

Nantes Université recrute

Pour son laboratoire RMeS (Regenerative Medicine and Skeleton, UMR 1229)

Post doctoral position

Mentionner les références du métier auquel se rattache l'emploi (cf. mentionné sur l'EB)



43 000

étudiant-es, dont plus de
5000 internationaux



4600

personnels
administratifs
et techniques



3257

enseignant-es,
enseignant-es-
chercheur-es



1500

près de 1500
doctorant-es



42

structures
de recherche

Nantes University is a public higher education and research establishment that offers a **university model unique** in France bringing together a university, a university hospital (Nantes University Hospital), a technological research institute (IRT Jules Verne), a national organization research (Inserm) and major schools (Centrale Nantes, Nantes Saint-Nazaire School of Fine Arts, Nantes School of Architecture).

These players concentrate their strengths on **developing the excellence of Nantes research** and offering **new training opportunities** in all areas of knowledge.

Sustainable and open to the world, Nantes University ensures the quality of the study and working conditions offered to its students and staff, to promote their development on all its campuses in Nantes, Saint-Nazaire, and La Roche-sur-Yon.

- | | |
|---|---|
| <ul style="list-style-type: none">• Versant : Fonction publique d'état• Type de recrutement : Catégorie, titulaire ou contractuel-le, CDD (article 4.2 Loi 84-16)• Rémunération : selon la grille indiciaire de la fonction publique pour les titulaires et la charte de gestion des contractuels de Nantes Université pour les non-titulaires, et suivant niveau d'expérience du candidat. Comprise : 1820 € nets/mensuels (2271 € bruts) [sans expérience] et XXX€ nets/mensuels (XXX€ bruts) [+ 15 ans expérience] | <ul style="list-style-type: none">• Temps de travail : 37h15• Congés : 45 jours de congés annuels• Télétravail selon ancienneté• Prise en charge partielle des frais de transport domicile-travail (transports en commun)• Accès aux restaurants et cafétérias du CROUS avec tarif privilégié |
|---|---|

Work environment and context

• The TARGET-OA project

Funded by the French Research Agency (ANR), the **TARGET-OA project** is a collaboration between the RMeS Lab (INSERM U1229, Nantes; <https://rmes.univ-nantes.fr/>), the CRSA Lab (INSERM UMR_S938/ Sorbonne Université, Paris; <https://www.crsa.fr>), and the SAINBIOSE (INSERM U1059 / Université de Saint-Etienne). This project is focused on deciphering the role of CXCL12/ CXCR4 axis in osteoarthritis.

Code de champ modifié

Code de champ modifié

univ-nantes.fr

• Localisation : Nantes

The RMeS laboratory is composed of 119 people in 2023 (75 full-time equivalent). It is armed with 8 permanent senior scientists from Inserm and CNRS (4 DR and 4 CRCN), 11 University/ONIRIS researchers (1 PR, 10 MC), 35 University/Hospital researchers (23 PU-PH, 12 MCU-PH), 11 University/Hospital associated clinicians (10 PH, 1 CCA), 26 technical and administrative staffs, 10 postdocs, 18 PhD candidates and about 20 trainees (Master students, engineers, residents). RMeS is structured around 2 independent research teams: REJOINT (formerly STEP) and REGOS ([see organizational chart](#)). These 2 teams still benefit from our 4 open technological platforms: SC3M (electron microscopy, micro-characterization and functional morphohistology- imaging), BIO3 (biomaterials, biohydrogels and biomechanics), INOA facility (OsteoArticular INflammation), HiMolA (Molecular Histology) and 2 in-house core facilities for cell culture and molecular biology.

Our RMeS laboratory aims to reinforce his international positioning as a center of excellence and a leader in skeleton aging and regenerative medicine. Our research goals range from deciphering the mechanisms that govern development, growth and aging of bone and cartilaginous tissues to promote the advance of innovative 4R medicine strategies for the skeleton. Four "R" medicine relies on concepts we recently developed.

The promising field of regenerative medicine aims to restore the function of damaged tissues including those constituting the skeleton. It also intends to conceive biomaterial- and cell-assisted therapeutic solutions for tissues that become ineluctably degrade with aging. Considering the large number of diseases for which clinicians can only manage patients' symptoms using drugs or devices, regenerative medicine has for long been contemplated as a game-changer in medicine. Interestingly, recent advances in biomaterial sciences (biomimicry, hydrogels, 3D bioprinting...), skeletal physiopathology (developmental diseases, osteoarthritis, age-associated diseases...), developmental biology (cell fate and tissue modeling), and stem cell biology (reprogramming and differentiation) are paving the way to new concepts that will undoubtedly improve skeletal regenerative strategies.

Our strong and recognized expertise that encompass a broad range of disciplines from material sciences and physico-chemistry to cell and molecular biology and clinical sciences within the same research laboratory constitutes an exciting and unique opportunity in France. This complementary workforce has greatly contributed to make RMeS laboratory a pioneer center in skeleton aging and regenerative medicine.

Missions

Osteoarthritis (OA) affects around 40 million people in Europe and causes a heavy socioeconomic burden. Since no cure is currently available for OA, the development of therapies that can prevent joint damage associated with OA is thus urgently needed. OA is characterized by loss of joint cartilage, pathological change in the bone that lines the cartilage, and mild inflammation of the synovial membrane. The disappearance of cartilage and its replacement by bone, critical in the progression of OA, could be linked to chondrocyte hypertrophy. In OA, the development of blood vessels (angiogenesis) at the interface of articular cartilage and bone is stimulated by hypertrophic chondrocytes and may play a key role in the replacement of articular cartilage with bone. Our preliminary results show that articular chondrocytes rendered hypertrophic in culture acquire angiogenic activity. This property is inhibited by blocking CXCR4, the CXCL12 receptor,

Code de champ modifié

univ-nantes.fr

on the surface of endothelial cells. Given that CXCL12 is produced by hypertrophic chondrocytes, in the TARGET-OA project, we propose that the CXCL12 / CXCR4 axis has a crucial role in the dialogue between hypertrophic chondrocytes and endothelial cells in OA. Our objectives are 1) to define the role of this axis in pathological communication between chondrocytes and endothelial cells and 2) to demonstrate that its targeting has a clinical interest for OA treatment.

Main Activities

In the framework of the TARGET-OA project, Inserm U1229-RMeS is opening a **36-month postdoctoral fellow** position to work on osteoarthritis physiopathology, starting from **Spring 2024**. The post-doc will be responsible for:

- Managing genetically modified mice and inducible tissue-specific knock-out mice used in the project.
- In vivo evaluation of osteoarthritis mice models
- Characterization of CXCL12/CXCR4 modulation in mice
- In vitro evaluation of CXCL12/CXCR4 axis in chondrocytes hypertrophy.

Required Profil

• The candidate is expected to have **a solid background and experimental skills in cell biology, and physiology with knowledge on osteoarthritis and articular cartilage**. The candidate should be familiar with genetically modified mice colony management and manipulation. An in vivo animal experimentation level or experimental surgery accreditation will be greatly appreciated. Post-doctoral candidates must have a PhD degree and at least one first-author publication in a relevant field. Excellent English writing and communication skills for communication of the results to the TARGET-OA collaborators, in international scientific meeting. Good teamwork skills are also essential.

Contacts :

Applicants are invited to send a CV, including a description of Technical skills, a complete list of publications, and 2-3 references (names and contact information), as well as a motivational letter to : recrutement-biatss@univ-nantes.fr and Claire Vinatier, claire.vinatier@univ-nantes.fr

Conseils aux candidats :
N'hésitez pas à consulter le site Internet de Nantes Université ainsi que celui d'RMeS

Mis en forme : Anglais (États-Unis)

Code de champ modifié

Mis en forme : Anglais (États-Unis)

Mis en forme : Police :11 pt, Non Italique, Non souligné, Couleur de police : Automatique, Anglais (États-Unis)

Mis en forme : Anglais (États-Unis)

Code de champ modifié

Deadline for application receipt :
31/01/2024

Date of the recruitment committee:
Between the 05 and the 09/02/2024

Desired start date:
01-04-2024

univ-nantes.fr

