Electrokinetics across disciplines and continents: an integrated approach to finding new strategies to sustainable development

Fact Sheet

Project information

ELECTROACROSS
Grant agreement ID: 269289
Status
Closed project

Start date: 1 March 2011
End date: 28 February 2015

Funded under:
FP7-PEOPLE

Overall budget: € 398 200
EU contribution: € 370 900

Coordinated by:
FUNDACAO DA FACULDADE DE CIENCIAS E TECNOLOGIA DA UNIVERSIDADE NOVA DE LISBOA.
Portugal

Objective

The socio-economic activities due to world development are promoting increasing pressures on land, creating competition and conflicts, resulting in suboptimal use of resources. Integrated planning and management of land resources is a top subject of Agenda 21 (managed by FAO), which deals with the cross-sectoral aspects of decision-making for the sustainable use and development of natural resources. This is essential for life-support systems and its productive capacity. In this context, there is a need to find new strategies for sustainable development that links social and economic progress with environmental protection and enhancement. Electrokinetic transport processes (EK) uses a low-level direct current as the “cleaning agent”. EK has been applied to the remediation of polluted soils and other contaminated matrices. It also shows a great potential to be used in different fields, as in saline soil restoration, nutrients recovery from wastes or repair and maintenance of building structures. EK may be an integrated approach for new strategies aiming at sustainable development and to support waste strategies, with worldwide interest. EK can also be coupled with phytoremediation and integrated with nanotechnology, enlarging the scope of its application. The conciliation of the EK in the recovery of secondary resources, remediation and conservation is a multidisciplinary novel approach that opens new technical possibilities for waste minimization, through upgrading of particulate waste products and the recover of secondary resources for
industrial, agricultural or social use. This objective is achieved through knowledge transfer activities, among a network of European and other continents centres of excellence, consolidating an European School of Electrokinetics. Joint new research on fundamentals and applied EK and its optimization will develop new strategies for sustainable development and the solutions achieved will result in a social-economic impact.

Field of Science

/engineering and technology/environmental biotechnology/bioremediation/phytoremediation
/social sciences/social and economic geography/transport
/social sciences/other social sciences/social sciences interdisciplinary/sustainable development
/engineering and technology/nanotechnology
/social sciences/economics and business/economics/sustainable economy

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-2010-IRSES - Marie Curie Action "International Research Staff Exchange Scheme"

Call for proposal

FP7-PEOPLE-2010-IRSES

See other projects for this call

Funding Scheme

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

Coordinator
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Research Organisations

**EU Contribution**  
€ 264 500

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