

Emmanuel Logakis

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Gender: Male; Date of Birth: 19.02.1981; Citizenship: Greek

Work Experience

06.2011-today

Scientist,

ABB Corporate Research, Baden-Dättwil, Switzerland / “Insulation & Polymer Technologies” Group, “Energy & Materials” Department.

- Project management (project types: technology development, pre-studies, university collaborations, fundamentals).
- Patent applications; scouting activities.
- Supervision of MSc and Intern students.

04.2010-05.2011

Research Fellow,

Cranfield University, Cranfield, UK / Advanced Materials Department.

- Leader on the development and implementation of hybrid nanocomposite materials in aerospace structural components in the frame of an EU FP7 project.
- Project management; represent Cranfield at the consortium; work-packages delivery; preparation of project reviews/reports.
- Lecturing on the MSc’s “*Advanced Materials*” and “*Microsystems and Nanotechnology*” covering the topics “Polymer Nanocomposites” and “Carbon Nanocomposites”.
- Supervision of MSc students.

02.2005-03.2010

Research Assistant,

National Technical University of Athens (NTUA), Athens, Greece / School of Applied Mathematical and Physical Sciences.

- Participation in several collaborative research projects.
- Teaching assistant in laboratory lessons of Physics and Materials Science.
- Guidance of diploma and MSc theses.

Education

2005-2009

PhD in Polymer Physics,

National Technical University of Athens (NTUA), Athens, Greece / School of Applied Mathematical and Physical Sciences, Dielectrics Group.

Subject of PhD thesis: “*Synthesis of polymer nanocomposites and study of their*”

electrical and thermomechanical properties”.

2003-2005 **MSc in Materials Science & Technology,**

National Technical University of Athens (NTUA), Athens, Greece / Faculty of Chemical Engineering.

Subject of MSc thesis: “*Dielectric spectroscopy in hybrid nanocomposite materials of microelectronics*”.

1998-2003 **Bachelor in Physics,**

University of Patras, Patras, Greece / Department of Physics.

Subject of diploma thesis: “*Mechanical properties of epoxy resin/carbon nanotube nanocomposites*”.

Refereed Journal Publications

(evaluation by Scopus database: total of 309 citations with an *h* index of 10)

- 1) P. Jyotishkumar, E. Logakis, S.M. George, J. Pionteck, Häussler, L., Haßler, R., Pissis, P., Thomas, S. *Preparation and properties of multiwalled carbon nanotube/epoxy-amine composites*, J. Appl. Polym. Sci., **127**, 3063, 2013.
- 2) D. Domingues, E. Logakis, A.A. Skordos. *The use of an electric field in the preparation of glass fibre/epoxy composites containing carbon nanotubes*, Carbon, **50**, 2493, 2012.
- 3) C. Pandis, E. Logakis, A. Kyritsis, P. Pissis, V.V. Vodnik, E. Dzunuzovic, J.M. Nedeljkovic, J.C. Rodriguez Hernandez, and J.L. Gomez Ribelles. *Glass transition and polymer dynamics in silver/poly(methyl methacrylate) nanocomposites*, Eur. Poly. J., **47**, 1514, 2011.
- 4) E. Logakis, Ch. Pandis, P. Pissis, J. Pionteck, P. Pötschke. *Highly conducting poly(methyl methacrylate) / carbon nanotubes composites: Investigation on their thermal, mechanical, electrical and dielectric properties*. Comp. Sci. Technol., **71**, 854, 2011.
- 5) E. Ivanov, R. Kotsilkova, E. Krusteva, E. Logakis, A. Kyritsis, P. Pissis, C. Silvestre, D. Duraccio, M. Pezzuto. *Effects of processing conditions on rheological, thermal, and electrical properties of multiwall carbon nanotube/epoxy resin composites*. J. Polym. Sci. Part B: Polym. Phys., **49**, 431, 2011.
- 6) M. Mičušík, M. Omastová, J. Pionteck, Ch. Pandis, E. Logakis, P. Pissis. *Influence of surface treatment of multiwall carbon nanotubes on the properties of polypropylene/carbon nanotubes nanocomposites*. Polym. Adv. Technol., **22**, 38, 2011.
- 7) E. Logakis, Ch. Pandis, A. Kyritsis, P. Pissis, M. Mičušík, M. Omastová, J. Pionteck. *Indirect routes for the determination of optimal processing conditions of conductive polypropylene/carbon nanotubes composites*. Chem. Phys. Lett., **498**, 125, 2010.
- 8) E. Pollatos, E. Logakis, P. Chatzigeorgiou, V. Peoglos, I. Zuburtikudis, M. Gjoka, K. Viras, P. Pissis. *Morphological, thermal and electrical characterization of syndiotactic polypropylene/multi walled carbon nanotube composites*. J. Macrom. Sci., Part B: Phys., **49**, 1044, 2010.
- 9) E. Logakis, P. Pissis, D. Pospiech, A. Korwitz, B. Krause, U. Reuter, P. Pötschke. *Low electrical percolation threshold in poly(ethylene terephthalate) / multi-walled carbon nanotube nanocomposites*. Eur. Polym. J., **46**, 928, 2010.

- 10) E. Logakis, E. Pollatos, Ch. Pandis, V. Peoglos, I. Zuburtikudis, C.G. Delides, A. Vatalis, M. Gjoka, E. Syskakis, K. Viras, P. Pissis. *Structure-property relationships in isotactic polypropylene/multi-walled carbon nanotubes nanocomposites*. Comp. Sci. Technol., **70**, 328, 2010.
- 11) E. Logakis, Ch. Pandis, V. Peoglos, P. Pissis, J. Pionteck, P. Pötschke, M. Mičušík, M. Omastová. *Electrical/dielectric properties and conduction mechanism in melt processed polyamide/multi-walled carbon nanotubes composites*. Polymer, **50**, 5103, 2009.
- 12) E. Logakis, Ch. Pandis, V. Peoglos, P. Pissis, Ch. Stergiou, J. Pionteck, P. Pötschke, M. Mičušík, M. Omastová. *Structure-Property Relationships in Polyamide6/Multi-Walled Carbon Nanotubes Nanocomposites*. J. Polym. Sci. Part B: Polym. Phys., **47**, 764, 2009.
- 13) C. Pandis, E. Logakis, V. Peoglos, P. Pissis, M. Omastová, M. Mravčáková, A. Janke, J. Pionteck, Y. Peneva, L. Minkova. *Morphology, Microhardness, and Electrical Properties of Composites Based on Polypropylene, Montmorillonite, and Polypyrole*. J. Polym. Sci. Part B: Polym. Phys., **47**, 407, 2009.
- 14) Th. Kourkoutsaki, E. Logakis, I. Kroutilova, L. Matejka, J. Nedbal, P. Pissis. *Polymer Dynamics in Rubbery Epoxy Networks/Polyhedral Oligomeric Silsesquioxanes Nanocomposites*. J. Appl. Polym. Sci., **113**, 2569, 2009.
- 15) M. Mičušík, M. Omastová, I. Krupa, J. Prokeš, P. Pissis, E. Logakis, Ch. Pandis, P. Pötschke, J. Pionteck. *A Comparative Study on the Electrical and Mechanical Behaviour of Multi-Walled Carbon Nanotube Composites Prepared by Diluting a Masterbatch with Various Types of Polypropylenes*. J. Appl. Polym. Sci., **113**, 2536, 2009.
- 16) Th. V. Kosmidou, A.S. Vatalis, C.G. Delides, E. Logakis, P. Pissis, G.C. Papanicolaou. *Structural, mechanical and electrical characterization of epoxy-amine/carbon black nanocomposites*. eXPRESS Polym. Lett., **2**, 364, 2008.
- 17) V. Peoglos, E. Logakis, Ch. Pandis, P. Pissis, J. Pionteck, P. Pötschke, M. Mičušík, M. Omastová. *Thermal and electrical characterization of multi-walled carbon nanotubes reinforced polyamide 6 nanocomposites*. Journal of Nanostructured Polymers and Nanocomposites, **3**, 116, 2007.

Patents

- 1) C.H. Ho, E. Logakis, L. Xie, A. Krivda, G. Dominguez, A. Jedenmalm, A. Friberg, A. Farkas. *Polymer composition suitable for the manufacture of an electrical insulation system*, Appl. No: PCT/EP2013/050590, Filed: 14 January 2013.
- 2) A. Michalik, A. Mattozzi, C. Pitois, E. Logakis, H. Martini, I Scian, J. Yadava, M. Carmignoto, M. Hrkac, O. Girlanda, P.L. Ricketts, R. Zannol, R. Velthuis, S. Tzavalas. *Pretreatment free, overloadable and compact transformer*, Appl. No: PCT/EP2012/198124, Filed: 19 December 2012.
- 3) C.H. Ho, E. Logakis, C. Ghouli, A. Krivda. *Chemically cross-linked polyethylene used for electrical insulation*, Appl. No: PCT/EP2012/072714, Filed: 15 November 2012.

Refereed Conference Proceedings Publications

- 1) A. Kanapitsas, E. Logakis, Ch. Pandis, I. Zoubourtikoudis, P. Pissis C.G. Delidis, A. S. Vatalis. *Dielectric and thermomechanical properties of polypropylene/multi-walled carbon nanotubes nanocomposites*. Materials Research Society Symposium Proceedings 1056, pp. 411-417, 2008.

- 2) E. Logakis, Ch. Pandis, V. Peoglos, P. Pissis, A. Kanapitsas, J. Pionteck, P. Pötschke, M. Mičušík and M. Omastová. *Thermal and electrical properties of Polyamide/Multi-Walled Carbon Nanotubes nanocomposites*. 2007 NSTI Nanotechnology Conference and Trade Show - NSTI Nanotech 2007, Technical Proceedings 2, pp. 96-99, 2007.
- 3) Ch. Pandis, E. Logakis, M. Chorianopoulos, A. Spanoudaki, A. Kyritsis, V. Peoglos, P. Pissis, M. Mičušík, I. Krupa, M. Omastová, J. Pionteck, and P. Pötschke. *Thermal and Electrical Characterization of Polypropylene/Carbon Nanotube Nanocomposites*. 2007 NSTI Nanotechnology Conference and Trade Show - NSTI Nanotech 2007, Technical Proceedings 2, pp. 166-169, 2007.
- 4) A. Kanapitsas, C. Tsonos, E. Logakis, C. Pandis, P. Pissis, E. Kontou, Y.P. Mamunya, E.V. Lebedev, C.G. Delides. *PTC Effect and Structure of Polymer Composites Based on Polypropylene/Co-Polyamide Blend Filled with Dispersed Iron*. Proceedings of the International Conference on Microelectronics, ICM 2006, art. no. 1650975, pp. 391-394, 2006.
- 5) E. Logakis, D. Fragiadakis, P. Pissis. *Low - K polyimide/silica nanocomposites for microelectronics applications*. Proceedings of the International Conference on Microelectronics, ICM 2006, art. no. 1650908, pp. 119-122, 2006.
- 6) D. Fragiadakis, E. Logakis, P. Pissis, V. Yu. Kramarenko, T. A. Shantali, I. L. Karpova, K. S. Dragan, E. G. Privalko, A. A. Usenko and V. P. Privalko. *Polyimide/silica nanocomposites with low values of dielectric permittivity*. Journal of Physics: Conference Series 10 (1), pp. 139-142, 2005.

Conference Participation

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| 2013 | 11 th IEEE Internal Conference on Solid Dielectrics (ICSD2013), June 30 – July 4, Bologna, Italy (oral presentation)

Graphene Commercialization & Applications, 25-26 June, London, UK |
| 2012 | Broadband Dielectric Spectroscopy (BDS) and its Application (BDS2012), 3-7 September, Leipzig, Germany (invited oral presentation) |
| 2009 | 4th International Conference on Carbon Based Nanocomposites (CNTComp09), 20-23 September, Technische Universität Hamburg-Harburg, Germany (oral presentation)

Hybrid Materials 2009, 15-19 March, Tours, France (poster presentation) |
| 2008 | 7th Hellenic Polymer Conference (PolyConf7), September 28 – October 1, Ioannina, Greece (poster presentation)

2 nd International Conference on Advanced Nanomaterials (ANM), 22-25 June, Aveiro, Portugal (poster presentation) |
| 2007 | 3 rd PanHellenic Conference of Thermal Analysis (Therma 2007), 7-9 December, Athens, Greece (oral presentation)

XXIII PanHellenic Conference on Solid State Physics & Materials Science, 23-26 September, Athens, Greece (oral presentation)

The International Conference on Structural Analysis of Advanced Materials (ICSAM-2007), 2-6 September, Patras, Greece (poster presentation) |

NSTI Nanotech 2007, 20-24 May, Santa Clara, USA (oral presentation)

- 2006 XXII PanHellenic Conference on Solid State Physics & Materials Science, 24-27 September, Patras, Greece (oral presentation)
- The International Conference on Science and Technology of Synthetic Metals (ICSM), 2-7 July, Dublin, Ireland (poster presentation)

Conference Presentations

More than 40 (list available upon request)

Participation in Seminars / Workshops

- 2013 “*Project Leadership, Management, and Communications*” (3 d) by “The George Washington University”, Switzerland
- 2012 “*Project Management, Analysis, and Planning*” (4 d) by “The George Washington University”, Switzerland
- 2011 “*Project Management Essentials*” (2 d), ABB Corporate Research, Switzerland
- 2011 “*Student Stress Awareness Workshop*” (2 h), Cranfield University, UK
- 2010 “*Dignity and Diversity at Work*” (3.5 h), Cranfield University, UK
- “*The Essentials in Safety, Health & Environment*” (3.5 h), Cranfield University, UK

Participation in Scientific Courses

- 2009 Demonstration course: “*Characterization methodology and tools for new polymer nanostructured materials*”, 13-15 May, Athens, Greece
- 2008 Seminar for new researchers “PENED 2003” on “*Methodology and Practice for the handling of research, technology and innovation*” (total duration 100 h), National Technical University of Athens, April 3 – June 23, Athens, Greece
- 2003 Summer School in “*Advanced Physics*”, University of Crete, June 30 – 25 July, Crete, Greece

Participation in EU Research Programs

- 04.2010-05.2011 EU (7th framework) research program ADVITAC entitled: “*Advanced Integrated Composite Tailcone*”.
- 01.2009-04.2009 Bilateral (Greece – Ukraine) research program COMPOSITUM entitled: “*Hybrid nanocomposites and their applications*”.
- EU research program Napolynet entitled: “*Napolynet, Setting up research-intensive clusters across the EU on characterization of polymer nanostructure*”.
- 01.2007-12.2009 Bilateral (Greece – Germany) research program IKYDA 2007 entitled: “*Design and characterization of new nanostructured diblock copolymers*”.
- 01.2006-12.2008 Research program PENED 2003 entitled: “*Polymer nanocomposites for*

electromagnetic shielding applications” (co-financed by the European Social Fund and the Greek Ministry of Development).

- 09.2005-12.2005 Bilateral (Greece – Slovakia) research program entitled: “*Polymer composites containing conductive fillers: Preparation and investigation of synthesis / morphology / electrical and dielectrical properties relationships*”.
- 01.2005-09.2005 Bilateral (Greece – Czech) research program entitled: “*Formation, structure and physical properties of multicomponent polymers, especially polymer networks*”.

Honours / Awards

- 2012 “Sarafi” award given to the best PhD thesis of National Technical University of Athens for the academic year 2009-2010.
- 2007 1st Place Oral Presentation at the national conference “Therma 2007”.
Title of the contribution: “*Thermal and electrical properties in polyamide / carbon nanotubes nanocomposites*”.
- 2007 1st Place Poster Presentation at the “International Conference on Structural Analysis of Advanced Materials (ICSAM 2007)”:
Title of the contribution: “*Thermal transitions, electrical and mechanical properties of polyamide / carbon nanotubes nanocomposites*”.
- 2003 Awarded during the graduation ceremony on 15.03.2003 (ranked 1st among the graduated in Physics students).

Reviewer of International Scientific Journals

- Materials Chemistry and Physics
- Journal of Nanoscience and Nanotechnology
- Composites Science and Technology
- Composites Part A (Appl. Sci. & Manuf.)
- Advances in Polymer Technology
- Applied Surface Science
- Materials Science and Engineering C
- Journal of Polymer Research
- e-XPRESS Polymer Letters
- Materials open access journal
- Journal of Materials Science
- Journal of Inorganic Materials
- Journal of Composite Materials
- Composites Part B (Engineering)

Languages

English (fluent), French (fair), German (basic), Greek (mother tongue)

Research Interests

- ◇ Structure – property relationships in polymers and polymer nanocomposites
- ◇ Dielectric properties of polymers and polymer nanocomposites (low/high k materials)
- ◇ Charge transport and dielectric breakdown mechanisms in polymeric materials

- ✧ Conductive polymer nanocomposites for EMI, ESD, lightning protection and gas sensor applications
- ✧ Conductive polymer nanocomposites and hybrid fibrous composites containing carbon nanoparticles (CNTs, graphene)
- ✧ Molecular dynamics in polymers and polymer nanocomposites
- ✧ Processing of polymer composites and nanocomposites

Personal Interests

Traveling, Reading, Sailing, Skiing