

Leticia Hosta-Rigau, PhD.
Assoc. Prof. and Group Leader
Biomimetics, Biocarriers and Bioimplants Group (The 3Bs)
DTU Nanotech, Department of Micro- and Nanotechnology
Technical University of Denmark
Email: leri@nanotech.dtu.dk
<http://www.nanotech.dtu.dk/research-mega/forskningsgrupper/3bs>

Open Postdoctoral Position in Development of Polymeric Microcarriers Working as Red Blood Cells Substitutes

DTU Nanotech (Department of Micro- and Nanotechnology), is an international research and education nanoscience Department based at the Technical University of Denmark (DTU). DTU Nanotech undertakes interdisciplinary research involving scientists from relevant areas in physics, chemistry, molecular biology and engineering.

The Biomimetics, Biocarriers and Bioimplants Group (The 3Bs) is a highly interdisciplinary and positive group with open-minded and supportive members. The 3Bs research areas are focusing on drug delivery, tissue engineering and cell mimicry.

The 3Bs group at DTU Nanotech is searching for a highly motivated postdoctoral fellow with strong ambition and commitment to a very productive environment. The 3Bs comprises the fields of organic chemistry, materials science and cell biology.

The contract will be initially for 1 year and, upon a positive evaluation, it will be extended to 2 years. **The position is available as soon as possible.**

Responsibilities and tasks

The postdoctoral researcher will work in a highly interdisciplinary project in the interface of **polymer chemistry, materials science together with molecular and cell biology**. The research project will be focused in the fabrication of a new class of microcarriers with potential to serve as Red Blood Cells Substitutes (RBCS).

Blood is crucial for our survival and the only way to substitute for blood loss occurring during accidents or surgery is by using blood from donors. However, blood transfusions have some limitations and risks: before blood can be transfused, there is a need for typing and matching due to the different blood groups causing fatal delays in emergency situations. Also, blood has a short storage lifetime, which makes it impossible to create large blood supplies to be used in acute disasters such as earthquakes or plane accidents. Furthermore, blood transfusions can help spreading new viral infections, like it happened with HIV in the 80s. Thus, developing a new oxygen-carrier solution for use when red blood cells are neither an option or available persists as one of the foremost important challenges in biomedicine.

The successful candidate will play a leading role in the development and characterization of polymeric microcarriers encapsulating the essential components for the creation of RBCS.

The job also involves co-supervision of Ph.D. and master students.

Qualifications

The ideal candidate holds a PhD degree or equivalent in chemistry or materials science and has a general overview of how to realize and characterize drug delivery systems. A strong background in colloids and interfaces, polymer chemistry, analytical instrumentation, cell culture and in vivo experience with murine models is an advantage. Excellent writing skills are crucial.

Preference will be given to candidates with:

- Strong publication record
- Innovative skills, ability to generate new ideas and to implement them in the experimental field
- Independent problem solving skills
- Excellent communication and language skills
- Experience from international collaborative projects

We offer

We offer an interesting and challenging job in an international environment focusing on education, research, public-sector consultancy and innovation, which contribute to enhancing the economy and improving social welfare. We strive for academic excellence, collegial respect and freedom tempered by responsibility. The Technical University of Denmark (DTU) is a leading technical university in northern Europe and benchmarks with the best universities in the world.

Salary and terms of employment

The appointment will be based on the collective agreement with the Confederation of Professional Associations. The allowance will be agreed with the relevant union.

The period of employment will be initially for 1 year with the possibility of extension. The position is available as soon as possible.

Further information

Further information may be obtained from Associate Professor Leticia Hosta-Rigau, leri@nanotech.dtu.dk

You can read more about DTU Nanotech on www.nanotech.dtu.dk and about The Biomimetics, Biocarriers and Bioimplants Group (The 3Bs) on <http://www.nanotech.dtu.dk/research-mega/forskningsgrupper/3bs>

Application procedure:

Apply online at www.career.dtu.dk.