdepartmental Programme, University of Patras, Patras, Greece, April 2009.
- "Dielectric response of rubber matrix/inorganic nanoparticles composite systems". A. Kalini, MSc Thesis, Polymer Science and Technology Interdepartmental Programme, University of Patras, Patras, Greece, March 2008.
- "Shape Memory Alloys: Study of the phase transformations under constrained conditions". P. Petalis, MSc Thesis, Department of Materials Science, University of Patras, Patras, Greece, April 2007.

#### *University Degree (BSc) theses supervision*

Supervision of more than 110 University Degree (BSc) theses of undergraduate students, which resulted in 12 papers in refereed journals and 33 conference papers.

#### **Administration**

- Member of the General Assembly of the Department of Materials Science of University of Patras (2003-today)
- Member of the Committee for the Undergraduate Program and Academic Affairs of the Department of Materials Science of University of Patras (2003-2006).
- Member of the Committee for the Organization of Studies of the Department of Materials Science of University of Patras (2003-today).
- Member of the Financial Planning Committee of the Department of Materials Science of University of Patras (2008-2010).

- Coordinator of the Committee of Public Relations and Graduated Students Affairs of the Department of Materials Science of University of Patras (2006-today).
- Member of the executive committee of the post-graduate studies in "Materials Science" of the Department of Materials Science of University of Patras (2003-2018).
- Member of the executive committee of the post-graduate studies in "Polymer Science and Technology" of University of Patras (2004-today).
- Deputy member of the Senate of University of Patras (2010-2011).
- Member of the executive committee of the Hellenic Federation of University Teachers' Associations (2016-2019).
- Chairman of the executive committee of the Master's studies in "Polymer Science and Technology" of University of Patras (2017-2021).
- Vice-Chairman of the executive committee of the Master's studies in "Science and Technology of Polymers and Composites Materials" of University of Patras (2018-today).
- Chairman of the executive committee of the Master's studies in "Materials Science" of University of Patras (2022-today).
- President of the Association of Faculty Members of University of Patras, 2018-today.