

## CALL FOR APPLICATION

### INSERM CHAIR Recruitment

### Bioconvergence for Health: AI-Embedded Synthetic Biology

The Inserm chair recruitments opened to Inserm are intended for researchers with strong potential to manage and lead research teams and participate in national, European or international projects.

This recruitment, based on research and teaching projects, is aimed at researchers with a doctorate or equivalent and a first post-doctoral experience. The position is offered on a fixed-term contract (CDD) with a view to tenure in the Inserm Research Directors personnel at the end of the contract.

**How apply:** <https://pro.inserm.fr>



<b>Supporting institution:</b>	Inserm : Institut national de la Santé et de la recherche médicale
<b>Name of the head of the institution:</b>	Pr. Didier Samuel
<b>Academic region:</b>	PARIS
<b>Location/ Site concerned:</b>	INSERM U1338 - Systems Engineering and Evolution Dynamics – ELiS Lab
<b>Partner institution:</b>	Sorbonne Université
<b>Research contact:</b>	Ariel LINDNER: <a href="mailto:ariel.lindner@inserm.fr">ariel.lindner@inserm.fr</a>
<b>Administrative contact:</b>	<a href="mailto:chaires-professeur-junior@inserm.fr">chaires-professeur-junior@inserm.fr</a>
<b>Research fields EURAXESS:</b>	Engineering, Automated synthetic biology and Computational biology, Antibiotic resistance (Medical Science)
<b>Keywords:</b>	Phage, bacterial and yeast engineering biology; Antibiotic and drug discovery; Metabolic engineering and Biosynthesis; Biofoundry; Deep Learning, Generative AI and Computational Biology

<b>Job title to be filled:</b>	Chaire - Bioconvergence for Health: AI-Embedded Synthetic Biology
<b>Body after tenure:</b>	Research Director

<b>Anticipated duration of the contract:</b>	4 years
<b>Scientific domains/fields:</b>	Biology and Health
<b>Corresponding specialized scientific commissions (CSS):</b>	Cellular, molecular and structural biology – CSS1
<b>Project name:</b>	Bioconvergence for Health: AI-Embedded Synthetic Biology

<b>Remuneration package</b>	3 500€ - 5 000€ according to research experience
<b>Quota</b>	Full Time

### Strategy of the host institution:

The French National Institute for Health and Medical Research (INSERM) is the primary public institution dedicated to biomedical and health research. Inserm conducts research with a focus on translating research findings into clinical and therapeutic applications that address current public health challenges. Partners include universities, hospitals, and international research organizations.

Inserm and Sorbonne Université (SU) hold a keen interest in the potential of converging synthetic biology, AI and automation to disrupt healthcare and address complex medical challenges including drug discovery, biosensing and medically relevant metabolic engineering and therapeutics. This Junior Professorship Chair (CPJ) is in line of the partners' strategic plan manifested by the creation of the Paris Biofoundry as SU (with CNRS, Inserm among the partners), and by the recruitment of the Inserm U1338 team to join the Biofoundry and the Computational, Quantitative and Synthetic Biology (CQSB) interdisciplinary laboratory at the Sorbonne University's Paris Seine Biology Institute (IBPS). The laboratory fosters a balanced integration of theoretical and experimental approaches to redefine biological questions, develop innovative experimental strategies, and enhance data analysis and modeling of complex biological systems. It aims at deciphering fundamental principles underlying biological structures and processes by integrating experimental data with computational models to uncover insights into genome evolution, molecular mechanisms, and cellular behavior. This includes generating in silico predictions for biological phenomena that remain inaccessible to direct experimentation. Statistical methods and AI approaches are developed and applied to analyze large scale biological data and make precise predictions. It leverages computational and experimental frameworks and automated workflows to design novel biomolecular systems, aiming to address key challenges in environmental sustainability, biotechnology, and medicine. Thus, the CPJ environment supports both fundamental understanding and innovation, giving rise to multiple startups and partnerships with the private sector.

The CPJ laureate can benefit from a funded doc contract and can apply for further university internal funding schemes including Emergence via Sorbonne University Initiatives and Institutes.

### Strategy of the host laboratory:

The hosting lab: Systems Engineering and Evolution Dynamics (U1338, known as the Engaged Life Sciences – ELiS Lab) engages in interdisciplinary research aimed at harnessing fundamental understanding of evolution and at engineering living systems. It combines expertise in computational biology, systems and synthetic biology. Research highlights include engineering bacteria for

sustainable bio-production via phase-separating synthetic organelles, AI-driven development of de novo antimicrobial peptides, natural product and drug discovery from soil bacteria, bacterial consortia, and synthetic phages and cells.

The lab is embedded within, and contributes to, the Biofoundry of Sorbonne University Alliance with state-of-the art automated high-throughput DNA assembly, microorganism engineering (bacteria, yeast and microalgae and automated phenotyping (mass spectroscopy, microscopy, protein and metabolite biochemistry). The unit has a strong track record in nurturing young researchers' careers (including two starting ERC and 3 tenures in past 4 years).

#### Summary of the scientific project:

We aim to establish a new pioneering group at the convergence of automated synthetic biology and computational Biology to achieve fundamental insights leading to medical and therapeutic innovation. This Chair will empower a top-tier early-career scientist to build an internationally competitive research axis within the ELiS Lab and the Paris Biofoundry - France's first academic biofoundry and one of Europe's most advanced engineering biology platforms. The successful candidate will benefit from an exceptional environment combining robotics-enabled genetic engineering, large-scale data acquisition, and machine-learning-driven design, to enable discoveries that are unachievable through traditional biological experimentation. By integrating biofoundry automation, AI-powered design with a choice from multi-kingdom microbial (bacteria, yeast, phages) engineering, the recruited researcher would tackle urgent biomedical challenges - from antimicrobial resistance and metabolic diseases to biosensing and drug pipeline innovation.

#### Summary of the teaching project:

Teaching is not mandatory for Inserm researchers, yet all the PIs in the lab are committed to interdisciplinary systems and synthetic biology training and teaching. The CPJ will be able to contribute to the Synthetic Biology, Computational Biology M.Sc. modules at Sorbonne University and to our effort to enlarge this scope to a full interdisciplinary international graduate program.

**National Research Agency package:**

200k€

**Other package:**

0k€

#### Scientific dissemination/ Open Science:

##### Scientific communication and dissemination:

**Open Science:** The successful candidate will adhere to the FAIR Guiding Principles for scientific data management and stewardship. The lab provides the digital infrastructure needed to freely share code and data under creative commons licensing.

**Science and society:** The ELiS lab is engaging direct public participation in its research through Citizen Science projects (e.g., through soil sample collection or building and deployment of DNA detection open hardware) and further communicates with the public through Science in the Bar and other informal sharing.

#### Indicators:

Project monitoring will rely on indicators such as deployment of DBTL and computational tools, scientific output, development of biological and digital resources, funding success, collaborations, and valorization. Mentoring will be assessed through the supervision and progress of junior researchers. A dashboard and annual review will ensure effective follow-up.

#### Selection of candidates:

It is expected the recruited researcher to become rapidly a group leader in the GAD team. So the candidate should demonstrate ability to supervise Ph.D students, post-doctoral fellow and technical support staff. She/he should have the capacity to obtain competitive funding to manage her/his group.

Successful candidates are chosen by a selection commission composed of six to ten members, the majority of whom are specialists in the fields of research concerned.

The commission carries out an initial examination of the applications, focused in particular on candidate experience and skills relative to the research and teaching project presented above. A shortlist of candidates is then selected for interview.

Only candidates selected by the selection committee on the basis of their applications will be invited to interview.

The interviews are followed by a deliberation during which selection commission will discuss the quality, originality and, where appropriate, the interdisciplinarity of the research and teaching projects presented by the candidates, their motivation and their scientific and teaching supervision capacity.

The candidates selected at the end of the selection process will be offered a researcher contract, following approval from the President and CEO of Inserm.

#### Required profile:

Education Level: **Phd**

Researcher Profile: R3/R4

*R3 Established researcher A stage in a researcher's career describing those who have developed a level of independence and can be described as an established researcher*

*R4 Leading Research A stage in a researcher's career where they can be termed a 'leading researcher'. This would include the team leader of a research group or head of an industry R&D laboratory.*

Your application will be evaluated according to the following criteria :

- Relevance and originality of the project related to the research field

- International exposure in research projects
- Your ability to raise funds
- Participation in editorial and reviewing activities
- Your teaching experience
- Your ability to lead a team...

**Application instruction:**

Applications can be submitted online at [EVA](#).  
Deadline application: **September 2, 2026**

*Please complete the scientific file in English.*

***It is imperative to contact the laboratory corresponding to the Chair you have applied for in order to build the project with them.***

Position also open to 'Bénéficiaires de l'Obligation d'Emploi' (disabled persons), as defined in article 27 of law no. 84-16 of January 11, 1984 on statutory provisions for the civil service.