CALL FOR RESEARCH PROJECTS 2021

Background

The DATAIA Institute – the AI institute of Université Paris-Saclay – is the French convergence institute specialized in data science, artificial intelligence and society, or how big data technologies and artificial intelligence intersect with the human and social sciences, so that artificial intelligence benefits to society.

Selected by the National Research Agency (ANR) as part of the "Investments for the Future" programs, the DATAIA Institute aims to consolidate and structure a wide multidisciplinary expertise to better meet the major challenges in data science, artificial intelligence and their applications, by removing barriers between mathematics, computer science, humanities and social sciences.

It gathers more than 1000 researchers and professors from twelve institutions (see Appendix 2) and has created its industrial affiliate program that enables close collaboration with companies.

The DATAIA Institute supports research in data science through an annual "Call for Research Projects".

Scientific scope and objectives

Project proposals should demonstrate how they contribute to the objectives of the DATAIA Institute and in particular to the structuring of the fields of data science and artificial intelligence within Université Paris-Saclay. As a result, all proposals must fit into at least one of the four main challenges of DATAIA and can impact an application domain (see Appendix 1).

On top of the scientific scope of the DATAIA Institute and based on the DATAIA Workshops, the following scientific topics will receive a particular attention:
- Life Sciences and AI
- Causal analysis in AI and data science

Terms of project proposal submissions

This call is restricted to teams within the scope of the DATAIA convergence institute. Only the laboratories of the partner institutions listed in the financing agreement can be project holders and managers of the allocated funding (see Appendix 2). Consortia may have partners outside the founding members of DATAIA, but these will not be financed.

The projects that meet the following criteria will receive a particular attention:
- projects hosted by two different institutions (see Appendix 2), and two

different laboratories of DATAIA;
- projects involving international partners of DATAIA:
  - Alan Turing Institute (UK)
  - IVADO (Canada)
  - JST (Japan)
  - FCAI (Finland)

The aim of this 2021 call is to support DATAIA's actions through the full funding of four research projects, including one project co-funded with LabEx DigiCosme (see details below).
The funding covers either the financing of a PhD thesis and a fixed-term contract of 2 years (post-doc or engineer) or the funding of two PhD theses, and possibly operating expenses. Budget requested cannot exceed € 240.000 per project.

In this call, DATAIA is co-funding one joint research project with LabEx DigiCosme. On top of the previous DATAIA rules, co-funded projects with LabEx DigiCosme must satisfy the following points:
- at least one of the two hosted laboratories must be in the LabEx DigiCosme ecosystem (see Appendix 3);
- proposals must fit into at least one of the LabEx DigiCosme challenges (see Appendix 4);
- budget requested cannot exceed € 260.000 per project.

Submission process
Project proposals will have a scientific description of the project and a financial appendix. Late or incomplete proposals will not be considered.

Proposal format
Project leaders submit a document that includes the following information:
- ACRONYM and title of the project
- Names of laboratories and project leaders and their contact information
- Names of laboratories (or teams) of the convergence institute that will benefit from the funding
- Names, contact details of the scientific and administrative managers within each laboratory (team) of DATAIA partners receiving funds
- Duration and estimated starting and ending dates of the project
- Description of the scientific project (5 pages max.)
  The description must specify:
  - background of the project and the state of art;
  - objectives of the research work;

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- o innovative features, locks and added-value of the project;
- o criteria of success;
- o possible areas for further research;
- o application areas, as well as adequacy with the objectives and over-arching challenges of the Institute.

The following criteria will be used for the evaluation of the project: scientific excellence, synergy between partner institutions, and potential application impact on the chosen subject.

Proposal submission

All projects must be submitted on the following website: https://cmt3.research.microsoft.com/DATAIA2021

This call for projects is also available on https://dataia.eu/en/call-projects/call-research-projects

For any questions, please contact: com-dataia@inria.fr

Closing date for submissions: March 5th, 2021 at noon (Paris time).
Publication date of results: April 30th, 2021

Funding of selected projects will be available from October 1st, 2021.

Selection process

DATAIA executive committee (bureau) will examine the eligibility of the projects. DATAIA steering committee (comité des programmes) will make the pre-selection of the eligible projects. They may ask external rapporteurs to review the proposals. Then, DATAIA steering committee will audition the project holders of the pre-selected proposals and will deliberate on the selected projects.

The final decisions will be published on April 30th 2021.

Validity of the funding

Selected research projects are funded for a period of 3 years, and must be completed by 31/12/2024. Each funded thesis will have to start in 2021.

Project acceptance and commitments

When the project is accepted, CVs of the selected candidates for PhD, post-doc or engineer positions should be sent to the Convergence Institute as soon as possible. Selected candidates for PhD occupations are required to get the approval from PhD schools to hold these positions.

Project leaders agree to use the funding as described in the project proposals

validated by the DATAIA steering committee, and to report on the scientific activity and expenses annually. At the end of the project, they will give DATAIA Institute a report that will summarize the achievements and all publications done within the project duration.

All beneficiaries of support from the convergence institute must include the following text in all scientific communications related to the funded activities:

This research was supported by DATAIA Convergence Institute as part of the « Programme d'Investissement d'Avenir », (ANR-17-CONV-0003) operated by [DATAIA Partner] XXX.

For the project co-funded by LabEx Digicosme, the following text must be included in all scientific communications related to the funded activities:

This research was [partially] supported by DATAIA convergence institute as part of the « Programme d'Investissement d'Avenir », (ANR-17-CONV-0003) operated by [DATAIA Partner] and by Labex DigiCosme (project ANR11LABEX0045DIGICOSME) operated by ANR as part of the program « Investissement d'Avenir» Idex ParisSaclay (ANR11IDEX000302).

If the convergence institute considers that the funding has not been used in accordance with the objectives stated in the project proposals, a refund may be requested. Similarly, unused funding must be paid back by the partner institution.

Appendix 1
Subject areas

The scientific program of each proposal should explicitly address at least one of the four interdisciplinary challenges of DATAIA.
See http://dataia.eu/en/institute/overarching-challenges

Projects may address topics more specific to application areas. A non-exhaustive list of these areas is available on link below. However, it is requested that projects address data science issues of general interest and are not restricted specifically to a field of application.
See http://dataia.eu/en/application-domains

Appendix 2
List of DATAIA partners

AgroParisTech
CentraleSupélec
CEA
CNRS
ENS Paris-Saclay
IFPEN
Inria (Inria-Saclay)
Institut Mines-Télécom Business School
INRAE
Université d'Evry Val d'Essonne.
Université Paris-Saclay
Université Versailles St-Quentin-en-Yvelines

Appendix 3
List of LabEx DigiCosme partner laboratories

Nom du Partenaire (Laboratoire)	Établissement Partenaire gestionnaire de l'Unité partenaire	Autre(s) Établissement(s) Partenaire(s) gestionnaire
CEA LIST	CEA	
DAVID	UVSQ	

IBISC	UEVE	
Inria Saclay Île-de-France	Inria	
L2S	CentraleSupélec	CNRS
Li-PARAD	UVSQ	
LISN	Université Paris-Saclay	CNRS
LIX	École polytechnique	CNRS
LMV (équipre Crypto)	UVSQ	CNRS
LMF	CNRS	ENS Paris-Saclay
LTCI	Institut Mines-Télécom	CNRS
MaiAGE	INRAE	
MIA équipe LInK	INRAE	AgroParisTech
MICS	CentraleSupélec	
SAMOVAR	Institut Mines-Télécom	CNRS
U2IS	ENSTA Paris	

Appendix 4
List of LabEx DigiCosme scientific axes

1. **Scilex**
   Software reliability and security
- Security of systems
- Continuous versus discrete systems
- From high-level to low-level certification
- Algorithms: complexity, efficiency, robustness

2. **Comex**
   Communications networks
- Future access networks

- Network information theory
- Distributed networks
- Optical communications

3. IID: Datasense

- Scalable, expressive and secure tools for large-scale data
- Making sense of complex, heterogeneous data and knowledge
- Machine learning
- Distributed decision making
- Interaction and Visualization

See https://digicosme.cnrs.fr/en/labex-digicosme-research-axis-actions/