

# Call for Candidates – Practice-based and design-led PhD position in Biodesign

*Ecole des Arts Déco invites applications for a 3 years, full-time position as a practice-based and design-led PhD in Biodesign within the Soft Matters research group of Ensadlab, in the framework of the ImpressioVivo project. The position is fully funded by the National Agency for Research (ANR).*

## Soft Matters

Soft Matters is one of the 5 research groups of Ensadlab, the French pioneering arts-and-design-led research lab of Ecole des Arts Décoratifs. It explores how new materials and new technologies (as much as forgotten ones) can contribute to the design of a more resilient culture. The focus is on a design-led and practice-based approach to research with a core expertise in the area of textile design, colour-material and finishing design and sensory design in an interdisciplinary dialogue with disciplines such as architecture, fashion, object design, material science or biology. It articulates its current research around the following axes: (1) *active materials* (2) *circular design* (3) *bio-digital crafting* (4) *sensory design* (5) *architectural textility*.

Placing the conceptualisation and materialisation of artefacts at the centre of its research, the group examines how the materiality of the soft (textiles, flexible materials, digital and biological technologies) influence the practice of design, affects our everyday spaces and practices, but especially questions its potential for the design of more resilient a futures. To do so the group develops national and international collaborations, whether scientific or industrial, through established industrial or academic PhD programmes, consultancy, training and research collaboration at the intersection of science, design and engineering. Soft Matters is further more strongly connected with the Textile and Material design department of Ecole des Arts Déco.

## About the position

The PhD is a full-time research position taking place within the framework of the [ImpressioVivo project](#), an ANR funded project examining the 3D printing of bacterially-informed materials for circular design applications in an architectural context. This design-led project is an interdisciplinary research enquiry sitting at the intersection of architecture, design and microbiology, led by [Soft Matters](#), in collaboration with [CITA](#), [3d.FAB](#) and [Soletanche-Bachy](#). Concerned with challenging the perception of resource as infinite and by promoting a resilient approach to material resources relying both on post-industrial waste and bio-based renewable deposits, the project seeks to understand how designers and architects can work with bacteria to design 3D printed bioluminescent and bio-calcified materials for circular design applications. A first material axis focus on the design of bioluminescent living hydrogels and a second one on the biocalcification of an upcycled foam made from paper waste.

Within this context, the PhD project will play a central role in the articulation of an unconventional method based on bio & digital fabrication for bespoke 3D printed materials. The PhD focus will especially be on 3D modelling and 3D printing processes supporting the life-scale prototyping of architectural expressions of bioluminescent hydrogels and of a biocalcified upcycled paper foam.

The PhD student will work in close collaboration with the project leader, a post-doc in microbiology in accordance to the overall project's plan and objectives. He/she will benefit of the overall ecosystem of the project and will be involved in activities such as scenario building, material sampling and

characterisation, bacterial culture, building and display of demonstrators,co-writing of academic publications with the overall aim to advance the field of bio-digital crafting.

### **Requirement/profile**

You are creative, highly motivated and autonomous with a strong material sensitivity. You share a deep motivation, if not experience, in practice-based and design-led research. You have already a consistent experience with 3D printing technologies and wish to engage with biodesign dynamics.

The candidate should meet the following criteria

- has a master degree (M2) in design or architecture
- is fluent in English (speaking and writing)
- has a consistent experience with 3D modelling and 3D printing extruding technologies
- demonstrate high design and creative skills
- has a collaborative and interdisciplinary attitude towards research
- For candidates whose mother tongue is not French, a B2-level in French is required. If the B2-level is not acquired by the time of recruitment, it must be achieved during the 1<sup>st</sup> PhD year.

Experience in the area of biodesign/microbiology is an asset but not a pre-requisite. Some prior experiences of academic publications will also be valued.

**PhD supervision:** the thesis is co-supervised by Dr. Aurélie Mosse (Ensadlab, Ecole des Arts Déco) and Prof. Mette Ramsgaard Thomsen (CITA, Royal Danish Academy).

### **Environment**

As a PhD student, you will be based in the Soft Matters research group of Ensadlab, the research laboratory of Ecole des Arts Décoratifs in Paris with research stays in CITA, Copenhagen to be considered. You will depend of the doctoral school [ED540](#) and of the Sciences Arts Creation Research PhD programme ([SACRe](#)) of Paris Sciences et Lettres University (PSL).The thesis is funded by the French National Agency for Research (ANR) in the framework of the *ImpressioVivo* project. The thesis will preferably be written in English.

**Start Date and duration:** 3 year-contract (full-time) starting April 2022

### **How to apply:**

Applications must be written in English and composed of the following elements :

- an up-to-date and detailed curriculum vitae including a list of academic publications if relevant
- a cover letter arguing of the relevance of your profile and how you position yourself in respect to the ImpressioVivo project
- a research statement/intent note in relation to the project
- a creative portfolio demonstrating the practice-based and design-led experience of the candidate

NB: This call does not require the prefiguration of a written PhD proposal.

Applications must be addressed/registred online <https://concours.ensad.fr/> no later than the 18th of March 2022.

### **Calendar:**

- **Opening of the call:** 18<sup>th</sup> of February

- **Closing date for applications:** 18<sup>th</sup> of March 2022
- **Interviews:** morning of the 31<sup>st</sup> of March 2022

### **Selection process**

The jury is composed of the two PhD supervisors, of Ensadlab members and the head of Ecole des Arts Decoratifs. The jury evaluates applications (1<sup>st</sup> round). Together they decide on the eligibility of candidates who are then invited to an audition (2<sup>nd</sup> round). The audition will preferably be conducted in English. After the audition, the jury elects the successful candidate. This decision is subsequently validated by the SACRe board (5<sup>th</sup> of April) and then the pedagogic committee of ED540.

### **Contact**

Scientific queries – Dr. Aurélie Mosse [aurelie.mosse@ensad.fr](mailto:aurelie.mosse@ensad.fr)

Administrative queries – Martine Nicot, [direction.recherche@ensad.fr](mailto:direction.recherche@ensad.fr)

### **About Ecole des Arts Deco**

École Nationale Supérieure des Arts Décoratifs is a public institution of higher education under the authority of the French Ministry of Culture and Communication. Over 250 years of history, a unique educational model, and an international outlook that encompasses more than 130 partnerships with the best universities, top cultural institutions and the most innovative businesses around the world place Ecole des Arts Déco within a select group of major art and design institutions. Its mission is to provide artistic, scientific, and technical training for artists and designers, preparing them for careers in design and research in all the decorative arts fields.

Ecole des Arts Deco has also developed an ambitious research dynamic in the form of EnsadLab, the French pioneering arts-and-design-led research lab founded in 2012. Besides, since 2011, it is a member of Paris Sciences et Lettres University that brings together 20 higher-education and research institutions (including the Collège de France, the ENS, the ESPCI, the Observatoire de Paris, the Institut Curie, and others). Former students of the School include famous figures such as Charles Garnier, Hector Guimard, and Henri Matisse, as well as major creators in the contemporary art scene: Philippe Apeloig, Ronan Bouroullec, Mohamed Bourouissa, Jean-Paul Goude, Annette Messager, Anri Sala, Jérôme Savary, Jacques Tardi, Xavier Veilhan, Zao Wou Ki, Yiking Yin, and others.

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