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## Events - Conferences

16th European Symposium on Polymer Spectroscopy (ESOPS) (no NANOFUN event)

Kerkrade,  
The Netherlands  
May 29 June 1, 2005

Interfaces & Interphases in Multicomponent Materials Conference

Lyon-Villeurbanne  
September 12-14, 2005

Polymer Nanocomposites 2005

Mondreal - Canada,  
September 28-30, 2005

## Events - Workshops

International meeting on polymer modelling and its industrial applications

College of Borås  
Sweden, June 6-8, 2005

## Nanofun-Poly E-Newsletter

The official news bulletin of the NANOFUN-POLY

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## EDUCATION-TRAINING

### 1. European Masters' Course in Nanotechnology of Polymeric Materials - 2nd Level Master's Course - 60 ECTS Credits

The 2nd level European Masters' course in Polymeric Materials Nanotechnology aims to provide specific professional skills in Nanotechnology and, in particular, in Polymeric Materials.

The Master's course and teaching activities are provided for within the NANOFUN-POLY European Network of Excellence, coordinated by INSTM.

All lectures given at the Materials Research Center in Terni, Italy. Research stages will be organized at locations of NANOFUN-POLY partners

For more information, contact :

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## MOBILITY

- Stay of 6 months from 1st February 2005 of Jenny ALONGI (Univ. Genova - Prof. Russo) with subject: POSS-modified polyamides, supervised by J.Galy and J.F. Gerard
- Several visits and discussions have been made between DKI-BAM (Ingo Alig) and IPF (Petra Poetschke) on CNT/polymer composites in Darmstadt and Dresden (e.g. one week joined experiments in December 2004 at DKI).
- Meetings have been made with:
  - Dr Tony McNally from Materials Research Group, School of Mechanical & Manufacturing Engineering (RAE 5\*) Queen's University Belfast Belfast BT9 5AH UK in Darmstadt (DKI-BAM, with Ingo Alig) on 25/1/05
  - and Dresden in Dresden (IPF, with Petra Poetschke) on 26/1/05
- New Research programmes have been made with co-operation of IPF and DKI-BAM: Melt processing and characterization of dispersion of carbon nanotube-based nanocomposites

## REPORTS ON PAST EVENTS

### 1. REPORT ON 1st INTERNATIONAL SYMPOSIUM NANOFUN-POLY "Nanostructured and functional polymer-based materials and composites" April, 24th to 27th 2005 Dresden, Germany

The 1st INTERNATIONAL SYMPOSIUM on "Nanostructured and functional polymer-based materials" NANOFUN-POLY took place on April from 24 to 27 or 2005.

Host and local organizer of the 1st Symposium NANOFUN-POLY was the Leibniz Institute of Polymer Research Dresden e.V. (IPF), partner NA-

NOFUN-POLY and Leader of the AoE Polymer Chemistry. Responsible for the local organization at the IPF was Antonio Reguero, under the coordination of Prof. Voit. More than 100 applications for oral and posters contributions allowed the scientific committee of the Symposium to compile a highly interesting program focusing on nanostructure synthesis and design as well as characterization and application of nanostructured and functional polymers.

Two parallel sessions were planned on the following topics:

Session A: Nanostructured polymers

- Synthesis and properties of nanostructured polymers

- Dendritic Polymers and application • Beads/Gels/Biomaterials

Session B: Nano-objects and nanocomposites

- Nanostructures/nanofibers/inorganic nanoparticles

- Nanocomposites - Preparation and properties

The program included only a limited number (6) of invited lectures (30 min. each) to give room to 60 contributed lectures (20 min. each).

On Wednesday, 27th the symposium ended with final remarks by Prof. Voit and Prof. Kenny, inviting all the participants to the 2nd symposium NANOFUN-POLY to be held in Lyon, France in 2006.

## PUBLICATIONS

- Pötschke, P., Dudkin, S., Alig I. "Dielectric spectroscopy on melt processed polycarbonate-multiwall carbon nanotube composites", Polymer 44 (2003) 5023
- Pötschke, P., Abdel-Goada, M., Dudkin, S., Lellinger, D., Alig I. "Rheological and dielectrical characterization of melt mixed polycarbonate-multiwalled carbon nanotube composites", Polymer 45 (2004) 26, 8863
- Pötschke, P., Bhattacharyya, A.R., Dudkin S., Alig I., Leonhardt, A., Töschner, C., Ritschel, M., Roth, S., Hornborstel, B., Cech, J. "Dispersion of carbon nanotubes into thermoplastic polymers using melt mixing", Proceedings International Winter-school on Electronic Properties and Novel Materials, Kirchberg, Austria, 6-16 March 2004, AiP Conference Proceedings 723 (2004) 478

## JOB VACANCIES

MORE INFORMATION FOR ALL FIVE PhD POSITION CAN BE FOUND IN OUR WEBSITE: [WWW.NANOFUN-POLY.NET](http://WWW.NANOFUN-POLY.NET)

- Study of the parameters (diffusion, mixing, rheology) governing a radical chemical reaction in molten polymers

This project is concerned with new developments in nano-structured copolymers and/or chemical polymer modification by reactive processing. This challenging task of having complete tailoring of the architectures and morphologies of the polymers at different scales from combination of chemistry

and processing represents significant progress in the field.

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## 2. Analysis of nanofillers dispersion mechanism in a melt polymer. Consequences on morphology of nanocomposites obtained by injection.

For this position, we search for tailoring the nanofillers dispersion during both processing steps: i) formulation of thermoplastic pellets by extrusion and ii) processing of final pieces by injection.

For this Phd supported by a French government grant, we are looking for a candidate of less 23 years age, with good knowledge in materials and processing.

For more information, contact :

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- Laboratoire de Recherche Pluridisciplinaire en Plasturgie / ERT10 - BP807  
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## 3. Nanostructuration of hybrid polymer membranes for functional applications

This work concerns the development of polymer based nanocomposites for functional applications.

The objectives of this work are (i) to prepare the nanocomposite membranes according to different ways (ii) to study the nanostructure development as a function of the preparation method, of the precursor nature and of the polymer matrix used (iii) to study and model the functional properties. This study should help us to answer a fundamental question: is there a "nano" effect in these systems?

For more information, contact :

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## 4. Nanostructuration of Polymer matrices by the use of macrosupramolecular objects

This project deals with the micro/nanostructuration of polymer matrices by using supramolecular block copolymers.

For more information, contact :

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## 5. Generation of nanocapsules by interfacial polycondensation in miniemulsions

The aims of this project concern the nanocapsule formation, the study of thermal and mechanical properties, the determination of the morphology and the permeability to loaded active agent intended for its controlled delivery or its preservation from the surrounding medium.

For more information, contact :

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## Events:

### Interfaces & Interphases in Multicomponent Materials Conference

The International conference on Interfaces and Interphases in Multicomponent Materials, will be organized in Lyon next September, i.e. September 12-14, 2005. This conference results from the merging of the ICCI (International Conference on Interfaces in Composites) and IPCM (Interfacial Phenomena in Composite Materials) Symposia, chaired by Profs H. Ishida and F. Jones, respectively. The IIMM'2005 conference, devoted to any kind of interfaces and interphases in multi-component materials will try to join the best scientists involved in the following topics:

- \* Synthetic and natural fiber/filler based composites
- \* Metal and ceramic matrix composites
- \* Processing of interfaces and interphases in multicomponent materials
- \* Nanocomposites and other nanostructured functional materials
- \* Interfaces in polymer blends and other multicomponent, multiphase materials
- \* Interfaces/interphases in bio medical materials and tissue engineering
- \* Theoretical modeling of interfaces and interphases
- \* New characterization techniques

Organized under the auspices of the Network of Excellence NANOFUN-POLY 6th PCRD European Community ([www.nanofun.net](http://www.nanofun.net))

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## Polymer Nanocomposites 2005

The National Research Council of Canada's Industrial Materials Institute (NRC-IMI), McGill University, and the Quebec Materials Network are pleased to announce Polymer Nanocomposites 2005, to be held from September 28-30, 2005 at the NRC-IMI near Montreal, Canada.

The theme of the symposium is "Technology and Applications of Polymeric Nanocomposites" and it will feature subjects like:

- Nano-reinforcements based on natural and synthetic layered silicates, as well as carbon nanotubes and nanofibres
- Theoretical aspects of intercalation, exfoliation, and dispersion
- Novel modification or exfoliation techniques
- Exfoliation of clays via melt processing
- Comparison of experiment and theory with respect to key properties of nanocomposites
- New developments in processing technology
- Applications for polymer nanocomposites: automotive, packaging, biomedical, etc

For more information, please visit:

[www.nanocomposites2005.com](http://www.nanocomposites2005.com)

or contact the conference coordinator:

Sylvie Lamontagne

Quebec Materials Network,

75 de Montagne Boucherville,

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## 16th European Symposium on Polymer Spectroscopy (ES-OPS)

The 16th European Symposium on Polymer Spectroscopy will be held for the first time in the Netherlands from Sunday, 29 May to Wednesday, 1 June, 2005, at the Rolduc Abbey, Kerkrade.

The European Symposia on Polymer Spectroscopy are held biennially to review the latest research and development in the application of spectroscopy to the characterization and analysis of polymer systems. All types of spectroscopy are welcome. ESOPS has become the leading European meeting in polymer spectroscopy attracting participants from all over the world. The symposium brings together scientists specialized in different spectroscopic techniques, giving them the opportunity to broaden their minds beyond their individual specializations. The symposium

sium is intended not only for those who are actively engaged in the field, from both industry and academia, but also for those wishing to be become acquainted with the latest developments.

*For more information please contact:*

*Mrs Elly Langstadt  
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## International Meeting on Polymer Modelling and its Industrial Applications

We invite you to attend the International meeting on polymer modelling and its industrial applications which will be held in University College of Boras, (Sweden) from 6 to 8 of June 2005.

The theme of the meeting will be modern methods of polymer modelling at different scales and their application to composites, textiles, coatings, packaging materials and structural polymeric materials.

Scientific topics include:

- Macroscopic modelling of thermal properties of polymer materials
- Finite element methods for composite modelling
- Mesoscopic modelling of polymers
- Coarse-grained dynamics for polymers
- Simplified polymer models
- Brownian dynamics simulation of polymers
- Ab-initio molecular dynamics simulation of reactions involving polymers

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