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MPNS COST Action MP0702

Towards Functional Sub-Wavelength Photonic Structures

Descriptions are provided by the Actions directly via e-COST.

The first meeting of the Management Committee took place on 21 January 2008.

The main objective of the Action is to establish active links between European laboratories working in the field of artificial materials for photonics applications, where the structural dimensions are at or below the wavelength of light.

Fabrication of such structures has become possible due to the expertise delivered by nanotechnology, which opens the way to the study of new functional artificial materials and plasmonic structures, promising progress in miniaturisation - and which will allow exploration of new aspects of light-matter interaction. The goal is to increase knowledge about the basic mechanisms of the interaction of light with matter on a sub-wavelength scale. The scientific innovation concerns: the basic mechanisms of light-matter interaction in micro- and nanostructured materials - including metals (plasmonics), the trade-off between strong localization and propagation losses, photonic diagnostic instruments, and non-linear effects. The technological impact of the Action will lead to the implementation of advanced optical equipment and devices with high performance and low cost. The scientific transformation resulting from the Action will facilitate interconnection between topics that will produce new results in the field of photonics and pave the way to the forthcoming era of nanophotonics.

Keywords: Nanophotonics, non-linear nanophotonics, hybrid material systems, plasmonics, metamaterials.

Materials, Physical and Nanosciences COST Action MP0702

- ▶ **Description**
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General Information*

Chair of the Action:
[Prof. Marian MARCINIAK](#) (PL)

Vice Chair of the Action:
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DC Rapporteurs:
[Prof. Witold LOJKOWSKI](#) (PL)

Science officer of the Action:
[Dr Caroline WHELAN](#)

Administrative officer of the Action:
[Milena STOYANOVA](#)

Downloads*

Action Fact Sheet
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Memorandum of Understanding
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Progress Report
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Websites*

Action website:
<http://cost-mp0702.nit.eu/cost-mp0702>

Domain website:
<http://www.cost.eu/mpns>

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Last updated: 06 May 2011 