

## **POSTDOCTORAL POSITION**

Bacteria cell membrane is very simple if compared to mammalian cells which have several specific receptors that are used in the targeting of drugs or functionalized nanoparticles (*Nanomedicine*, 2017, 2587; *Sci. Rep.*, 2017, No. 1326). Thus, due to the lack of specific receptors on the bacteria surface, the nanoparticle-bacteria interaction is mainly driven through electrostatic attraction and/or chemical affinity (*Langmuir*, 2014, 7456; *Nanomedicine*, 2018, 1731). In this context, it is possible that nanoparticles coated with carbohydrate moieties may preferably be adsorbed onto the surface of the bacteria due to the presence of lipopolysaccharides on the existing membrane (*J. Biomed. Nanotech.*, 2013, 1817; *J. Mat. Chem. B*, 2017, 8052). The core idea of this project is to synthesize nanoparticles (which may or may not have antibiotic in their structure) and functionalize them with distinct carbohydrates to obtain nanocarriers which will be specifically targeted to bacteria membrane.

This grant includes a monthly payment of R\$ 7400 (around USD 2000), exempt of taxes, air tickets for those who live outside the state of São Paulo (including abroad), and ancillary funds for covering research costs such as consumables and for participation in conferences related to this project.

This position is associated with the group of Dr. Mateus Cardoso at the Brazilian Nanotechnology Laboratory – LNNano/CNPem, a leading research center in Brazil and Latin America equipped with state-of-the-art facilities for cutting-edge research. Campinas is a pleasant city, with ca. 1 million inhabitants, located 100 km from the city of São Paulo, with many options for culture and leisure.

We are seeking highly motivated young researchers with background in Chemistry or related areas, experience in the field of colloids supported by a strong publication record. Previous experience in interdisciplinary projects is highly commended to engage in this ambitious project. Candidates should send a brief motivation letter describing the candidate experience relevant to the topic, a detailed CV and two recommendation letters to cardosomb@lnnano.cnpem.br, until 18th May.

*Potential candidates are also invited to find more information below:*

Mateus Cardoso Group: <http://www.mateuscardoso.org>

LNNano: <http://www.lnnano.cnpem.br>

CNPem: <http://www.cnpem.br>

Campinas: [https://www.youtube.com/watch?v=nool\\_9y02vE](https://www.youtube.com/watch?v=nool_9y02vE)