Please return this document at

Horizon2020@recherche.gouv.fr

**Partner search**

**Date (09-08-20)**

* **(\*) Indicate numbers of relevant topics for Green Deal call:**

|  |
| --- |
| **LC-GD-3-1-2020 : Closing the industrial carbon cycle to combat climate change** |

* **Quick description of the project**

|  |
| --- |
| **(describe the objectives, activities, partners requested and their skills)** |

* **(\*) Do you intend to apply as ? :**

**Coordinator: ~~Yes~~/No**

**Participant: Yes/~~No~~**

**(\*) Either Description of the expertise requested (up to 1000 characters) - *specify which points of the "expected impact" of the call you are targeting***

|  |
| --- |
| **Xxxxxxxxx**  **+ key words :** |

**Or Description of the expertise proposed (up to 1000 characters) - *specify which points of the "expected impact" of the call you are targeting***

|  |
| --- |
| ICGM is increasingly using CO2 in the synthesis of monomers and polymers, either as C1 building block for instance in the preparation of biobased carbonate monomers, or as solvent for instance in its supercritical domain. In particular, ICGM produces poly(hydroxyurethanes) as alternative to polyurethane to avoid the use of isocyanate, by using carbonate/amine chemistry. ICGM is also interested in microalgae for the fixation of CO2. In addition, CO2 is also used at ICGM to form biobased carbonate monomers able to react by radical polymerization to prepare reactive biobased polymers bearing pendant carbonates. The polymer chemistry at ICGM is developed in solution, in bulk, but also by environmentally-friendly photopolymerization and aqueous emulsion polymerization.  **+key words : polymers, poly(hydroxyurethane), carbonates, supercritical carbon dioxide, photopolymerization, emulsion polymerization, microalgae** |

**Organisation information**

|  |
| --- |
| **Organisation and country:**  **Charles Gerhard Institute Montpellier, ICGM, UMR 5253, FRANCE**  ICGM-IAM  Ecole Nationale Supérieure de Chimie de Montpellier  240 avenue du Professeur Emile JEANBRAU  CS 60297  34296 MONTPELLIER CEDEX 05 FRANCE |
| **Type of organisation:**  **□ Enterprise □ SME □ Academic ⌧ Research institute □ Public Body □ Other: Association** |
| **Former participation in FP European projects?**  **⌧ Yes □ No** |
| **Web address:**  [**https://www.icgm.fr/**](https://www.icgm.fr/)  [**https://www.icgm.fr/iam**](https://www.icgm.fr/iam) |
| **Description of the organisation:**  ICGM is a Joint Research Unit between University of Montpellier, CNRS, and School of Chemistry of Montpellier (ENSCM), focusing on research in material chemistry. IAM team (and the new coming department of Chemistry and MacroMolecular Materials, C3M, starting on January 1st 2021) is focusing on low environmental impact polymers, and polymers for life sciences. The members of the C3M department are polymer chemists, biologists, pharmacists: they study chemistry, physical-chemistry, and processing of polymers. Their field of expertise starts from the organic synthesis of building blocks (initiators, monomers, transfer agents) and extends up to the development of polymer and composite materials. It includes the study of polymerization mechanisms and kinetics, the development of clean processes of polymerization, the polymer characterization and the study of polymers self-assembly. The targeted applications are mainly related to energy, environment, sustainable development and health. Biosourced polymers, biofunctional polymers, organocatalysis, emulsion polymerization, photopolymerization, fluorinated polymers, phosphorylated polymers, clean solvents (water, supercritical carbon dioxide), substitution of hazardous molecules, treatment of effluents, self-healing materials, degradable polymers, recyclability of polymers, additive manufacturing, stereolithography 3D printing, polymeric vectors for therapy and diagnostics, and tissue engineering are our fields of interest. |

**(\*) Contact details**

|  |  |
| --- | --- |
| **Contact person name** | **Patrick LACROIX-DESMAZES** |
| **Telephone** | **(+33) 4 67 14 72 05** |
| **E-mail** | [**Patrick.lacroix-desmazes@enscm.fr**](mailto:Patrick.lacroix-desmazes@enscm.fr) |
| **Country** | **France** |

**(\*) –Mandatory**