

Post-doctoral Position (Associate Prof.) on bio-functionalization of dental implant surfaces nanotextured by femtosecond lasers.

Job type: Academic: Post-Doc (Associate Prof.) Duration: 18 months
 MScDisciplines: Bone & Oral Biology, Cell Biology, Optics, lasers & photonics, Implants
 Closing date: 01 May 2021

SAINBIOSE laboratory INSERM U1059 (<https://sainbiose.univ-st-etienne.fr/>)- University of Saint-Etienne and Manutech Sleight Graduate School (<https://manutech-sleight.com/>) are inviting applications for a 18 months post-doctoral position on design of bio-active dental implant surfaces using femtosecond lasers. The project has received funding from the European Union's Horizon 2020 programme (<https://www.researchgate.net/project/LaserImplant-Laser-induced-Hierarchical-Micro-Nano-structures-for-Controlled-Cell-Adhesion-at-Implants-EU-HORIZON-2020>)

Bio-interfaces of dental implants are critical to ensure initial bio-integration and functional longevity of implants. Implant longevity is dramatically impaired in pro-inflammatory or infectious contexts. To improve implants bio-functionality we propose to identify and manufacture nanotextured surfaces of titanium-based implant using Femtosecond lasers (FS).

In our project, the goal is to use FS to improve cell adhesion/differentiation of 2D/3D bone cell models in normal and pro-inflammatory/infectious conditions. SAINBIOSE Laboratory will collaborate with:

- The LTDS laboratory /Ecole centrale Lyon specialized in surface characterization
- The Hubert Curien laboratory (CNRS U5516) and the Manutech USD platform, specialists in laser texturing.

We are looking for strongly motivated and highly skilled researcher who share the excitement of doing bone cell biology with a close link to photonics and lasers research. The candidate should have a strong background in bone/oral biology and expertise in at least one of the following: Cell & molecular biology, microscopy techniques, 3D cell culture, cell-surface interactions. Excellent ability to communicate in English is mandatory. Manutech Sleight Graduate School promotes strongly interdisciplinary research on design, manufacture and qualification of surfaces for industrial and health applications. The Graduate Schools offers a stimulating atmosphere in an international environment.

To apply, please send a meaningful CV (including the names of two potential references) with a cover letter to alain.guignandon@univ-st-etienne.fr and virginie.dumas@enise.fr.

Remuneration: 2100-2500€ net per month depending on experience
 Type of funding: H2020 LaserImplant project (Grant agreement ID: 951730)

Laboratory publications related to the post-doc subject:

Nanomaterials 2020, 10(5), 864; <https://doi.org/10.3390/nano10050864>
ACS Biomater. Sci. Eng. 2019, 5, 9, 4376–4385 <https://doi.org/10.1021/acsbomaterials.9b00769>
Biomed Mater 2015 Sep 3;10(5):055002. doi: 10.1088/1748-6041/10/5/055002
JBiomed Mater Res A 2012 Nov;100(11):3108-16. doi: 10.1002/jbm.a.34239