

## MSCA PhD@Tec21 programme - 2027 call for research proposals:

### Tec21 projects Tec21+OSUG and Tec21+ARCANE projects

Tec21 ([www.tec21.fr](http://www.tec21.fr)) brings together the research community in mechanical and process engineering in Grenoble. Tec21 has been selected as a “Laboratoire d'Excellence (LabEx)” and is supported by the IdEx Univ. Grenoble Alpes for the 2025-2032 period in the frame of the “France 2030” programme. The LabEx Tec21 has been awarded a MSCA COFUND doctoral programme supported by the European Union.

#### The PhD@Tec21 programme will take place in two steps:

- **Step 1:** Selection of research proposals submitted by the potential PhD supervisors (this call)
- **Step 2:** Selection of students for the PhD fellowships (call for applications to be launched in November 2026)

**The present call concerns step 1 of the PhD@Tec21 programme.**

**It is aimed at future potential PhD supervisors.**

**It concerns research proposals for 6 PhD fellowships:**

- Four PhD fellowships will be granted on the scientific perimeter of LabEx Tec21
- One PhD fellowship will be granted at the interface between LabEx Tec21 and LabEx OSUG (co-funded by LabEx OSUG)
- One PhD fellowship will be granted at the interface between LabEx Tec21 and LabEx ARCANE (co-funded by LabEx ARCANE)

## 1) Information concerning PhD@Tec21 programme

The PhD contracts will start in October 2027, with the application and selection process of the PhD fellows starting in November 2026 (step 2).

The EU imposes strict rules regarding the eligibility of candidates (mobility, diploma, etc.) and the selection procedures. Recruited fellows will also have to complete a mandatory 2-months secondment period to either an international academic institution (academic secondment) or a private company (industrial secondment). Please consult the information document on the [call webpage](#). Two webinars will be organised by the Board of Tec21 to present these specific modalities and answer questions.

### **Webinar on PhD@Tec21 modalities:**

**PIs interested in submitting a proposal to this call are strongly encouraged to attend this webinar.**

Dates and connections links are announced on the Tec21 website:

<https://www.tec21.fr/research/phd-tec21-cofund-call/>

## 2) Who can apply

### For Tec21 projects

The PI and the co-PI of the project should be permanent researchers affiliated to Tec21. The project should involve a collaboration between two Tec21 laboratories. Additional collaborations with external national or international teams are welcome (Cf § 4, "Secondment", below).

### For Tec21+OSUG and Tec21+ARCANE projects

The PI and the co-PI of the project should be permanent researchers affiliated to Tec21 and OSUG /ARCANE (e.g., PI of Tec21 and co-PI of the other structure, or vice-versa). The project should involve a collaboration between two different laboratories. Additional collaborations with external national or international teams are welcome (Cf § 4, "Secondment" below).

=> PIs who need help in building up a collaboration can contact [Mathieu.Tilquin@tec21.fr](mailto:Mathieu.Tilquin@tec21.fr) for LabEx Tec21, [Florence.naaim@univ-grenoble-alpes.fr](mailto:Florence.naaim@univ-grenoble-alpes.fr) for LabEx OSUG or [agnieszka.janowska@univ-grenoble-alpes.fr](mailto:agnieszka.janowska@univ-grenoble-alpes.fr) for Labex ARCANE.

### 3) Call for research proposals: objectives

The present call for proposals is mainly oriented towards fundamental research with the following overarching objectives:

- to fund projects of the highest quality, with the potential to advance the frontiers of knowledge and/or to develop innovative methods,
- to foster the emergence of strong pluridisciplinary groups on specific challenging scientific issues,
- to promote synergies between modelling, experimentation and simulation,
- to develop long-term international cooperation.

#### For Tec21 projects:

The Tec21 community advances knowledge and develops new methods and technologies in mechanical and chemical engineering. The main objective of the LabEx Tec21 is to address new scientific challenges arising from today's societal issues in areas such as sustainable development, alternative resource management, green technologies, environmental impact, risk management, health care, etc.

Tackling such challenges involves considering new mechanisms and complex interactions, as well as

- improving macroscopic descriptions by integrating increasingly refined fundamental mechanisms arising at small scale(s), down to the molecular level if necessary,
- developing links between mechanics and disciplines such as chemistry, biology and geosciences, using multi-physics approaches, often in a multi-scale context.

The goal of such multi-scale and multi-physics approaches is to produce more reliable and versatile predictive tools for engineers, decision-makers or public services. They should also facilitate the emergence of new technologies.

#### In this context, the following subjects/areas are given priority within Tec21:

**WP1 - Coupling solid and fluid mechanics:** solids in fluids, fluids in solids, solid-fluid transition and associated instabilities

**WP2 - Coupling fluid mechanics with bio-physical-chemical phenomena:** advanced fluid mechanics, interfacial dynamics and transfers, flow of active micronic objects, development and understanding of new processes linked to sustainable development and based on fluid mechanics and interfacial phenomena

**WP3 - Mechanics of and for the living matter:** mechanics of the living matter, mechanics for the living matter

**WP4 - Advanced numerical and experimental methods, including coupling with AI tools:** advanced modeling and simulations, multiscale characterisation and field measurements, coupling with AI

Please, find out more about Tec21 WPs here: <https://www.tec21.fr/research>

#### For Tec21+OSUG and Tec21+ARCANE projects

The research proposals should address research topics related to both Tec21 WPs **and** the priority axes of LabEx OSUG and ARCANE

#### OSUG priority axes:

**Axis 1: The formation of habitable planets,**

**Axis 2: Habitability on Earth,**

**Axis 3: The resources needed to maintain habitability,**

**Axis 4: Natural hazards that threaten habitability.**

Please, find out more about LabEx OSUG here: <https://www.osug.fr/en/labex/presentation/>

#### ARCANE priority axes:

##### Axis 1. Conception of molecular and multifunctional systems for energy

- Activation of small molecules from the biosphere: CO<sub>2</sub> valorization & H<sub>2</sub> technologies
- Solar chemistry: artificial photosynthesis & photovoltaics

##### Axis 2. Design and validation of new chemical structures for health

- New generations of antibacterial & anticancer agents
- Molecules for labeling in biological systems

##### Axis 3. Implementation of molecular tools and methodologies for detection and transduction

- Sensors in complex environments, from biology to ecology
- New instrumentation methodologies: resolution, sensitivity & selectivity

##### Axis 4. Development of innovative strategies for sustainable and efficient chemistry

- Bio-production of complex molecules Eco-friendly chemistry
- Organic & hybrid materials

Please find out more about LabEx ARCANE here: <https://arcane.univ-grenoble-alpes.fr/sites/default/files/Mediatheque/The%20Arcane%20scientific%20project.pdf>

#### 4) Opportunities

The 2027 COFUND PhD@Tec21 call for proposals concerns the funding of 6 PhD fellowships:

Grant	Topics supported	# of grants	Proposal submission deadline	Results calendar
<b>Tec21 PhD grant:</b> the PhD salary (3 years) is funded by Tec21 <sup>1,4,5</sup>	All Tec21 WPs	4 PhD fellowships	<b>15 June 2026</b>	<b>15 October 2026</b>
<b>Tec21+OSUG PhD grant:</b> the PhD salary is co-funded by Tec21 and OSUG <sup>2,4,5</sup>	All Tec21 WPs and OSUG priority axes	1 PhD fellowship	<b>15 June 2026</b>	<b>15 October 2026</b>
<b>Tec21+ARCANE PhD grant:</b> the PhD salary is co-funded by Tec21 and ARCANE <sup>3,4,5</sup>	All Tec21 WPs and ARCANE priority axes	1 PhD fellowship	<b>15 June 2026</b>	<b>15 October 2026</b>

<sup>1</sup> **Involvement of two laboratories from Tec21 perimeter is mandatory.**

<sup>6</sup> **Involvement of two laboratories is mandatory, one from Tec21 perimeter and one from OSUG perimeter.**

<sup>7</sup> **Involvement of two laboratories is mandatory, one from Tec21 perimeter and one from ARCANE perimeter.**

<sup>4</sup> **Co-funding:** Please note that the co-funding of the PhD projects under this call has been approved by the partnering structures (LabEx OSUG and LabEx Arcane). Therefore the researchers submitting the project do not need to worry about the funding arrangements.

<sup>5</sup> **In addition to the salary,** each PhD fellowship includes a fixed amount of 18 K€ for small equipment, running costs, travels, conferences, including expenses related to the secondment period



**Secondment:** All PhD fellowships will include a 2-month secondment period to an international academic institution or a private company. PI and co-PI are asked to indicate in the proposal possible options for this academic or industrial secondment (existing partnerships, etc.). No formal commitment is required at the application stage, but letters of support from potential hosting partners may be included.

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## 5) Proposal preparation and submission instructions

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**Proposals should be sent to [mathieu.tilquin@tec21.fr](mailto:mathieu.tilquin@tec21.fr)  
before 15 June 2026.**

Each proposal (in English) will be submitted as a single pdf file (maximum size 10 Mo) organised as follows (see template):

### Front page

- Project title
- Project PI and co-PI (with name, address, phone numbers, e-mail)
- Project type (Tec21 / Tec21 + OSUG / Tec21 + ARCANE)
- Selected research theme(s) - select 1 or 2 maximum

### Second page

- Summary (1/2 page): project content and expected breakthrough
- Summary (1/2 page): structuring effect and collaborative aspects for the Tec21 research community, or for Tec21+OSUG and Tec21+ARCANE research communities if applicable.

### Next pages – project description (max 6 pages excluding annexes)

- Context and objectives (1 page)
- Scientific program, including the research strategy (3 pages)
- Project organisation: tasks, schedule, work program of the PhD student, including possible secondment options and their benefits to the project (1 page)
- Potential impact of expected research results (benefits to society) if relevant (1/2 page)
- Involved participants (1/2 page): names, institutions, involvement (% time), skills and role in the project. Specify the role of the PhD student.
- Annex: Curriculum Vitae of the main investigators including significant publications related to the topics of the proposals. References and letters of support can be added.

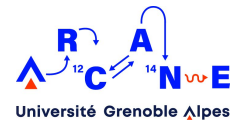
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## 6) Evaluation of proposals

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Proposals will be evaluated by at least two external reviewers selected by Tec21 Board for Tec21 projects, by Tec21 and OSUG boards for Tec21+OSUG projects and by Tec21 and Arcane boards for Tec21+Arcane projects. The reviewers are experts in the topic of the proposal and disclose any potential conflicts of interest with the PI and co-PI. They are asked to provide feedback on the following items:

- Scientific quality and originality: The potential for the project to advance knowledge and understanding, to propose new methods (in modelling, simulation, instrumentation), to explore creative and original concepts; the relevance of the international positioning of the project.
- Project organisation: Is the research strategy convincing? Is the proposed scientific program well organised and realistic?
- The qualification of the team and its ability to conduct the project.



- iv. Project feasibility: The adequacy between the available resources and the project's objectives, the description of the PhD student's contribution.
- v. Potential impact of expected research results.

Based on these reports, the final decision of funding is made by the Tec21 Board of Directors, in association with the boards of LabEx OSUG and ARCANE for projects in collaboration. The selection committee will pay particular attention to proposals that give rise to the development of multidisciplinary groups on specific challenging scientific issues and contribute to strengthen the Tec21 community and its interactions with the partnering structure for collaborative projects.

**Funded proposals will be announced around mid October 2026 (provisional schedule).**

