Objective

Metal and organo-catalysed carbon dioxide (CO2) fixation is a feasible strategy for the preparation of new and sustainable chemical synthons and materials. The RENOVACARB project aims at preparing novel cyclic carbonates and polycarbonate based materials exploiting carbon dioxide conversion reactions on easily obtainable renewable-based compounds, most of which have never been used for this purpose before.

Project development will focus on the overall process sustainability: (a) developing new environmentally friendly transformation protocols; (b) selective CO2 cycloaddition/alternate condensation reactions for the preparation of novel renewable-based cyclic and (poly)carbonates; (c) designing novel and simplified catalytic one-pot CO2 conversion protocols for non-functionalized renewable-based molecules; (d) preparing novel structural complex polycarbonates by alternate CO2 polycondensation reactions with renewable-based synthons blends. The resulting molecules and materials will be characterized and evaluated for practical applications. RENOVACARB is designed to develop simple and feasible strategies for renewable resources exploitation by incorporation of CO2 into added value molecules and materials, offering tangible alternatives to petroleum derived feedstocks. RENOVACARB will provide Dr. Giulia Fiorani, Experienced Researcher with a long lasting interest in sustainable chemistry and new material development, with specific technical training and project managing expertise, integrated with
complementary added-value non-scientific skills, for a holistic approach to further academic career development. The Experienced Researcher will also have the possibility to work at ICIQ, a distinguished and internationally renowned European centre of excellence for Renewable Energies & Catalysis, under the supervision of Prof. Arjan W. Kleij, an international renowned expert in sustainable, carbon dioxide fixation protocols and development of functional (polymer) materials.

Field of Science
/social sciences/economics and business/economics/sustainable economy
/natural sciences/chemical sciences/inorganic chemistry/inorganic compounds

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-2013-IEF - Marie-Curie Action: "Intra-European fellowships for career development"

Call for proposal

FP7-PEOPLE-2013-IEF

See other projects for this call

Funding Scheme

MC-IEF - Intra-European Fellowships (IEF)

Coordinator

FUNDACIO PRIVADA INSTITUT CATALA D’INVESTIGACIO QUIMICA

<table>
<thead>
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<th>Address</th>
<th>Activity type</th>
<th>EU Contribution</th>
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<td>Avenida Paissos Catalans 16 43007 Tarragona</td>
<td>Research Organisations</td>
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Spain

Website

Contact the organisation

Administrative Contact

Noèlia Flores (Ms.)