Functional ordered NANomaterials via ELectrochemical routes in non-aqueous electrolytes

Fact Sheet

Project Information

NANEL

Grant agreement ID: 295273

Project closed

Start date
1 January 2012

End date
31 December 2014

Funded under
Specific programme "People" implementing the Seventh Framework Programme of the European Community for research, technological development and demonstration activities (2007 to 2013)

Total cost
€ 250 800,00

EU contribution
€ 250 800,00

Coordinated by
UNIVERSIDADE DE AVEIRO
Portugal

This project is featured in...

Objective

"The NANEL joint exchange project aims to establish long-lasting research cooperation between Portuguese, Bulgarian, Belgian, Belarusian and Russian scientists in the field of electrochemical synthesis of advanced nanostructured materials. The collaborative consortium joins together a critical mass of the expertise available in the involved groups. The partners bring the complementary experiences and experimental facilities which are essential for effective development and testing of the nanomaterials for to be applied in sensors and photovoltaics. Mutually beneficial transfer of knowledge will be implemented through an intensive exchange program between six partner organizations.
The main technical objective of the project is development of novel functional nanomaterials for sensors and solar cell applications on the basis of ordered nanoporous anodic oxides. The main scientific novelty of the project is functionalization of the porous anodic oxides, such as alumina or titania based ones, via electrochemical or electrophoretic ways using non-aqueous electrolytes. Ionic liquids and molten salts will be used as prospective candidates for the electrolytes. The electrochemical synthesis of nanomaterials has several important advantages because of relatively low costs and fine control of the process parameters. The suggested approach will confer creation of new ordered functional nanomaterials via electrochemical routes which are not possible in water-based electrolytes. Use of non-aqueous solution confers significant advantages for specific materials which are not stable in presence of water or can not be electrodeposited because of the relatively narrow electrochemical window of water."

Fields of science (EuroSciVoc)

engineering and technology > electrical engineering, electronic engineering, information engineering > electronic engineering > **sensors**

engineering and technology > nanotechnology > **nano-materials**

engineering and technology > environmental engineering > energy and fuels > renewable energy > solar energy > **photovoltaic**

Programme(s)

FP7-PEOPLE - Specific programme "People" implementing the Seventh Framework Programme of the European Community for research, technological development and demonstration activities (2007 to 2013)

Topic(s)

FP7-PEOPLE-2011-IRSES - Marie Curie Action "International Research Staff Exchange Scheme"

Call for proposal

FP7-PEOPLE-2011-IRSES
See other projects for this call

Funding Scheme

MC-IRSES - International research staff exchange scheme (IRSES)

Coordinator

UNIVERSIDADE DE AVEIRO

EU contribution

€ 134 900,00

Total cost

No data

Address

CAMPUS UNIVERSITÁRIO DE SANTIAGO
3810-193 Aveiro
Portugal

Activity type

Higher or Secondary Education Establishments

Links

Contact the organisation Website
Participation in EU R&I programmes
HORIZON collaboration network

Participants (2)

CHIMIKOTECHNOLOGITCHEN I METALURGITCHEN UNIVERSITET

Bulgaria

EU contribution

€ 47 500,00

Address

KL OHRIDSKY BOULEVARD 8
1756 Sofia

Region

Югозападна и Южна централна България > Югозападен > София (столица)

Activity type

Higher or Secondary Education Establishments

Links

Contact the organisation Website
Participation in EU R&I programmes
HORIZON collaboration network

Total cost

No data

VRIJE UNIVERSITEIT BRUSSEL

Belgium

EU contribution

€ 68 400,00

Address

PLEINLAAN 2
1050 Bruxelles / Brussel

Region

Région de Bruxelles-Capitale/Brussels Hoofdstedelijk Gewest > Région de Bruxelles-Capitale/ Brussels Hoofdstedelijk Gewest > Arr. de Bruxelles-Capitale/Arr. Brussel-Hoofdstad

Activity type

Higher or Secondary Education Establishments

Links

Contact the organisation Website
Participation in EU R&I programmes
HORIZON collaboration network

Total cost

No data

Last update: 6 September 2024

Permalink: https://cordis.europa.eu/project/id/295273