

Date

Deadline

CONTACT

Organisation	CEA	Department	DRF/IRIG/IBS/ELMA
Contact person	EU affairs: Nathalie Picollet-D'hahan Research: Eric Girard & Bruno Franzetti	Email	Nathalie.picollet-dhahan@cea.fr
City	Grenoble	Website	https://www.ibs.fr/en/research/assembly-dynamics-and-reactivity/extremophiles-and-large-molecular-assemblies-group-b-franzetti/
Country	France		

Organisation type

Research organisation type	<input checked="" type="checkbox"/> Research Organisation	Is your company a Small and Medium Sized Enterprise (SME*)?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	<input type="checkbox"/> University		Number of employees:	
	<input type="checkbox"/> Company			
	<input type="checkbox"/> Other			

Your enterprise is an SME if:

- it is engaged in **economic activity**
- it has **less than 250 employees**
- it has either an **annual turnover not exceeding €50M**, or an **balance sheet total not exceeding €43M**
- it is **autonomous**

For the definition of SMEs, look at: http://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition_en

Short introduction of key areas of institute's research:

The mission of the Structural Biology Institute (IBS) is to develop research in integrated structural biology to address questions in basic and applied science.

The Extremophiles and Large Molecular Assemblies (ELMA) group seeks to understand how microbes present in the most **extreme environments** have developed unique metabolisms at the thermodynamic limit of life and how they manage to maintain a healthy proteome under high temperature, pressure, or salt conditions. This research is **pushing the boundaries** of our understanding of the **resilience of living organisms**, in terms of energy sources, biomolecules stability, molecular evolution and even novel cellular machineries.

Recently, the ELMA group has developed approaches to **selectively modify hydrolysates** to improve their **nutritional and healthy properties** (3 patents) as well as approaches to improve the **efficiency of enzymes crystallisation** and **enzymes immobilisation** (2 patents).

Former participation in an FP European project?

YES NO

Project title / Acronym:

Activities performed:

Expertise / Commitment offered

Description of your expertise:

- 1) The ELMA team has a **set of aminopeptidases** isolated from thermophilic archaea with highly contrasted substrate specificities. We have shown that defined mix of these peptidases allowed for **optimal modifications of hydrolysates**.
- 2) **Improvement of the success to crystallize enzymes** thanks to molecular glues. We have developed molecules, we named crystallophores, that act as nucleating agent facilitating protein crystallization.
- 3) **Immobilizing enzymes** in the crystalline form. We have developed a two-step process to generate cross-linked enzymes crystals.
- 4) Other enzyme families isolated from extremophiles (including salt-loving & pressure-loving in addition to thermophiles) are studied within the team.

Keywords specifying your expertise:

Thermozymes
Proteases & peptidases
Enzymes crystallization
Enzymes immobilisation

Commitment offered:

Research Demonstration Training
 Technology Dissemination Other:

Interested in participation in project types:

Research & Innovation Action Innovation Action EIC Pathfinder

Work Programme research areas: indicate your interest

Cluster 6: Food, Bioeconomy, Natural Resources, Agriculture and Environment

- **Destination 3** : circular economy and bioeconomy sectors.
- Bio-based products, marine organisms, enzymes
- Agriculture, fisheries, aquaculture, food system

Call topic(s): HORIZON-CL6-2026-01-CIRCBIO-11: Harnessing the unique properties of marine organisms to deliver sustainable blue bio-based products

Do you have other partners for this topic (which partners/country)?

Existing industrial partners in feed/food industry and agronomic expertise (Brest/France) & IFREMER (France)

Profile of partner sought

Role

<input checked="" type="checkbox"/> technology development	<input checked="" type="checkbox"/> research	<input type="checkbox"/> training
<input type="checkbox"/> dissemination	<input checked="" type="checkbox"/> demonstration	<input type="checkbox"/> other _____

Country /region

Any : EU

Expertise required

- Industrial partners in biotech, particularly in protein hydrolysates modifications
- Industrial partners with needs in solution to immobilize their preferred enzymes
- Partners in regulation, exploitation, and socio-economics in **food/feed industry**: market access, regulatory frameworks, social acceptance

I agree with the publication of my contact data: YES NO