

DYNACOP - Dynamics of architecturally complex polymers
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The scientific objective of DYNACOP is to obtain a fundamental understanding of the flow behaviour and the dynamics of blends of topologically complex macromolecular fluids and their role in processing and properties of blends. These materials exhibit complex dynamics and rheology and, in many cases, show hierarchical relaxation over many different timescales. This in turn affects the processing and properties of the final materials. In order to rationally design appropriate materials and processes for various technological applications, a rigorous, knowledge based approach is needed.

This is especially urgent in the face of current opportunities offered by tailored molecular engineering of polymers at the industrial scale, and the proposed use of these materials in nano-structured composites for smart applications in devices, electronics and high-performance applications. The training objective of the proposed action is to provide young post-doctoral researchers with the necessary interdisciplinary knowledge and experience in the field of soft materials properties, much needed throughout Europe, which will allow them to address some of the many scientific and technological challenges in the field. This will first and foremost be achieved through a collaborative research program and portfolio of training courses intimately linking industry and academia.

To ensure fruitful collaborations, the participating research groups will work around a limited number of model systems; exchange the samples, and apply to them the techniques and/ or theoretical approaches developed in the different laboratories. The research groups are selected in order to obtain the needed synergy, as they have different backgrounds/expertise, in physics, chemical engineering, chemistry and materials science. 6 Very high profile international visiting scientists, bringing their unique expertise to Europe, will participate in the training and research.

Coordinator

UNIVERSITY OF LEEDS (United Kingdom)

Other participants

UNIVERSITÀ DEGLI STUDI DI NAPOLI FEDERICO II

FORSCHUNGSZENTRUM JUELICH GMBH (Germany)

UNIVERSITY OF DURHAM (United Kingdom)

DOW BENELUX B.V. (Netherlands)

UNIVERSITEIT TWENTE (Netherlands)

NATIONAL AND KAPODISTRIAN UNIVERSITY OF ATHENS (Greece)

UNIVERSIDAD DEL PAIS VASCO/EUSKAL HERRIKO UNIBERTSITATEA (Spain)

BASF SE (Germany)

UNIVERSITE CATHOLIQUE DE LOUVAIN (Belgium)

FOUNDATION FOR RESEARCH AND TECHNOLOGY HELLAS (Greece)

DANMARKS TEKNISKE UNIVERSITET (Denmark)

Start date 01/02/2009

End date 31/01/2013

Duration 48 mesi

Project cost 3.49 million euro

Project Funding 3.49 million euro

Subprogramme Area Networks for Initial Training (ITN)

Contract type Networks for Initial Training (ITN)