

FICHE A COMPLETER POUR PUBLICATION D'EMPLOIS SCIENTIFIQUES (hors BIATSS) DANS LE PORTAIL « EURAXESS JOBS »

A COMPLTER EN ANGLAIS ET A RENVOYER à : drv-euraxess@univ-amu.fr en FORMAT WORD

Cochez la case si vous souhaitez **aussi** publier dans **Academic Positions**, plateforme internationale d'emploi scientifique (si visibilité internationale requise par le poste) : dans ce cas **la durée de publication** – durée entre la date de publication et la date limite de candidature - **DOIT IMPERATIVEMENT être supérieure à 3 (TROIS) MOIS.**

Autres sites ou plateformes d'emplois où votre offre a été publiée

1. <https://lba.univ-gustave-eiffel.fr/recrutement>
2. <https://www.linkedin.com/company/16179710/admin/>

JOB TITLE: Three year PhD student position in getting a better biomechanical and clinical understanding of textile based suspension repair of pelvic organ prolapse through innovative clinical trial and numerical modelling.

RESEARCHER PROFILE

- PhD / R1: First stage Researcher
 Postdoc / R2: PhD holders
 Researcher, Assistant Professor/ Senior Lecturer / R3: Established Researcher
 Professor, Tenure track / R4: Leading Researcher

RESEARCH FIELD(S)¹: Engineering, Computer Science

MAIN SUB RESEARCH FIELD OR DISCIPLINES¹: Medical Sciences

JOB /OFFER DESCRIPTION

Host institution

The Laboratory of Applied Biomechanics (LBA) is a joint research unit of the University Gustave Eiffel and Aix-Marseille University, located within the Faculty of Medicine on the North Hospital-University Campus in Marseille. Its research program is based on the biomechanical modelling and simulation of the human body (Virtual Human) for health, sports, and safety applications. The laboratory's objectives include understanding trauma mechanisms to improve prevention and treatment of resulting injuries, and enhancing medical devices and associated surgical techniques.

Clinical context

Female pelvic organ prolapse affects nearly one in three women to varying degrees. It represents a major societal challenge. Complication rates after surgery remain very high regardless of the techniques and materials used. A better understanding of the influence of mechanical factors is required to improve clinical outcomes.

Scientific context

This PhD research is part of the 3 year Excellence Chair program "Innovative Materials for Human Body Applications" funded by the A*Midex foundation and initiated in 2025 (<https://www.univ->

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amu.fr/fr/public/actualites/decouvrez-les-nouveaux-laureats-des-appels-projets-amidex-decembre-2024). 5 full time equivalent researchers are planned to be recruited. More specifically, this PhD thesis concerns the work package dealing with the improvement of female pelvic organ prolapse (POP) treatment with innovative partially resorbable medical textiles.

Objective

The PhD aims to gain a better combined biomechanical and clinical understanding of pelvic organ prolapse suspension repair with textile implants. The PhD student's primary goal will be to develop and validate a patient-specific numerical model and run physiologically relevant simulations involving notably pelvic floor muscular contraction. The PhD student will also be expected to significantly contribute to setting and running a clinical trial along with health care professionals.

Collaborations

A close collaboration is planned with the New Technologies – Research Centre (NTC), University of West Bohemia in Pilsen (UWB), Czech Republic, for the computational modelling work. NTC will host the PhD student for a period of 9 to 12 months. In addition, a partnership will be considered with LabTau (INSERM U1032, Lyon) for conducting passive elastography investigations. Finally, the clinical trial will be run with the Marseille Public University Hospital System and Institute for Maternal and Child Care, Charles University, Prague, Czech Republic.

Main phases and deliverables

The PhD student will benefit from LBA's and NTC's expertise in running clinical trials and modelling human territories. The work will include the following main tasks (provisional time investment)

- Updating the literature review (2 months)
- Clinical trial (10 months)
- Modelling and simulation (20 months)
- Communication: 2 articles published and 1 submitted, 2 podium presentations (4 months)

TYPE OF CONTRACT: PERMANENT TEMPORARY TO BE DEFINED

JOB STATUS: FULL TIME PART TIME NEGOTIABLE

HOURS PER WEEK: 35h

APPLICATION DEADLINE: 07/05/2025

ENVISAGED STARTING DATE: October 2025

ENVISAGED DURATION: 36 months

IS THE JOB FUNDED THROUGH AN EU RESEARCH FRAMEWORK PROGRAMME? YES NO

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HOW TO APPLY

Frédéric Turquier (Full Professor, Aix-Marseille University)

E-mail: frederic.turquier@univ-amu.fr

Website: <https://lba.univ-gustave-eiffel.fr/recrutement>

Vít Nováček (Senior Researcher, University of West Bohemia in Pilsen)

E-mail: vnovacek@ntc.zcu.cz

Website : https://www.ntc.zcu.cz/en/Research/Research_topics/Human_Body_Models.html

WORK LOCATIONS:

The primary location (24 to 27 months) will be the Laboratory of Applied Biomechanics / Aix-Marseille University – Gustave Eiffel University; Faculté des Sciences Médicales et Paramédicales - Secteur Nord, 51 Bd Pierre Dramard F-13015 Marseille, France.

The secondary location (9 to 12 months) will be the New Technologies – Research Centre, Teslova 5b, 301 00 Pilsen, Czech Republic.

WHAT WE OFFER: Gross salary of 2 200 € per month, opportunity to initiate a research career in a laboratory that has gained international recognition and influence in human numerical simulations for health and safety application over the past decades (<https://lba.univ-gustave-eiffel.fr/>).

Additional information: The Euraxess Center of Aix-Marseille Université informs foreign visiting professors, researchers, postdoc and PhD candidates about the administrative steps to be undertaken prior to arrival at AMU and the various practical formalities to be completed once in France: visas and entry requirements, insurance, help finding accommodation, support in opening a bank account, etc. More information on [AMU EURAXESS Portal](#)

QUALIFICATIONS, REQUIRED RESEARCH FIELDS, REQUIRED EDUCATION LEVEL, PROFESSIONAL SKILLS, OTHER RESEARCH REQUIREMENTS

- Master Research in mechanics or in engineering (with major in mechanics or biomechanics) required
- Solid theoretical foundation in continuum mechanics
- Skilled in material and structural modelling
- Experienced in non-linear Finite Element numerical simulation
- Experience in mechanical testing would be a plus

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Soft skills: Autonomy, Teamwork, Analytical and critical thinking, Strong written and oral ability, C1 level in English or French required

REQUESTED DOCUMENTS OF APPLICATION, ELIGIBILITY CRITERIA, SELECTION PROCESS

- CV, a minimum of 2 references,
- Selection will be based on knowledge in continuum mechanics, experience in the field of material/structural modelling and ability to engage in the Chair of Excellence program,
- Application closure by May 7th 2025, in-person or videoconference interview process completed by May 11th 2025, final selection by mid-June 2025 after audition (<https://ecole-doctorale-659.univ-amu.fr/fr/futur-doctorant/financements/concours-de-lecole-doctorale>)

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FO-DRV-911 EURAXESS JOBS / ACADEMIC POSITIONS AMU_DRV_MàJ Juillet 2023