

# Dr. Marisol Ripoll

Affiliated with the Institute of Complex Systems (ICS-2)

Jülich Young Investigators Group: Hydrodynamic simulations of thermophoresis



„The main objective is to consolidate the research line beyond the funding period by obtaining additional funding, strengthening collaborations, and finding further scientific perspectives for the group in a broad scientific community.“

## Research project:

Thermophoresis refers to the directional drift motion that particles in solution experience due to the presence of a temperature gradient. Thermophoresis of soft matter systems is an emerging field in which many properties and applications are still in a phase of investigation. Our interests range from a fundamental understanding of the phenomenon to the development of practical applications. Our investigations are performed by a state of the art hydrodynamic simulation technique which have already allowed us propose novel thermophoretic pumps, gears, and synthetic microswimmers. These devices are currently being developed in combination with experimentalists and are intended to find applications in microfluidic setups or in micromachines able to recover heat waste energy.

## What is/has been the greatest challenge as head of a young investigators group?

“To independently establish the research line and to learn to optimize the possibilities of each member of the group”

<b>Start of funding period:</b>	April 2007
<b>End of funding period:</b>	March 2014
<b>Budget:</b>	
<b>Staff:</b>	3 PhD students, 1 postdoc
<b>University affiliation:</b>	Universität zu Köln

**Further information:** [Young Investigator Group Dr. Ripoll](#)