Grenoble INP - UGA is a renowned public institution of higher education and research, and a major player in the Grenoble ecosystem. It is the engineering and management institute of Grenoble Alpes University, and plays a leading role in the scientific and industrial community.

### Researcher in project management with scientific missions

<table>
<thead>
<tr>
<th>Job ad reference</th>
<th>2023-RESEARCHPEPR-LGP2</th>
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</thead>
<tbody>
<tr>
<td><strong>Research field</strong></td>
<td>Recycling, recyclability and reuse of materials – Paper and cardboard axis: Management of a PEPR project and study of the chemical recovery of fibrous waste from the recycling of cellulosic packaging</td>
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<tr>
<td><strong>Host laboratory</strong></td>
<td>LGP2, Laboratory of Process Engineering for Biorefinery, Bio-based Materials and Functional Printing (UMR 5518 Grenoble-INP, UGA, CNRS and agefpi) / Website: <a href="https://lgp2.grenoble-inp.fr/en">https://lgp2.grenoble-inp.fr/en</a></td>
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<tr>
<td><strong>Requested profile</strong></td>
<td>First Stage Researcher (R1)</td>
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<tr>
<td><strong>Location</strong></td>
<td>Grenoble, France</td>
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<tr>
<td><strong>Date of recruitment / contract term</strong></td>
<td>02/01/2024 - 31/05/2027 (41 months)</td>
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<tr>
<td><strong>Contacts</strong></td>
<td>Nathalie Marlin  <a href="mailto:nathalie.marlin@grenoble-inp.fr">nathalie.marlin@grenoble-inp.fr</a></td>
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Grenoble INP - UGA is a leading public institution accredited with the French label “Initiative d’excellence”. It offers innovative engineering and management programs, with an increasing internationalization of its course offers. The courses are grounded in sound scientific knowledge and linked to digital, industrial, organizational, environmental and energy transitions. The Engineering and Management Institute of Grenoble Alpes brings together more than 1300 staff members (teacher-researchers, lecturers, administrative and technical staff) and 8300 students, located on 8 sites (Grenoble INP - Ense3, Grenoble INP - Ensimag, Grenoble INP - Esisar, Grenoble INP - Génie industriel GI, Grenoble INP - Pagora, Grenoble INP - Phelma, Polytech Grenoble, Grenoble IAE and the INP Prepa). Grenoble INP is also a highly-ranked institution of higher education and research, leading the way in the fields of engineering and management on an international scale. It is a member of a large number of international academic and research networks. It is part of the European University UNITE!.

As part of Grenoble Alpes University, Grenoble INP has associated guardianship of 39 national and international research laboratories and of technological platforms. The research conducted there benefits both its socio-economic partners and its students. Grenoble INP is at the heart of the following scientific fields: physics, energy, mechanics and materials; digital; micronanoelectronics, embedded systems; industry of the future, production systems, environment; management and business sciences.

Grenoble INP - UGA is an equal opportunity employer committed to sustainability. Grenoble INP-UGA celebrates diversity and equity and is committed to creating an inclusive environment for all employees. All qualified applications will be considered without discrimination of any kind.

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**Research**

LGP2 (Laboratory of Process Engineering for Biorefinery, Bio-based Materials and Functional Printing) conducts innovative research in order to meet economic and societal expectations with regard to sustainable development (green chemistry, biorefinery, clean processes, recycling, bio-sourced materials, renewable energies) and traceability and security (functional materials, smart paper and packaging, printed electronics, 3D printing).

LGP2 coordinates the Cardboard axis of the Priority Research Program and Equipment (PEPR) “Recycling, recyclability and reuse of materials” (https://www.cnrs.fr/fr/pepr/pepr-recyclabilite-recyclage-et-reincorporation-des-materiaux-recycles). This large-scale project, supported by « France 2030 », aims at initiating the structuring of recycling in France around the different players in the socio-economic world in the field of cardboard paper. This PEPR, supported by the CNRS and indirectly financed by the ANR, brings together 6 laboratories which will work together on the recycling of fibrous packaging with 5 PhD Students and 2 post-docs.

Recycling of paper and cardboard has progressed significantly in recent decades. However, some cardboard papers are difficult to recycle (composites) and for those that are recyclable, conventional processes do not allow more than 93% of the raw material to be recycled. The remaining 7% (discharges from the treatment process in solid and liquid form) are not recovered. Solid waste is landfilled, and only part of the liquid waste is recycled after treatment in a wastewater treatment plant. These releases represent a cost for the paper mill and an issue in terms of environmental impact.

The targeted “paper-cardboard” project is therefore interested in recyclable and minimally recyclable cellulosic packaging. It aims at (1) developing new sustainable processes to improve the properties of recycled fibers (upcycling), (2) recovering and converting solid and liquid waste from the conventional recycling process into products of interest, (3) developing new processes to valorize composite materials that are difficult to recycle, and (4) providing an overall environmental and societal analysis of targeted processes and new products developed.
The involved laboratories are:
LGP2, Process Engineering Laboratory for Biorefinery, Bio-sourced Materials and Functional Printing, UMR 5518, CNRS, UGA, Grenoble INP, Agefpi, Grenoble
RAPSODEE, Albi Research Center in Process Engineering, Divided Solids, Energy and the Environment, IMT Mines Albi, UMR CNRS 5302, Albi
CERMAV, Research Center on Plant Macromolecules, UPR CNRS 5301, Grenoble
CEMEF, Center for shaping materials, CNRS UMR 7635, Mines Paris, PSL university, Sophia Antipolis
UniLaSalle Polytechnic Institute, Transformations & Agro-resources, ULR 7519, Beauvais
GEO (Environmental Engineering for Organizations), CNRS UMR 5600 EVS (Environment City Society)/MSE (Mines Saint-Etienne), Saint Etienne
MRI (Responsible Management and Innovation), UR COACTIS (Design of action in situation)/MSE (Mines Saint-Etienne), Saint Etienne

Job description:

The new recruit will have two missions. A mission as PEPR management officer (50% of the time) and a scientific mission (50% of the time) focused on the chemical recovery of waste from packaging recycling.

Management missions:
The management officer will work in close collaboration with the coordinators of the PEPR recycling, recyclability and reuse of materials, paper-cardboard axis (Nathalie Marlin, LGP2 and Fabienne Espitalier, RAPSODEE), as well as with the CNRS, PEPR carrier. The management manager will provide his or her expertise and support on all aspects of management and coordination, to guarantee, within the consortium and with the financiers, the perfect execution of the PEPR, and to maintain a strong dynamic and collaboration between simultaneous sub-projects. The project management officer will interact on a daily basis with the scientific managers and financial managers of the 6 partner laboratories, to ensure the good coordination of all stakeholders in the management of the PEPR. He (She) will participate in meetings organized by the CNRS to coordinate the different axes of the PEPR.

Concretely, the management officer will:
- coordinate day-to-day project activities in conjunction with the project coordinators
- participate in the drafting of non-scientific deliverables of the project (synthesis of financial documents necessary for the justification of projects, scientific synthesis of the project) and in the collection of data to feed these deliverables
- actively participate in consortium meetings and project evaluations, in their preparation and monitoring
- advise partners and research teams, management services in the execution of the contract and its financial justification, will ensure compliance with the rules in force and deadlines
- ensure the financial monitoring of the project, its budgetary management in conjunction with administrative and financial services

Scientific missions:
The recruited person will also have a scientific mission in task 1 of the project. Conventional cardboard recycling processes generate solid waste containing adhesives, plastics and fibers. They can represent up to 7% of the material to be recycled. Today these rejects are not recovered, they are treated as DBI (ordinary industrial waste). One of the objectives of task 1 of the project is to valorize these solid wastes which contain fibers. Two products are targeted: MFC (cellulose microfibrils) and resins. For this, processes will be developed: chemical and mechanical processes, combining fiber separation, oxidation, deconstruction, crosslinking, etc.

The missions will be as follows:
1. Multi-scale characterization of fibers and recycling rejects before and after valorization of fibers and fibrous rejects: fibers, MFC, resins
2. Extraction of fibers from rejects, oxidation, grinding to obtain MFC
3. Oxidation of unpurified waste with a view to causing crosslinking of the materials present in the waste.
**Specific requirements or conditions**

This is a 41-month post-doc offer. The salary will depend on the experience of the person recruited (Grenoble INP salary scale, for example 3020 Euros gross for a person just graduating from a thesis). The recruited person will be welcomed at LGP2 (Process Engineering Laboratory for Biorefinery, Bio-sourced Materials and Functional Printing) in the “BioChip (Bioraffinery: chemistry and eco-processes)” team. He/she will work in collaboration with Dr. Nathalie Marlin (Associate Professor at Grenoble INP Pagora/LGP2). He/she will also be integrated into the PEPR coordinating team for recycling, recyclability and reuse of paper and cardboard materials (Nathalie Marlin and Fabienne Espitalier, Mines d’Albi).

The candidate must have a doctorate and solid academic training in chemical engineering, organic and analytical chemistry. Candidates who have already worked in the laboratory on lignocellulosic materials are of particular interest. The candidate must demonstrate methods in project management, have analytical and synthesis skills, relational and collaborative skills, have good written and oral communication, demonstrate a sense of initiative and autonomy. He (She) must be available, responsive, organized, have a sense of rigor, priorities, be versatile and must be able to adapt to different interlocutors and circumstances.

**Specific features of the position**

The person recruited will have to organize his or her working time between his or her project management missions and his or her scientific missions.

**Position assigned to a restricted area: NO**

(Device for the protection of the scientific and technical potential of the nation, conditioning the appointment of the researcher to the authorization of the Defense Security Officer).

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**How to apply**

Applications must be sent to: nathalie.marlin@grenoble-inp.fr

Application deadline: 14/11/2023