

Call for projects

Artificial Intelligence in the Biofood Sector

Key date

Application submission deadline : <u>March 3</u>1, 2025 Bighing and the set of the set

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Call for projects Artificial Intelligence in the Biofood Sector

1. Context and objectives

The Quebec biofood sector is undergoing a transformation with the development of digital technologies and artificial intelligence (AI). The arrival of these innovations presents a unique opportunity to increase productivity, optimize yields, and meet consumers' high demands for traceability and sustainability. However, the implementation of these emerging technologies also presents significant challenges, such as data quality, responsible and efficient governance, and access to digital infrastructure.

The white paper on Data Valorization and the Coordinated Application of Artificial Intelligence in the Biofood Sector, published in 2021 by the International Observatory on the Societal Impacts of AI and Digital Technology (OBVIA)¹, highlights the essential conditions for a successful digital transition. These include strengthening collaboration and coordination between end users, modernizing research and development practices, promoting digital transformation and AI, and optimizing available resources.

Thus, this call for projects aims to encourage the responsible and sustainable integration of AI into food processing in Quebec. Ultimately, the objective is to foster collaboration between the digital and biofood sectors to contribute to the modernization of the processing industry, enhance its competitiveness, and support its transition towards a sustainable and equitable development model.

This call for projects is part of a structuring initiative of the Pôle bioalimentaire, driven by the Institute of Nutrition and Functional Foods (INAF) and supported both financially and strategically by the Fonds de recherche du Québec—Nature et technologies (FRQNT). It mobilizes all Quebec researchers who are members of strategic clusters affiliated with FRQNT and FRQ—Society and Culture.

This call for projects benefits from the collaboration of several dissemination partners, including the Institute for Data Valorization (IVADO), the International Observatory on the Societal Impacts of AI and Digital Technology (OBVIA), the Institute Intelligence and Data (IID), MILA, and the Quebec Strategic Microelectronics Cluster (ReSMiQ).

¹ Paquet, É., Sirard, M.-A., Lawarée, J., Boudreu-Leblanc, A., Bouchard, E. (2021). Livre blanc. *La valorisation des données numériques et l'application concertée de l'IA dans le secteur bioalimentaire. Potentiels, enjeux et pistes d'action*, OBVIA, Québec, 31 p.



The objectives of this call for projects are to enable food processors to leverage AI to:

- Advance scientific knowledge to support their innovation and enhance their competitiveness;
- Implement appropriate practices for the sustainable and responsible management of their data and support its development;
- Develop AI skills and tools that are aligned with the concrete needs of a specific sector or food processors.

More specifically, this call for projects aims to:

- Form new intersectoral teams;
- Establish concrete collaborations with partners from the biofood sector and the innovation ecosystem;
- Generate research results that will pave the way for larger-scale research projects.

2. Eligibility criteria and conditions

- All researchers must be affiliated with a Quebec postsecondary institution recognized by the FRQ and be members of an FRQ research cluster in the Nature and Technology or Society and Culture sectors at the time of the project's implementation. If a researcher is not a member of a cluster at the time of application submission, they will be supported in the membership process to confirm their eligibility. Researchers with dual affiliations must choose one of their two affiliations.
- The team must consist of at least two researchers from two distinct institutions (mandatory) and two different strategic clusters (an asset). The formation of new intersectoral teams is considered an advantage. Please contact us for assistance with networking needs (pole@inaf.ulaval.ca).
- All researchers must be members of the Pôle bioalimentaire. If membership is not in effect at the time of application submission, support will be provided to facilitate registration and ensure the applicant's eligibility.



- The team may also include collaborators. A collaborator is a person identified by the principal researcher as providing specific expertise to the project or research program for which funding is requested. They cannot be delegated the management of any portion of the funds and are not considered a researcher within the core research team.
- Researchers may only be part of one official application under this call for projects.
- Teams receiving financial support must submit a detailed statement outlining the allocation of the received funds in accordance with FRQNT regulations.
- Each project team awarded funding must submit a report twelve (12) months after receiving the funds. This report must outline the objectives achieved through the research in terms of benefits for the biofood sector or scientific advancements generated by the project.
- Partnering with an end-user organization for project implementation is considered an asset.
- Projects whose deliverables will contribute to the preparation of more ambitious funding applications to provincial and federal organizations will be prioritized.
- Projects may last a maximum of 18 months. All projects must be completed by March 31, 2027.
- This call for projects aims to initiate pilot projects that promote collaboration with end-user organizations in the food processing sector. As such, you may request additional funding through the MITACS program. In this case, the project may exceptionally be extended to a maximum duration of 24 months. If you wish to explore this possibility, we encourage you to contact us as soon as possible (pole@inaf.ulaval.ca).
- The maximum funding available is \$30,000 per project (excluding indirect research costs).

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3. Application submission

Applications must be submitted using the application submission form (downloadable here) and must include all the information listed below.

- 1. Project Information (max. 3 pages)
 - 1.1. Project title (in French and English)
 - **1.2.A short project summary** (in French and English): Provide a concise summary of the project that may be used for public communications (e.g., on the INAF website, LinkedIn post, etc.).
 - **1.3.A project description** (max. 2 pages): Present the context and problem statement, objectives, methodology, and implementation plan, including a project timeline.
- 2. Team members: List the researchers, their affiliated institutions, their memberships in FRQ strategic clusters, and the scientific and technical complementarities required to achieve the project's objectives within the proposed timeline.
- **3. Expected results and short- and medium-term perspectives** (max. 1 page): Describe the expected outcomes for end users and the projected development perspectives for the biofood industry in Quebec in the short and medium term.
- **4. Knowledge dissemination and mobilization plan** (max. 1 page): Define the project's end users, specify the dissemination strategies for the results, and outline the planned actions to mobilize knowledge among end users.
- **5.** A detailed budget and justification of funds (max. 1 page): Provide a detailed budget, justifying the requested expenses in relation to the project's objectives. Specify the distribution of funds among team members, if applicable.
- 6. Curriculum Vitae (CV): Include the CVs of researchers involved in the project.

The deadline for submitting the application in PDF format is March 31, 2025. Documents must be sent to the following email address: **pole@inaf.ulaval.ca**. Please use the subject line: **"Submission for the AI Call for Projects"**.



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4. Evaluation of applications

Evaluation Procedure

Eligible applications will be reviewed by a scientific evaluation committee composed of researchers whose expertise aligns with the nature of the submitted projects and who have no conflicts of interest with the applicants. The committee will include representatives from the Pôle bioalimentaire, ReSMiQ, OBVIA, IVADO, MILA and IID. A representative from FRQ will also be present as an observer.

Applications will be evaluated based on the four criteria listed below.

Evaluation Criteria

- <u>Project quality (25 points):</u> Scientific rigour, relevance of objectives, robustness of methodology, feasibility of the timeline, and budget coherence.
- <u>Team quality (25 points):</u> Synergy of research expertise, collaboration between private and academic partners, resource sharing, interdisciplinarity, complementarity of strategic clusters, and contribution to the formation of a new research team.
- Potential results for the Quebec biofood sector (30 points): Advancement of knowledge, contribution to innovation and sector competitiveness, expected leverage effect, supervision of students, and potential use of deliverables to support a more ambitious funding application.
- <u>Knowledge mobilization plan (20 points)</u>: Scope and quality of the mobilization and knowledge transfer strategy, engagement of end users, and their integration into the dissemination and application process.

5. Announcement of results

The allocation of funded projects will be announced no later than May 2025, with projects expected to start no later than June 1, 2025. A midterm and final report on deliverables and results must be submitted.



6. Nature of financial support

- **Granted amount:** A maximum of \$30,000 per project (excluding indirect research costs).
- Eligible expenses: Costs related to materials, equipment, and resources directly required for project execution that are not typically covered by institutions; compensation for participants, salaries, scholarships, and professional fees (for students and professionals); travel expenses; dissemination and knowledge transfer expenses. (Details on eligible expenses can be found in section 8 of the following document: https://frq.gouv.qc.ca/app/uploads/2024/06/rgc_2024_vf-1.pdf
- **Support duration:** Financial assistance is granted for a maximum period of 18 months, with no possibility of renewal. However, if the project receives additional funding, such as through the MITACS program, the financial support period may be extended up to 24 months. This initiative is made possible through the support of the FRQ, Nature and Technologies sector.



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