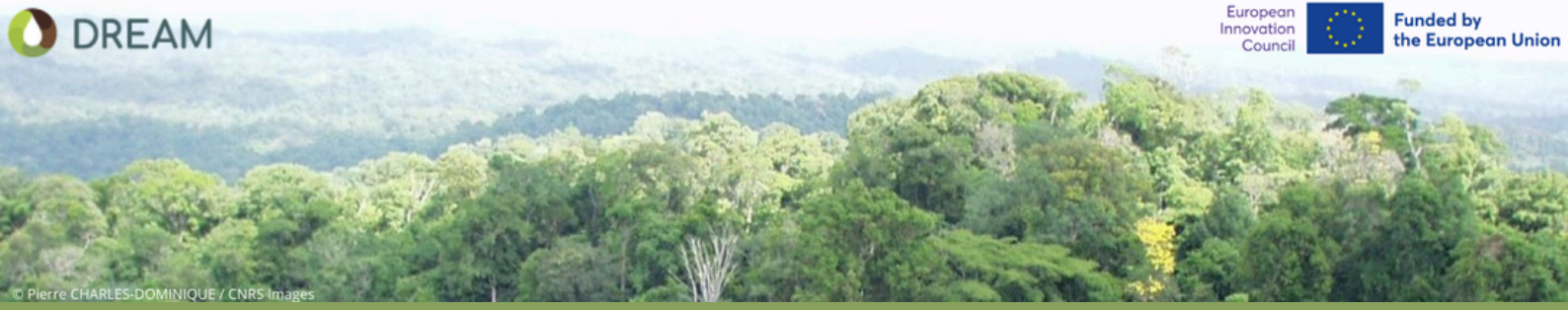

DREAM NEWS

NEWSLETTER OF THE HORIZON EUROPE PROJECT DREAM

NEWSLETTER N°2, WINTER 2025

In this newsletter:

DREAM PROJECT:

PROCESSING COMPLEX MATRICES: DESCRIPTION, REACTION-SEPARATION, MODELLING

Transforming complex matrices for the future chemical industry

The use of new feedstocks derived from renewable or waste resources is essential for the future of the chemical industry. There is a need for a better understanding of these materials and their transformation from a chemical and engineering point of view.

Funded by the European Innovation Council (EIC), the DREAM project aims to address the transformation of complex matrices in the chemical industry. It will use Kraft black liquor as a case study to develop new processes that combine reaction and separation in parallel and sequential mode to produce valuable products. Online monitoring coupled with the design of original modelling and simulations will be elaborated. Interdisciplinarity, as the core of the project, will be explored with approaches borrowed from philosophy and social science.

The Horizon Europe DREAM project (Processing Complex Matrices: Description, Reaction-Separation, Modelling) is a project composed of 7 European partners and funded by the European Union for the EIC Pathfinder Open call for proposals, under the grant agreement N°101130523.

More information:

Website

LinkedIn

Writer: Sivane Mosenego (CNRS)

Funded by the European Union under the grant agreement N°101130523. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or of the European Innovation Council and SMEs Executive Agency (EISMEA). Neither the European Union nor the EISMEA can be held responsible.

DREAM NEWSLETTER N°2

Consortium meeting in Lisbon, Portugal

Partners of the DREAM project gathered in Lisbon, Portugal, for the second consortium meeting of the project. This meeting was hosted by LNEG in the beautiful city of Lisbon, from 2nd to 4th December 2024.

DREAM Consortium in Lisbon, on December 3rd 2024.

Each team presented its work progress to the consortium and a lecture on research in philosophy of science was made by partners from the University of Twente. Rich discussions took place on the next steps of the DREAM project.

The consortium also had the opportunity to visit LNEG's facilities in Lisbon and enjoyed the nice weather and Portuguese traditional food.

Visit of LNEG's facilities

Dinner gathering the consortium in Lisbon

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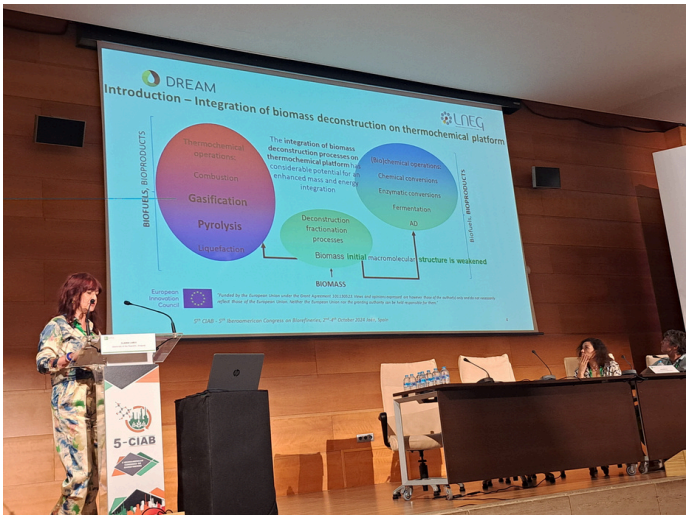
5th Ibero-American Congress on Biorefineries



Participation of Florbela Carvalheiro (LNEG) and Filomena Pinto (LNEG) at the 5CIAB conference

Partners from LNEG participated in the 5th edition of the Ibero-American Congress on Biorefineries (https://www.5ciab.es/), in Jaén from October 2nd to 4th, 2024. They contributed to the Advanced Course of CIAB on 30th September and 1st October 2024 and presented some initial results of the DREAM project during the congress.

Black Liquor delivered at LRGP

Yann Le Brech and Mohamed Assaoui (LRGP) received Black Liquor. Part of this black liquor will be sent to CP2M and IRCELYON in Villeurbanne, France, to NIC in Ljubljana, Slovenia, and to LNEG in Lisbon, Portugal. Black Liquor being the focus of the DREAM project, these liquors will be used during the whole project.

Mohamed Aissaoui, Yann Le Brech and the delivery of Black liquor

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Our young researchers

About me: Mohamed Aissaoui, Post-doc at the reactions and process engineering laboratory (LRGP), Nancy, France

In this picture on the right, you will see me fully immersed in lab work, experimenting and exploring new ideas. These moments, though sometimes exhausting, are what make my work so fulfilling. What excites me most about being a researcher is the constant opportunity to discover new phenomena and better understand the world around us. The thrill of finding something new is what fuels my passion for science.

My work involves a lot of hands-on experiments and detailed analysis. I develop theories, test them through experiments, and then share the results in scientific papers. It is a process I find incredibly rewarding. I am especially looking forward to contributing my experience to the DREAM project, where I will be working on pushing the limits of what we know in science and technology.

But it is not all about lab coats and data ! Outside of the work, I keep a balance by staying active and social. I enjoy spending time with friends at the gym, attending parties, and exploring the world through road cycling and travel. These experiences help me recharge and come back to my research with fresh energy and new perspectives.

Mohamed Aissaoui at the LRGP Laboratory

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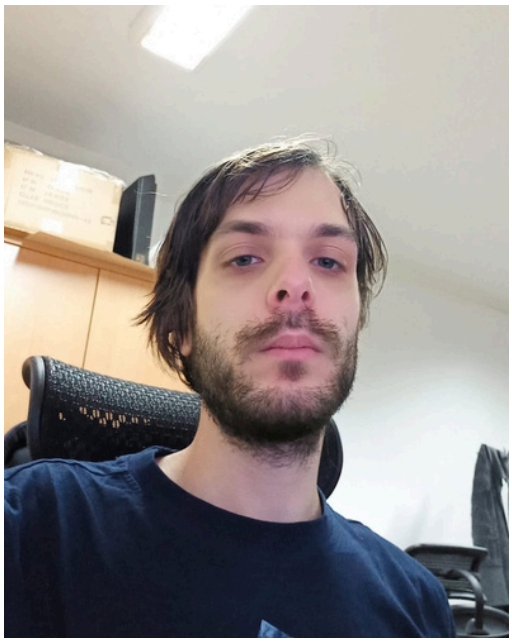
About me: Luca Maffei, PhD candidate at the National Institute of Chemistry (NIC), Ljubljana, Slovenia.

The picture on the right depicts me working in my office at the National Institute of Chemistry in Ljubljana, Slovenia. What got me interested in studying chemistry is the possibility to understand matter at the most fundamental level and see how small changes at this level can have a big impact on macroscopic properties.

My role within the DREAM project is to prepare Deep Eutectic Solvents (DESs) with select compounds, evaluate the ability of these solvents to assist in the extraction of lignin from black liquor and optimise the operating conditions for that.

Outside of work, I have an interest in strategy games of various nature, as well as in trying to understand policies, ideologies and schools of thinking at an international and historical level. I also play tennis whenever I get the chance.



Luca Maffei at the National Institute of Chemistry

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About me: Pierre Bolteau, engineer at the laboratory of Catalysis, Polymerisation, Process and Materials (CP2M), Villeurbanne, France

This picture was taken in the laboratories of CP2M in Lyon and you can see me running a ^{23}Na NMR analysis on the benchtop NMR funded by the European Innovation Council.

Outside of work I spend my time with friends in movie theatres or doing rock climbing. I also love to experiment with traditional food from Lyon and sometimes I enjoy a walk or a drink by the Rhône River. Although I now live far away from my birthplace Paris, I made Lyon my new home!

Last year, during my studies in Chemistry and Process Engineering at CPE Lyon, I worked on catalytic oxidation of Kraft Black Liquor for my master's research project. My role as an engineer in the DREAM project is to develop and optimise off-line and online analyses methods for Kraft Black Liquor and its components. This work will allow us to enhance our comprehension of Kraft Black Liquor and apply this knowledge to the valorisation of this waste product.

I look forward to contributing to the DREAM project, especially for the skills and knowledge I will be able to develop during my work.

Pierre Bolteau at CP2M

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