



MUSE



MONTPELLIER UNIVERSITY OF EXCELLENCE

Research support program 2018



UNIVERSITÉ
DE MONTPELLIER



CONTEXT

On 20 December 2017, MUSE Steering Committee released the results of its first research support call-for-projects: 58 projects were selected for funding, to be coordinated by 54 different research units and involving an even larger number of laboratories via inter-laboratory collaborations. In order to pursue the undertaken effort, MUSE Board of Directors decided to publish a second vast research support program, using the funds from the I-SITE endowment that the formal signature of the grant agreement released on 28 December 2017.

MAIN OBJECTIVE

MUSE seeks to create a university that will encompass many scientific fields and leverage the talents of 19 partner institutions. This university will also stand out from others at international level by its ability to produce knowledge and/or innovative solutions to address three major societal challenges: food safety, environmental protection, and human health (cf. annex). The present call-for-projects aims to contribute to this scientific objective while providing answers to several remarks made by the international jury.

Indeed, the IDEX-ISITE international jury pointed out that the way science develops around MUSE three key sectors (FEED – PROTECT – CARE) has yet to change, together with the way in which these sectors interact and strengthen each other. The jury also stressed out the need to **clarify the links between health facilities and the university**, and more generally, the necessity to shed light onto the ties between research organizations and the university.

Finally, the jury recommended that **the three key sectors be developed by seeking interface activities between them**, that attention be paid to integrate social science issues in the research, and that an international strategy be defined based on a strong partnership with IRD and CIRAD.

TARGETED PARTICIPANTS

This call is open to all 6,000 scientists of MUSE 19 partners, currently employed in a research structure within MUSE scope¹.

SUPPORT

Funding for this research support program **amounts to approximately 3.6 M€** (from MUSE funds).

ELIGIBLE PROJECTS

This program calls for only one type of project.

The selection of **about ten major research projects** is foreseen (with **financing by MUSE from 300 to 400 k€**, possibly supplemented by co-financing), and may include salaries (doctoral and/or post-doctoral fellows who are an essential part of research development, as well as support staff, recruited for the project), operating costs or equipment.

¹ Check the list of research units (UMR – UPR – EA – FHU – and more) here <http://muse.edu.umontpellier.fr/recherche/les-unites-de-recherche/>

ASSESSMENT CRITERIA

Similar to the first call-for-projects, proposals should be compatible with **MUSE global scientific scope**² which focuses on addressing three major challenges (FEED – PROTECT – CARE) and yet remains open to all disciplines (cf. Graph in annex). In addition to general consistency and scientific quality, the following three criteria **must be met**:

- 1- Ability to create links between scientific communities and between MUSE challenges, and/or between major scientific sectors that contribute to MUSE global scientific scope (see annex: agriculture // environment-biodiversity // health // social sciences // formal sciences and technologies // chemistry).
 - Each proposal shall include research issues (what question is being addressed?) which will generate research (how is this question addressed?) significantly involving research units from at least two Labexes, and/or at least two out of MUSE five research clusters (Reminder - MUSE research clusters are: Agriculture-environment-biodiversity // Chemistry // Biology-Health // Social Sciences // Mathematics, computer science, physics and systems).
 - However, for proposals dealing specifically with health issues, the cross-disciplinary requirement may be overlooked (it will be possible to remain within the "biology-health" sector only), but in this case it will be essential to demonstrate the effective involvement of clinical research teams and/or clinical services (involving health facilities and patients in the project) alongside fundamental research teams (translational research).
- 2- Opening to external partners, demonstrated by a significant contribution (staff and/or financial means and/or equipment, or the like: the extent of external partners' participation will be one of the selection criteria). External partners' involvement may correspond to the following situations:
 - Participation of civil society members including associations, companies, communities and more;
 - And / or
 - Participation of international academic partners deemed to be "international references"³ for MUSE key sectors (favoring MUSE key international strategic partners: the universities of Barcelona, Heidelberg, Wageningen, Kyoto, and UC Davis) and/or partners from Southern countries (preferably for destinations where IRD or CIRAD have strongly and durably established their activity, as indicated by the presence of platforms in partnership abroad such as Joint International Laboratories).
- 3 - The inclusion of issues specific to social sciences will be **required** for finalized projects, and will be appreciated in other cases.

² It is reiterated here that the orientation towards major societal issues is not synonymous with "finalized research"; although finalized research is welcome, the quest for knowledge and the pursuit of understanding mechanisms or phenomena are also among a university's missions.

³ Universities whose international rankings indicate that they benefit from significant recognition in the key sectors addressed by MUSE.

APPLICATION PROCESS AND TIMELINE

The submission and selection procedure will be carried out in two stages:

- Intent - A two-page letter of intent describing the targeted topic, addressed issue(s), and main foreseen methodology, indicating involved MUSE research units and their participation in the project, the main coordinating laboratory and external partners. Letters of intent will be assessed and selected by MUSE Steering Committee.
- Proposal – For selected letters of intent, a detailed proposal that includes a description of planned costs. Proposals will be assessed by a commission comprised of renowned scientists from outside of Montpellier. MUSE Steering Committee will make the final decision based on those assessments.

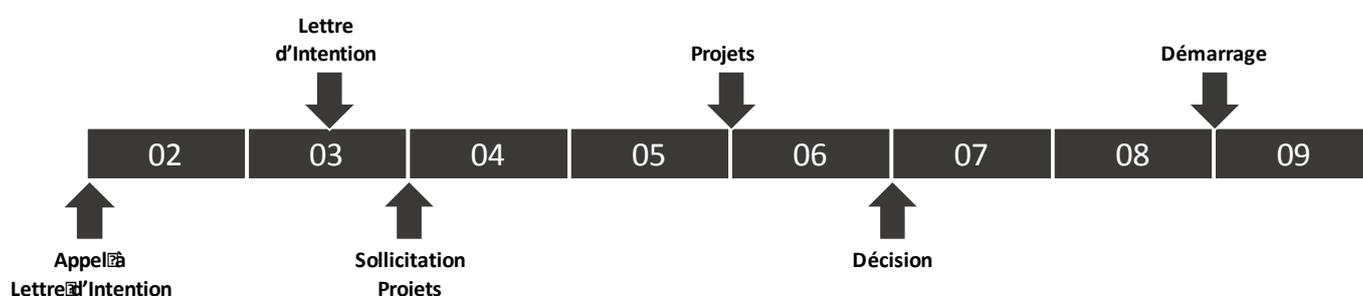
Applications (in French or English) will be submitted via the submission portal on the muse.umontpellier.fr website, section Research support Call-for-projects. All requested attachments must be submitted for the application to be valid.

For inquiries, please write to MUSE-recherche@umontpellier.fr

Application files must be named in the following format:

Muse2018_<AcronymeProjet>_<NomDuPorteur>

TIMELINE



Publication of the Call	1 February 2018
Deadline for submitting letters of intent	15 March 2018, noon (Paris time)
Call for complete proposals	1 April 2018
Deadline for submitting complete proposals	1 June 2018, noon (Paris time)
MUSE Board decision	29 June 2018
Possible starting date for projects	from September 2018



REMINDER OF THE I-SITE “MONTPELLIER UNIVERSITE D’EXCELLENCE” PROJECT GOALS

The vision of a Planet with seemingly unlimited resources is coming to an end, and the world needs to sustainably manage limited and finite natural resources. Continuing human population growth increases the need for goods and services, resulting in substantial alteration of most ecosystems on Earth and food safety difficulties for the most fragile populations. At the same time, populations face novel health problems that may be linked to environmental issues or lifestyles (infectious diseases, chronic pathologies). Resulting factors - such as biodiversity loss, climate change, disturbance of the water cycle, changes in land use (urbanization, deforestation, intensive farming), food and nutrition insecurity, increasing number of toxic agents - bring the world to face unprecedented challenges and rely on scientific research for providing sustainable solutions to a series of issues that include: emerging diseases in man, plants, and animals, human health alterations, increasing pressure on ecosystems and the environment, non-sustainable management of natural resources such as those derived from agriculture, forestry, fisheries and aquaculture systems, and more.

I-SITE “Montpellier Université d’Excellence” (MUSE) intends to address three intertwined challenges, consistent with the U.N. 2030 Agenda for Sustainable Development and the Paris Agreement on climate change: **(1) promoting an innovative agriculture to contribute to food security and environmental quality; (2) fostering a transition towards a sustainable-management oriented and environmentally-friendly society; (3) improving human health in changing environments.** These three challenges concern the whole planet and most particularly developing countries in Africa, Asia, South America, especially in inter-tropical areas, and around the Mediterranean Sea,.

Agriculture, environment, biodiversity, biology and health sciences are at the core of this project. For each of these disciplines, and in addition to research support in the mentioned fields, MUSE will dramatically transform the way we work and will lead to building bridges between: agriculture and environmental sciences to address concepts and prospects in agro-ecology; environment and health sciences to cover the new area of ecology of health; and, between health and agriculture to establish a link between nutrition and well-being conditions.

To reach these goals, MUSE connects **above-mentioned core sectors to chemical, social, natural, formal or engineering sciences.** Indeed, chemical sciences and chemical engineering are essential to our project, not only because they are linked naturally with pharmacy, bio-health or biochemistry of plants, but also because they will open new horizons for bio-sourced materials, soil remediation, material recycling or energy storage.

MUSE encourages the stronger integration of **social sciences** by leveraging the excellence of its partners in this vast scientific. Such expertise will strengthen the core domains by addressing issues such as the legal and ethical aspects of risk prevention, the equilibrium between development and preservation of rights, or even the economic component of health systems. This knowledge will be instrumental in the transformation of scientific innovation into societal innovations by developing entrepreneurship and appropriate management approaches.

Bioinformatics, biomathematics, and biophysics are instrumental as well, as the needs for modelling and data processing are crucial for agriculture, environment and health sciences or for creating tools available for societies to develop a smart governance of resources and ecosystems. Moreover, expectations are growing for new ways of collecting information (**electronics**) or assistive means to physically interact with the environment and with Humans (**robotics**).

Through these approaches, we will achieve scientific breakthroughs *and* drive industrial and societal innovations in agriculture, human health, and environmental sectors. Hence, MUSE will create **transformative effect by opening the University to new partnership opportunities** with the public sector (guiding public policies) and the private sector (from startups to major companies, NGOs and foundations)

