

Composites of Inorganic Nanotubes and Polymers (COINAPO)

Objectives

- To create a highly interdisciplinary network focused on research and development of new composite materials from inorganic nanotubes and polymers.
- To establish appropriate links and transfer of knowledge needed for application and commercialisation of this kind of composite media by European Industry.

Working Groups

- WG 1: **Fabrication of materials** is responsible for developing and optimising methods for tailoring the structure and properties of the composites and their constituents.
- WG 2: **Characterization** is focused on determination of the actual structure and mechanical, thermal, optical, and electrical properties of the composites.
- WG 3: **Theory** is concentrating on development of fundamental understanding of the composite properties on the basis of theoretical models and computer simulations.
- WG 4: **Engineering** (established in 2011) is focused on the testing and evaluating of the new composite materials regarding specific applications.

Main Achievements

- Establishment of an extensive network (at the moment 145 researchers from 25 COST countries and 3 non-COST countries are participating to the Action) proves that the topic of the project is very interdisciplinary, attractive and timely.
- Successful organization of 17 Action events, from them two training schools for ESRs (2011,2012), one joint meeting with two other COST Actions and one minisymposium focused on safety issues related to manipulation and work with nanomaterials.
- 117 documented startings of new collaborations, 68 published collaborative research papers, 76 conference contributions, 24 B.Sc./M.Sc/Ph.D works.
- Collaborative activities resulted in fabrication of several (new) types of INT-polymer composite materials („COINAPO materials“). Their fundamental physical properties were systematically and extensively characterized.
- Some promising directions of possible applications of investigated INT-polymer composites in different devices were demonstrated (solar cells, gas sensors, etc.)

Gender Balance and Early Stage Researchers

- Objectives: to ensure gender equality within the consortium; to encourage young female scientists to take up careers in the research field of the Action, to promote role of women in this area; to give ESRs opportunity for giving oral presentations at Action meetings; to organize a training school for ESRs.
- Status: about 20% of Action participants (also among MC members) are female, which is very usual situation in the MPNS field, on all Action meetings quite a lot of speakers were female and/or ESRs. Two training schools for ESRs were organized.

Dissemination

- Action webpage (www.coinapo.eu), Action flyer and logo (available to be downloaded from the Action webpage).
- Special issue of Sensors&Transducers Journal (2011), Special issue of Physica Status Solidi (2013, Action final publication).
- Printed abstract books for 7 Action meetings (WG and Topical).
- Special publication on „Safety of nanotube-polymer composite materials“ (to be distributed together with the Action final publication).

Materials,
Physics &
Nanosciences
(MPNS)



Participating countries: 25

AT, BE, CH, CY, CZ, DE, EE, ES, FR, GR, HR, IE, IL, IT, LT, LV, NL, PL, PT, RO, SI, SK, SE, TR, UK

Internat. Collaboration:

Australia, South Korea, Ukraine

Contact details

Chair of the Action

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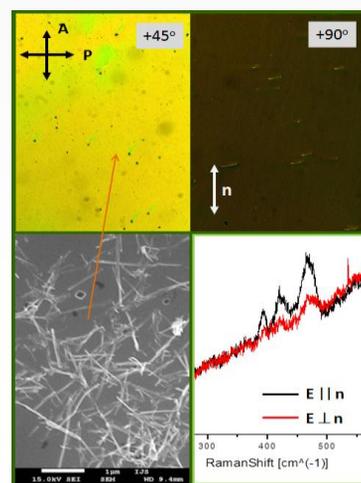
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Anisotropic MoS₂ nanotube-polymer composite with aligned nanotubes.



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