

CURRICULUM VITAE OF Dr NIKOLAOS E. ZAFEIROPOULOS

PERSONAL DETAILS

SURNAME: ZAFEIROPOULOS
 FORENAMES: NIKOLAOS EVANGELOS
 DATE OF BIRTH: 18 /11 / 1974
 MARITAL STATUS: SINGLE
 NATIONALITY: GREEK
 WORK ADDRESS: DEPARTMENT OF MATERIALS SCIENCE &
 ENGINEERING, UNIVERSITY OF
 IOANNINA, DOUROUTI CAMPUS,
 IOANNINA 45100, GREECE
 HOME TELEPHONE NUMBER: 0030-6946-184858
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EDUCATION

1997 - 2001 IMPERIAL COLLEGE OF SCIENCE,
 TECHNOLOGY AND MEDICINE,
 CENTRE FOR COMPOSITE MATERIALS
 PhD in Materials Science
 Thesis title: Engineering and characterisation
 of the interface in flax/polypropylene composite
 materials
 Sponsored by the EU (Marie Curie Fellowship)
 Supervisors: Dr Caroline A. Baillie, Prof. Frank
 L. Matthews

1992 - 1997 NATIONAL TECHNICAL UNIVERSITY
 OF ATHENS,
 DEPARTMENT OF CHEMICAL
 ENGINEERING
 MEng in Chemical Engineering
 GPA: 8.33/10.0 (Very Good)
 Rank in class: 11th out of 170
 Dissertation Thesis title: Characterisation of
 coated Glass fibres received from recycled
 thermoplastic composite materials (in Greek)
 Supervisor: Prof. Costas D. Papaspyrides

1989 - 1992 MULTI-BRANCHED LYCEUM OF
 PIRAEUS
 Nationwide University Entrance Examinations
 Mathematics : 151/160
 Physics : 157/160
 Chemistry : 153/160

Modern Greek

: 140/160

UNDEGRADUATE REASEARCH ACIVITIES

- JULY - SEPTEMBER 1995 HIGHER INSTITUTE OF CHEMICAL
TECHNOLOGY- SOFIA, BULGARIA
Assistant Researcher in: Risk Analysis of
Chemical Processes
Supervisor: Dr Stylian Tchausev
Sponsored by the Greek Ministry of Industry and
the Bulgarian Ministry of Education
- JULY - SEPTEMBER 1996 THE HEBREW UNIVERSITY OF
JERUSALEM,
CASALI INSTITUTE OF APPLIED
CHEMISTRY, ISRAEL
Researcher in: Characterisation of the
Interface in Glass/LDPE Composite
Materials
Supervisor: Prof. Gad Marom
Sponsored by the Israeli Ministries of Science
and Defence

OTHER ACADEMIC AND TRAINING QUALIFICATIONS

- 1997 Postgraduate Course “Introduction to
Composite Materials”, Centre for Composite
Materials, Imperial College of Science,
Technology and Medicine.
- 2000 Postgraduate Course “Finite Element
Analysis of Composite Materials”, Centre for
Composite Materials, Imperial College of
Science, Technology and Medicine.

TEACHING EXPERIENCE

- 1998 - 2000 Laboratory Demonstrator at the course
“Computing” of 1st year Materials Department,
Imperial College
- 1998 – 2000 Laboratory Demonstrator at the course “Polymer
Science and Engineering” of 2nd year Materials
Department, Imperial College
- 1998 – 2000 Laboratory Demonstrator at the course
“Analytical Chemistry” of 1st year Earth
Resources Engineering, Imperial College
- 2002 – 2008 Physical Chemistry of Polymers, Chemistry
Department, Technical University of Dresden
(20 hours lectures per semester on topics of
Polymer Physics)

2005-	Experimental Techniques for Characterisation of Nanomaterials, European MSc course on 'Polymer Based Nanomaterials', University of Perugia, Italy. (20 hours Lectures on experimental techniques for Polymer Materials Characterisation)- I am also member of the organising and scientific committee for the MSc course. More details about the course can be found at http://www.nanofun-poly.com/docs/06,00,00-01-master.pdf
2006-	'Green' Composites and Nanocomposites, MSc course on 'Materials Engineering', University of the Basque Country (Spain). 12 hours lectures per year.
2008-	Chemical Thermodynamics, 2 nd year Department of Materials Science and Engineering, University of Ioannina. 4 hours lectures per week.
2008-	Chemistry and Engineering of Wood and Related Materials, 4 th year Department of Materials Science and Engineering, University of Ioannina. 3 hours lectures per week.
2008-	Structure Characterisation with X-ray Techniques, 4 th year Department of Materials Science and Engineering, University of Ioannina. 3 hours lectures per week.
2008-	Polymer Materials – Special Topics, 5 th year Department of Materials Science and Engineering, University of Ioannina. 3 hours lectures per week.
2008-	Polymers and Related Materials of Controlled Morphology, 5 th year Department of Materials Science and Engineering, University of Ioannina. 3 hours lectures per week.
2009-	Polymer Engineering, 4 th year Department of Materials Science and Engineering, University of Ioannina, 4 hours lectures per week
2009-	Materials Laboratory V (Polymers), 4 th year Department of Materials Science and Engineering, University of Ioannina, 12 hours lab instruction/exercises per week

PROFESSIONAL QUALIFICATIONS

1998	Associate of the Institute of Materials
1999	Associate Member of the Institution of Chemical Engineers (AMIChemE)
2008	Member of the American Chemical Society

PROFESSIONAL EXPERIENCE

JUNE 1993 - SEPTEMBER 1993

ACHAIA CLAUSS S. A.
Wines and Spirits, Patras, Greece

Laboratory Assistant at the
Department of Chemical Analysis
Main responsibilities included chemical analysis
of wine and wine distillates through gas
chromatography (GC) methods and quality
control

JUNE 1994 - SEPTEMBER 1994

HELLENIC TARTARICA S. A.
Distillery - Tartaric Calcium, Kalamata, Greece

Laboratory Assistant at the Department of
Chemical Analysis (wine- distillates and wine-
sludge analysis).
Main responsibilities included chemical analysis
of wine sludge for determination of tartaric acid
and also chemical analysis of wine distillates
through gas chromatography (GC)

SEPTEMBER 1996 - OCTOBER 1996

VARVITSIOTIS S. A., Corinth, Greece
Wines and Spirits Distillery

Assistant Production Manager
Main responsibility was the supervision of the
distillation and condensation units
(approximately 10 workers). I also received
training on the fermentation process and quality
control of wine and wine distillates (brandy,
Ouzo and ethanol).

OCTOBER 2000 – APRIL 2001

IMPERIAL COLLEGE OF SCIENCE,
TECHNOLOGY AND MEDICINE,
MATERIALS DEPARTMENT
Post-Doctoral Research Associate

Subject: Thermal Degradation of Cellulose
Fibres.
Supervisor: Dr Caroline Baillie

JUNE 2001 - AUGUST 2002

LEIBNIZ-INSTITUT FÜR
POLYMERFORSCHUNG DRESDEN eV

DEPARTMENT OF STRUCTURE AND
MECHANICS

Post-doctoral Research Fellow

Subject: Investigation of the Interface in
Advanced Polymer blends based on Epoxy-sPS
by means of Scattering Techniques
Supervisor: Prof. Manfred Stamm

SEPTEMBER 2002- MAY 2008

LEIBNIZ-INSTITUT FÜR
POLYMERFORSCHUNG DRESDEN eV
DEPARTMENT OF NANOSTRUCTURED
MATERIALS

Staff Scientist and Group Leader

Main Duties: Project leading and management
(writing and submitting projects, managing
projects, etc.), PhD students and Post-doc
supervision, research effort in synchrotron x-ray
scattering for polymer science, multifunctional
nanohybrids, nanocomposites, composite lattices
and microgels, nanostructured polymers.
Director of the SAXS laboratory

JUNE 2008 –

UNIVERSITY OF IOANNINA
DEPARTMENT OF MATERIALS SCIENCE &
ENGINEERING

Assistant Professor in Polymer Engineering

Main research topics:

- Development of microfocus synchrotron x-ray scattering techniques for studying deformation processes of polymers
- Interfaces in composite materials
- Interfaces in polymer blends
- Characterisation of Nanocomposites and Nanostructured Materials
- Block copolymer based nanomaterials
- Magnetic nanomaterials
- Development of eco-composites and eco-nanocomposites
- Functionalisation of nanoparticles via ATRP, NMRP and grafting-to methods
- Polymer Blends
- Development of novel nanohybrid materials

Group Members

- Mr Andriy Horechiy, PhD student working on the preparation of hybrid nanocomposites based on block copolymer matrices with bottom up approaches. (At IPF Dresden), Co-supervised with Prof. M. Stamm (IPF Dresden): Start date : 1/5/2007. Tentative title: Synthesis and Characterisation of Novel Magnetic Nanomaterials
- Dr Martin Kirsten, Post-doc working on nanocomposites with carbon nanotubes (POCO project- at IPF Dresden)
- Mr Georgios Zapsas, PhD student working on the preparation of multifunctional materials with nanoparticles and block copolymers. Start date: 6/3/2009. Tentative title: preparation and Characterisation of Advanced Nanohybrid Materials with the use of nanoparticles and Tri-Block copolymers.
- Mr Dimitris Moshovas, PhD student working on the preparation and characterisation of functionalised nanoparticles with polymer brushes. Start date: 6/3/2009. Tentative title: Nanoparticle Surface Modification and Characterisation with the use of Grafting From and Grafting to methods
- Mr Dimitris Katsigiannopoulos, PhD student working on the preparation of carbon nanotube polymer nanocomposites (POCO project). Start date:6/4/2009, Tentative title: Synthesis and Characterisation of Advanced Carbon nanostructures with polymers.

Former Group Members

- Dr Jacobus Arno Schut, former PhD student working on polymer blends. PhD defence – December 2003 (1/9/2000 – 18/12/2003), Title of Thesis: Blends of Syndiotactic Polystyrene and Thermoset Epoxy Resin: Engineering and Characterisation, Presently Senior researcher in Fuji corporation (polymer division), in the Netherlands. Co-supervised with Profs J.-F. Gerard, M. Dumon (INSA-Lyon) and Prof. M. Stamm (IPF Dresden)

- Dr Richard James Davies, former post-doc jointly with ESRF. Presently second beamline scientist at ID13-ESRF, France.
- Dr Sondes Trabelsi, former post-doc working in the BASF and the NBB projects, presently working at Institute for Synchrotron Radiation (ANKA), Research Centre of Karlsruhe, Germany.
- Ms Julia Henle, former MSc student (1/9/2003-31/8/2004). Title: Deformation of Polyolefins with Synchrotron x-ray Scattering, Presently PhD student at the Technical University Dresden (Group of Prof. Stefan Kaskel), Germany.
- Dr Vera Tserki, former PhD guest student from the Aristotle University of Thessaloniki (Greece). Presently working at the department of Forensic Analysis, Greek Police Force, Greece.
- Dr Marco Amici, former PhD student working on nanohybrids. PhD defence –January 2006 (1/10/2002 – 9/1/2006). Title: Development and Characterisation of Nanohybrids based on Polyhedral Oligomeric Polysilsquioxanes (POSS) and Methacrylate Matrices, Presently working as scientist at Rhodia (Lyon, France). Co-supervision Profs J.-F. Gerard, J. Galy (INSA-Lyon) and Prof. M. Stamm (IPF Dresden)
- Dr Iñaki Garcia Alonso, former PhD student. PhD Defence: November 2007 (1/12/2005-27/11/2007) Title: Nanostructured Composites using Polymer Brushes-Modified Magnetic Nanoparticles and Self-Assembled Block Copolymers Jointly with the University of Basque Country and the University of Perugia. Presently working at CIDETEC in San Sebastian, Spain. Co supervision with Profs. I. Mondragon (UPV/EHU) and J. Kenny (U. Perugia)
- Ms Caterina Serafinelli, former MSc thesis student. MSc Defence – January 2007. (1/6/2006-31/10/2006). Title: Synthesis and Characterisation of Novel Magnetic Nanostructures with Biological Functionalities. Presently PhD Student at the university of Seville (Spain)
- Mr Gizlain Azzoda, former BSc student on the preparation of nanostructured blends with

advanced fracture toughness properties, Erasmus Student from university Claude Bernard Lyon, France

- Mr Zhengzhing Fan, former BSc student in the field of magnetic nanohybrids based on block copolymer matrices. Presently PhD student in the group of Prof. Manfred Stamm (IPF Dresden).
- Dr Jorge Rubio Retama, former post-doc working on magnetic nanomaterials and the preparation of novel nanohybrids. Presently Assistant Professor in the dept. of Pharmacy of the Complutense University in Madrid, Spain.
- Dr Mukesh Agrawal, former PhD student working on the topic of hybrid composite sub-micron particles. PhD Defence – September 2008 (1/7/2005-19/9/2008). Title: Design, Fabrication and Applications of Organic-Inorganic Hybrid Systems. Presently working in IPF as post-doc. Co-supervised with Prof. M. Stamm (IPF Dresden)

PROJECT PARTICIPATION & MANAGEMENT

CRAFT THERMOCELL: Development of thermoplastic composites based on upgraded lingo-cellulose fibres for improved durability and their processing for components.

EU funded research project
(Contract number BRST-CT-5474)
Budget: 120000 EUR
Duration: 1999-2001

RTN POLYNETSET: Advanced Thermoset-based polymer blends with controlled new molecular architectures and morphologies

EU funded research training network
(Contract number: HPRN-CT2000-00146)
Budget: 192000 EUR
Duration: 2000-2004

RTN NBB-HYBRIDS: Hybrid Nanocomposites from Functional Nanobuilding Blocks (Principal Investigator)

EU funded research training network
(Contract number: HPRN-CT-2002-00306)

Budget: 192500 EUR

Duration: 2002-2006

Time-resolved microstructural investigations by means of small angle x-ray scattering. (Principal Investigator)

Industrial Project funded by BASF AG.

Ludwigshafen, Germany

Budget: 90000 EUR

Duration: 2003-2005

Scanning X-ray Microscopy for Polymer Applications (Principal Investigator)

Joint project with the European Synchrotron Radiation Facility (SC1099).

Budget: 90000 EUR for Personnel costs and 200000 EUR for measuring time, traveling and the development of new equipment

Duration: 2003-2005

Network of Excellence NANOFUN: Nanofunctional materials-structure properties relations

EU funded network of Excellence

Budget: 235000 EUR

Duration: 2004-2007

Textilverstärkte Verbundkomponenten für funktionsintegrierende Mischbauweisen bei komplexen Leichtbauanwendungen, Projektbereich A1: Online Commingling-Hybridspinnen von GF-/Polymergarnen

DFG funded programme (Deutsche Forschungsgemeinschaft) (SFB 639)

Budget: 90000 €

Duration: 2002-2006

POCO: Carbon Nanotube Confinement Strategies to Develop Novel Polymer Matrix Composites (Principal Investigator – of the part at IPF Dresden)

EU funded Large Project

Budget: 430000 EUR

Duration: 2008-2012

Refurbishment of Polymer Engineering Lab
 University of Ioannina funded project
 Budget: 60000 EUR
 Start date: 1/9/2010

Installation of a TEM at the University of Ioannina
 EU & Greece funded project
 Budget: 2,000,000 EUR
 Start date: 1/10/2010

OTHER ACTIVITIES

Referee for Advanced Composites Letters, Applied Spectroscopy Letters, Bioresources Technology, Carbohydrate Polymers, Composites Part A, Composites Science and Technology, Composite Interfaces, European Polymer Journal, Journal of Applied Crystallography, Journal of Applied Polymer Science, Journal of Colloid and Interface Science, Journal of Materials Science, Journal of Materials Science Letters, Journal of Polymer Science Part A: Polymer Chemistry, Journal of Polymer Science Part B: Polymer Physics, Macromolecules, Macromolecular Chemistry and Physics, Macromolecular Materials Engineering, Macromolecular Rapid Communications, Macromolecular Symposia, Materials Science and Engineering B, Polymer, Polymer Engineering, (more than 100 articles refereed since 2000)

Chairman of the 'Applied Materials and Engineering' review panel for beamtime applications of the ESRF (2005-)

Reviewer for the FP6 and FP7 programmes of the EU (nanomaterials topic) (since 2004)

Reviewer for the General Secretariat of Research in Greece. (since 2004)

Reviewer for the Austrian Science Foundation (since 2006)

Reviewer for the Portuguese Foundation of Science and Technology (since 2009)

Member of the committee of External experts for the establishment of the European Centre of Soft Condensed Matter in Grenoble, France

Member of the Editorial Board of The Open Industrial & Manufacturing Engineering

Journal from Bentham publishing house (UK)
<http://www.bentham.org/open/toimej/EBM.htm>

Referee and Member of the Jury for the following PhD theses:

- **Mr Aitor Arbelaiz Garmendia**, Composites based on renewable natural flax fibres and thermoplastic matrices, University of the Basque Country, Spain (2006)
- **Ms Elena Serrano Toregrosa**, Nanostructured thermosetting systems by modification of an epoxy resin with epoxidized styrene-butadiene block copolymers, University of the Basque Country, Spain (2006)
- **Ms Sara Maiez-Tribut**, Relations entre la structure d'un copolymère à blocs et la nanostructuration d'un polymère réticulé, INSA de Lyon, France (2007)
- **Ms Pascale Valot**, Développement de nouveaux supports textiles contenant des microcapsules de principe actif médicamenteux pour orthèses, Université Claude Bernard de Lyon 1, France (2007)
- **Ms Miren Blanco Miguel**, Materiales termoestables basados en resinas epoxi y mezclas de aminas de diferente funcionalidad modificadas con PMMA. Cinética de curado, morfología y propiedades finales, University of the Basque Country, Spain (2008)
- **Mr Moweenundin Ahmad Sawpan**, Mechanical Performance of industrial Hemp Fibre Reinforced Polylactide and unsaturated Polyester Composites, University of Waikato, New Zealand (2010)
- **Ms Aylin Karakuscu**, Synthesis and Characterization of Luminescent Nanostructured SiOC Thin Film, University of Trento, Italy (2010)
- **Mr Luca Facchini**, Microstructure and Mechanical Properties of Biomedical Alloys produced by Rapid Manufacturing Techniques, University of Trento, Italy

NATIONAL AND INTERANTIONAL COLLABORATIONS

- Prof. Iñaki Mondragon, University of the Basque Country, SPAIN.
- Prof. Jean-François Gérard, INSA-Lyon, FRANCE.
- Dr. Libor Matějka,, Institute of Macromolecular Chemistry – Prague, CZECH REPUBLIC.
- Dr. Clément Sanchez, Université Pierre et Marie Curie (UPMC) – Paris, FRANCE.
- Dr. Michael Popall, Fraunhofer - Institut für Silicatforschung (ISC)– Würzburg, GERMANY.
- Prof. Sandra Diré, University of Trento, ITALY.
- Prof. Jose M. Kenny, University of Perugia, ITALY.
- Dr Christian Riekell, ID13, ESRF, FRANCE.
- Dr Richard J. Davies, ID13, ESRF, FRANCE.
- Prof. Alexander Korshunsky, Oxford University, UK.
- Prof. Costas Galiotis, Department of Materials, University of Patras, GREECE.
- Prof. Costas Tsitsilianis, Department of Chemical Engineering, University of Patras, GREECE.
- Prof. Costas Panayiotou, Department of Chemical Engineering, Aristotle University of Thessaloniki, GREECE.
- Prof. Jorge Rubio Retama, Complutense University of Madrid, SPAIN

SPECIAL SKILLS

X-ray scattering techniques: WAXS, SAXS, and synchrotron WAXS and SAXS.

Neutron scattering: SANS, NR.

Surface Analysis Techniques: ToF-SIMS, XPS, IGC, Contact Angle measurements.

Thermal Analysis Techniques: DTA, TGA, DSC, DMTA

Spectroscopy Techniques: FTIR, NIR, Raman
Various Characterisation Techniques: SEM, TEM, AFM.

Mechanical Testing: Single Fibre Fragmentation, Tensile Testing, Environmental Testing, Impact, Rheology

Manufacturing: Compression Moulding, Extrusion, Thermopressing, Internal Mixing, Injection Moulding

Polymerisation Techniques: ATRP, NMRP

DISTINCTIONS

- | | |
|------|---|
| 1997 | NATIONAL TECHNICAL UNIVERSITY OF ATHENS
DEPARTMENT OF CHEMICAL ENGINEERING
Prize awarded as second best 4 th year student. |
| 1999 | TECHNICAL CHAMBER OF GREECE
Prize awarded as second best 5 th year Chemical Engineering student. In Greece |
| 2000 | EMPIRIKOS FOUNDATION GREECE
Prize awarded (10000 Euros) for novel research |
| 2004 | Distinguished Greek Scientist Living Abroad, Ministry of Defence, Greece |
| 2006 | Included in the Marquis Who's Who in Science and Engineering [®] (Edition 2006-2007 and subsequent editions) |
| 2006 | Ramon y Cajal fellow of the Spanish Government in the topic of Materials (fellowship denied) |

PERSONAL INTERESTS

Chess, Cinema, Theatre, Hiking, Mountaineering, Wine, History, Poetry, Epistemology.

LIST OF PUBLICATIONS

In Refereed Journals and Refereed Conference Proceedings

1. **N. E. Zafeiropoulos**, P. C. Varelidis, C. D. Papaspyrides, T. Stern and G. Marom, Characterisation of LDPE Residual Matrix Deposited on Glass Fibres by a Dissolution/Reprecipitation Recycling Process, *Composites Part A*, 30, 1999, 831-838
2. **N. E. Zafeiropoulos***, C. A. Baillie and F. L. Matthews, A Study of the Effect of Surface Treatments on the Thermal Stability of Flax Fibres, *Advanced Composites Letters*, 9(4), 2000, 291-294
3. **N. E. Zafeiropoulos***, C. A. Baillie and F. L. Matthews, A Study of Transcrystallinity and its Effect on the Interface in Flax Fibre Reinforced Composite Materials, *Composites Part A*, 32, 2001, 527-545
4. S.J. Eichhorn, C. A. Baillie and **N. Zafeiropoulos**, L.Y. Mwaikambo and M.P. Ansell, A. Dufresne, K.M. Entwistle, P.J. Herrera-Franco and G.C. Escamilla, L. Groom, M. Hughes and C. Hill, T.G. Rials, P.M. Wild, Current International Research Into Cellulosic Fibres and Composites, *Journal of Materials Science*, 36(9), 2001, 2107-2131
5. **N. E. Zafeiropoulos***, C. A. Baillie and F. L. Matthews, The Effect of Transcrystallinity on the Interface of Green Flax/Polypropylene Composite Materials, *Advanced Composites Letters*, 10(5), 2001, 229-236
6. **N. E. Zafeiropoulos***, C. A. Baillie and F. L. Matthews, An Investigation of the Effect of Processing conditions on the Interface of Flax/Polypropylene Composites, *Advanced Composites Letters*, 10(6), 2001, 291-295
7. **N. E. Zafeiropoulos***, The Application of Weibull Statistics on Fragmentation Data, *Advanced Composites Letters*, 11(2), 2002, 69-71
8. **N. E. Zafeiropoulos***, D. R. Williams, C. A. Baillie and F. L. Matthews, Engineering and Characterisation of the Interface in Flax fibre/Polypropylene Composite materials Part I: Development and Investigation of Surface Treatments, *Composites Part A*, 33, 2002, 1083-1093
9. **N. E. Zafeiropoulos***, C. A. Baillie and J. M. Hodgkinson, Engineering and Characterisation of the Interface in Flax fibre/Polypropylene Composite materials Part II: The Effect of Surface Treatments on the Interface, *Composites Part A*, 33, 2002, 1183-1188
10. **N. E. Zafeiropoulos***, J. Schut, A. Pohlers, M. Stamm, and J.-F. Gerard, An Investigation of sPS/Epoxy Blends by Means of X-ray Scattering Techniques, *Macromolecular Symposia*, 198, 2003, 345-353
11. **N. E. Zafeiropoulos***, P. E. Vickers, C. A. Baillie and J. F. Watts, An Experimental Investigation of Modified and Unmodified Flax Fibres by means of XPS, ToF-SIMS and FTIR, *Journal of Materials Science*, 38(19), 2003, 3903-3914
12. K. Schneider, **N. E. Zafeiropoulos***, L. Häußler, M. Stamm, High-Throughput Screening of the Influence of Thermal Treatments on the Mechanical Properties of Semicrystalline Polymers: A Case Study iPP, *Macromolecular Rapid Communications*, 25, 2004, 355-359
13. R. J. Davies, **N. E. Zafeiropoulos***, K. Schneider, S. V. Roth, M. Burghammer, C. Riekkel, J. Kotek, and M. Stamm, The use of Synchrotron X-ray Scattering coupled with *in situ* Mechanical Testing for studying Deformation and Structural change in Isotactic Polypropylene, *Colloid Polymer Science*, 282, 2004, 854-866
14. L. Figiel, **N. E. Zafeiropoulos**, and B. Lauke, Numerical Analysis of the Elastic Constants' Effects on the Delamination Propagation in a Curved Layered

- Composite Beam under Cyclic Shear Loading, *Composites Part A*, 36, 2005, 153-162
15. V. Tserki, C. Panayiotou and **N. E. Zafeiropoulos***, A study of the Effect of Acetylation and Propionylation on the Interface of Natural Fibre Biodegradable Composites, *Advanced Composites Letters*, 14(2), 2005, 63- 69
 16. S. Bocchini, G. Fornasieri, L. Rozes, S. Trabelsi, J. Galy, **N. E. Zafeiropoulos**, M. Stamm, J.-F. Gerard, C. Sanchez, New Hybrid Organic-Inorganic Nanocomposites based on Functional $[\text{Ti}_{16}\text{O}_{16}(\text{OEt})_{24}(\text{OEMA})_8]$ Nano-fillers, *Chemical Communications*, 20, 2005, 2600- 2602
 17. V. Tserki, **N. E. Zafeiropoulos**, F. Simon and C. Panayiotou, A Study of the Effect of Acetylation and Propionylation Surface Treatments on Natural Fibres, *Composites Part A*, 36, 2005, 1110-1118
 18. S. Trabelsi*, A. Janke, R. Häßler, **N. E. Zafeiropoulos***, M. Stamm, G. Fornasieri, S. Bocchini, L. Rozes, J.-F. Gerard and C. Sanchez, Novel Organo-functional Titanium-oxo-cluster based Hybrid Materials with Enhanced Thermomechanical and Thermal Properties, *Macromolecules*, 38, 2005, 6068-6078
 19. **N. E. Zafeiropoulos***, R. J. Davies, S. V. Roth, M. Burghammer, K. Schneider, C. Riekkel and M. Stamm, Microfocus X-ray Scattering Scanning Microscopy for Polymer Applications, *Macromolecular Rapid Communications*, 26, 2005, 1547-1551
 20. L. Rozes, G. Fornasieri, S. Trabelsi, C. Creton, **N. E. Zafeiropoulos**, M. Stamm, and C. Sanchez, Reinforcement of Polystyrene by covalently bonded Titanium Oxoclusters, *Progress in Solid State Chemistry*, 33, 2005, 127-135
 21. E. Serano, A. Tercjak, M. D. Martin, J. A. Pomposo, D. Mecerreyes, **N. E. Zafeiropoulos**, M. Stamm and I. Mondragon, Nanostructured Thermosetting Systems by Modification with Epoxidised Styrene-b-Butadiene Block Copolymers. Effect of Epoxidation Degree, *Macromolecules*, 39, 2006, 2254-2261
 22. K. Schneider, S. Trabelsi, **N. E. Zafeiropoulos**, R. Davies, C. Riekkel, and M. Stamm, The Study of Cavitation in HDPE using Time Resolved Synchrotron X-Ray Scattering during Tensile Deformation, *Macromolecular Symposia*, 236, 2006, 241-248
 23. V. Tserki, P. Matzinos, **N. E. Zafeiropoulos** and C. Panayotou, Development of Biodegradable Composites using Treated and Compatibilized Lignocellulosic Fibres, *Journal of Applied Polymer Science*, 100, 2006, 4703-4710
 24. A. Feldman, E. Wachtel, **N. E. Zafeiropoulos**, K. Schneider, M. Stamm, R. J. Davies, A. Weinberg, G. Marom, In Vivo Microbeam testing of Stiffness of the Transcrystallinity in Nylon 6,6 reinforced by Aramid Fibers, *Composites Science and Technology*, 66, 2006, 2009-2015
 25. **N. E. Zafeiropoulos***, R. J. Davies*, K. Schneider, M. Burghammer, C. Riekkel, and M. Stamm, The Relation between Craze Structure and Molecular Weight in PS as revealed by μSAXS experiments, *Macromolecular Rapid Communications*, 27, 2006, 1689-1694
 26. **N. E. Zafeiropoulos***, G. G. Dijon and C. A. Baillie, A Study of the Effect of Surface Treatments on the Tensile Strength of Flax Fibres; Part I Application of Gaussian Statistics, *Composites Part A*, 38, 2007, 621-628
 27. **N. E. Zafeiropoulos*** and C. A. Baillie, A Study of the Effect of Surface Treatments on the Tensile Strength of Flax Fibres; Part II Application of Weibull Statistics, *Composites Part A*, 38, 2007, 629-638

28. I. Garcia, **N. E. Zafeiropoulos**, A. Janke, A. Tercjak, A. Eceiza, M. Stamm and I. Mondragon, Functionalisation of Iron Oxide Magnetic Nanoparticles with PMMA Brushes via ATRP 'Grafting From' Polymerisation, *Journal of Polymer Science Part A: Polymer Chemistry*, 45, 2007, 925-932
29. M. Agrawal, A. Pich, **N. E. Zafeiropoulos**, S. Gupta, J. Pionteck, F. Simon, and M. Stamm, Polystyrene-ZnO Composite Particles with Controlled Morphology, *Chemistry of Materials*, 19 (7), 2007, 1845-1852
30. J. Rubio-Retama*, **N. E. Zafeiropoulos***, C. Serafinelli, R. Rojas-Reynas, B. Voit, E. Lopez Cabarcos, and M. Stamm, Synthesis and Characterization of Thermosensitive PNIPAM Microgels covered with Superparamagnetic γ -Fe₂O₃ Nanoparticles, *Langmuir*, 23, 2007, 10280-10285
31. **N. E. Zafeiropoulos***, On the Use of Single Fibre Composites Testing to Characterise the Interface in Natural Fibre Composites, *Composite Interfaces*, 14, 2007, 807-820
32. I. Garcia, A. Tercjak, **N. E. Zafeiropoulos**, M. Stamm, I. Mondragon, Generation of Core/Shell Iron Oxide Magnetic Nanoparticles with Polystyrene Brushes by ATRP Polymerization, *Journal of Polymer Science Part A: Polymer Chemistry*, 45, 2007, 4744-4750
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 69. M. Stamm, R. Krenek, V. Cimrova, B. Nandan, P. Uhlmann, **N. E. Zafeiropoulos**, and X. Li, Nanotemplates with Copolymer Thin Films, 4th NANOFUN-POLY International Conference on Nanostructured and Polymers and Nanocomposites, Rome (Italy), 16-18 April, 2008 (Poster Presentation)
 70. M. Agrawal, A. Pich, J. Rubio-Retama, **N. E. Zafeiropoulos**, and M. Stamm, Zinc Oxide nanoparticles inside Thermosensitive Microgels, 4th NANOFUN-POLY International Conference on Nanostructured and Polymers and Nanocomposites, Rome (Italy), 16-18 April, 2008 (Poster Presentation)
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 72. M. Agrawal, **N. E. Zafeiropoulos**, A. Pich, U. Oertel, and M. Stamm, Preparation of PMMA-ZnO Composite Films via Solution Mixing, 4th NANOFUN-POLY International Conference on Nanostructured and Polymers and Nanocomposites, Rome (Italy), 16-18 April, 2008 (Poster Presentation)
 73. G. Kortaberria, E. Etxeberria, I. Garcia, A. Tercjak, **N. E. Zafeiropoulos**, R. J. J. Williams, J. M. Kenny, C. Tsitsilianis, and I. Mondragon, Self-assembled Nanocomposites based on Block Copolymers containing Magnetic Nanoparticles, 4th NANOFUN-POLY International Conference on Nanostructured and Polymers and Nanocomposites, Rome (Italy), 16-18 April, 2008 (Poster Presentation)
 74. J. Rubio-Retama, **N. E. Zafeiropoulos**, M. Stamm, and E. López-Cabarcos, Polymer Chain Dynamic influenced by the presence of Magnetic Nanoparticles within Microgels, 22nd Conference of the European Colloid and Interface Society, Cracow (Poland), August 31 - September 5, 2008 (Oral Presentation)
 75. J. Rubio-Retama, **N. E. Zafeiropoulos**, N. Gaponik, and E. López-Cabarcos, Switchable photoluminescence of CdTe nanocrystals by temperature responsive microgels, 22nd Conference of the European Colloid and Interface Society, Cracow (Poland), August 31 - September 5, 2008 (Oral Presentation)
 76. **N. E. Zafeiropoulos**, Smart Multifunctional Hybrid Microgels, XXIV Panhellenic Conference on Solid State Physics and Materials Science, Heraklion (Greece), 21-24 September, 2008 (Invited Oral Presentation)
 77. A. Horechyy, **N. E. Zafeiropoulos**, C. Tsitsilianis, and M. Stamm, Synthesis and Selective Segregation of Fe₃O₄ nanoparticles inside the Poly-2-vinylpyridine

- domain of Poly(styrene-b-vinylpyridine), 7th Hellenic Polymer Conference, Ioannina, Greece, 28th September – 1st October, 2008 (Oral Presentation)
78. **N. E. Zafeiropoulos**, Nanohybrid Materials with Block Copolymers and Nanoparticles, 10th European Symposium on Polymer Blends, Dresden, 7-10 of March 2010 (Invited Keynote Oral Presentation)

Contributions in books

1. **N. E. Zafeiropoulos**, The Fibre-Matrix Interface in Natural Fibre Composites, in Properties and Failure Mechanisms of Natural Fibre Composites, K. Pickering (ed), Woodhead Publishing Limited, June 2008 (ISBN-13978145692674)
2. **N. E. Zafeiropoulos (editor)**, Interfacial Engineering in Natural Fibre Composites for Maximum Performance, Woodhead Publishing Limited, approved and in the process of writing.

Invited Talks

1. **N. E. Zafeiropoulos**, Natural Fibres as Potential Reinforcements in Composite Materials, Department of Civil and Environmental Engineering, State University of Washington, Pullman, USA, 15th of April 2002 (Invited by Prof. Michael Wolcott)
2. **N. E. Zafeiropoulos**, The Application of Synchrotron μ SAXS and μ WAXS in Polymer Science, 14th ESRF Users' Meeting, Grenoble, France, 10th -11th February, 2004 (Invited by Dr Christian Riekell)
3. **N. E. Zafeiropoulos**, Synchrotron x-ray Scattering: A Novel Method to Study Deformation Phenomena in Polymer Systems, Department of Materials Science, University of Patras, Greece, 9th June, 2004 (Invited by Prof. Costas Galiotis)
4. **N. E. Zafeiropoulos**, Development and Characterisation of Novel Hybrid Organic-Inorganic Nanomaterials, Department of Physics, University of Patras, Greece, 19th October, 2004 (Invited by Prof Chris Toprakcioglou)
5. **N. E. Zafeiropoulos**, The use of Synchrotron radiation x-ray scattering to study the deformation and fracture phenomena in polymer science, National Technical University of Athens, Greece, 14th January, 2005 (Invited by Prof. Doros Theodorou)
6. **N. E. Zafeiropoulos**, Microfocus x-ray scattering as a tool for polymer applications, Department of Biomaterials, Max Plank Institute for Colloids, Golm, Germany, 19th April 2005 (Invited by Prof. Peter Fratzl)
7. **N. E. Zafeiropoulos**, Strategies and Routes for Developing Novel Hybrid Nanomaterials, Department of Chemical Engineering, University of the Basque Country, San Sebastian, Spain, 14th of July, 2005 (Invited by Prof. Iñaki Mondragon)
8. **N. E. Zafeiropoulos**, Preparation and Characterisation of Hybrid Nanomaterials, Department of Chemistry, Université Claude Bernard de Lyon 1, France, 8th February, 2007 (Invited by Dr Nathalie Zydowicz)
9. **N. E. Zafeiropoulos**, From Magnetic Smart Microgels to Magnetic Hollow Spheres, Joint workshop of Networks of Excellence NANOFUN-POLY, MAGMANET & INDECAT, Florence, Italy, 11th March, 2008 (Invited by Prof. Josè M. Kenny)

10. **N. E. Zafeiropoulos**, Smart Multifunctional Hybrid Microgels, XXIV Panhellenic Conference on Solid State Physics and Materials Science, Heraklion (Greece), 21-24 September, 2008 (Invited Oral Presentation)
11. **N. E. Zafeiropoulos**, Synchrotron Radiation in Polymer Science, 14th Symposium of IPF Dresden, Dresden 4-5 November 2009 (Invited Oral Presentation)
12. **N. E. Zafeiropoulos**, Nanohybrid Materials with Block Copolymers and Nanoparticles, 10th European Symposium on Polymer Blends, Dresden, 7-10 of March 2010 (Invited Keynote Oral Presentation)

Experimental Reports for Synchrotron experiments

1. D. Jehnichen, A. Pohlers, **N. E. Zafeiropoulos**, S. Kummer, K. Schneider, D. Lehmann, M. Stamm, Scanning x-ray microscopy for polymer applications, ESRF report, February 2002
2. A. Pohlers, **N. E. Zafeiropoulos**, C. Lorenz-Haas, P. Müller-Buschbaum, S. Roth, C. Riekkel, C. Korenberg, A. J. Kinloch, M. Stamm, A study of crack propagation in non- and rubber- toughened epoxy adhesives with the use of scanning micro beam synchrotron radiation, ESRF report, March 2002
3. **N. E. Zafeiropoulos**, A. Pohlers, D. Jehnichen, S. Kummer, S. Roth, M. Burghammer, K. Schneider, R. Weidisch, M. Stamm, A study of the deformation process of triblock poly(styrene-b-butadiene) copolymers with the use of micro focus beam synchrotron radiation *in situ* with tensile testing, ESRF report, March 2003
4. J. A. Schut, **N. E. Zafeiropoulos**, M. Amici, P. Volodin, S. S. Funari, M. Stamm, Reaction induced phase separation (RIPS) in sPS/epoxy resin blends: Investigation by simultaneous SAXS/NIR, HASYLAB year report, 2004
5. **N. E. Zafeiropoulos**, R. J. Davies, K. Schneider, M. Amici, Y. Men, M. Burghammer, M. Stamm, A study of deformation mechanisms in iPP *in situ* with μ WAXS experiments, ESRF report, August 2004
6. **N. E. Zafeiropoulos**, R. J. Davies, K. Schneider, M. Amici, C. Riekkel, M. Stamm, A study of the phenomenon of crazing in glassy polymers through the use of μ SAXS, ESRF report, February 2005
7. **N. E. Zafeiropoulos**, R. J. Davies, K. Schneider, A. Feldman, G. Marom, C. Riekkel, M. Stamm, An Investigation of the interface in composite materials by use of μ SAXS and μ WAXS, ESRF report, February 2005
8. **N. E. Zafeiropoulos**, R. J. Davies, S. Trabelsi, K. Schneider, C. Riekkel, M. Stamm, Deformation and Fracture Properties of Polypropylene: Influence of Chemical Architecture, ESRF report, 2006
9. K. Schneider, **N. E. Zafeiropoulos**, X.-H. Li, Deformation Mechanisms and Morphology of Semicrystalline/Nanoparticle Materials using Time-Resolved WAXS/SAXS, ESRF report, 2007
13. M. Rosenthal, D. V. Anokhin, D. A. Ivanov, and **N. E. Zafeiropoulos**, Investigation of Crystal Transformations in Poly(vinylidene fluoride) with microfocus WAXS/SAXS, ESRF report, 2007

Theses

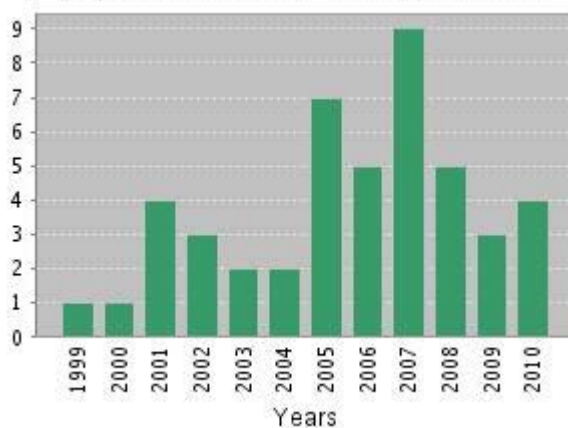
1. **N. E. Zafeiropoulos**, Characterisation of Coated Glass Fibres Received from Recycled Thermoplastic Composite Materials, MEng Thesis, National Technical University of Athens, 1997 (in Greek)
2. **N. E. Zafeiropoulos**, Engineering and Characterisation of the Interface in Flax/Polypropylene Composite Materials, PhD Thesis, University of London, 2001

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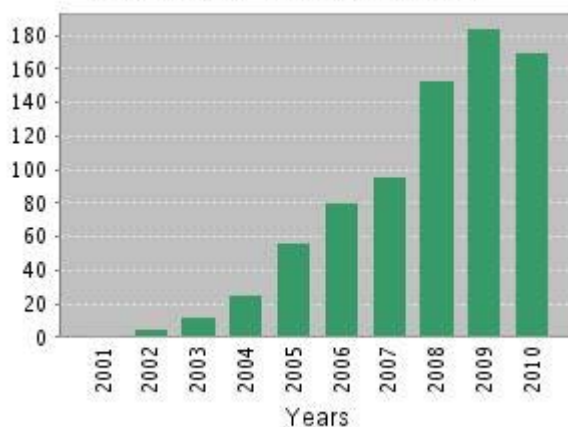
1. J. L. Oakeshott, M. Dymond and **N. E. Zafeiropoulos**, Composite Materials based on Natural Fibres, Technical Memorandum for the Centre for Composite Materials (TM99/07)
2. **N. E. Zafeiropoulos**, P. E. Vickers and C. A. Baillie, Assessment of the Interface of Flax/Polypropylene Composites, Executive Report for the EU.

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