

Position for the 1 position of a PhD student
in the Doctoral School of Exact and Natural Sciences
Biomedical Sciences (EN) (MCB/JCET/Solaris)
offer no 2022-217

“The role of the endothelial glycocalyx in vascular dysfunction - studies using electron and fluorescence microscopy” Supervisors: prof. S. Chłopicki/ dr M. Pacia

The Doctoral School of Exact and Natural Sciences MCB/JCET/Solaris invites applications for the position of a PhD student that will start on October 2022.

For more information, please visit: [Biomedical Sciences \(EN\) \(MCB/JCET/Solaris\)](#)

Project description:

For a long time, the endothelial glycocalyx was considered as a passive overlaying structure; however, it is now believed to maintain vascular homeostasis by orchestrating the release of biochemicals and triggering biomechanical responses [1]. Assessing the role of endothelial glycocalyx in dysfunctional vasculature requires reliable visualization of this delicate layer, which is a great challenge [2].

In concert with this notion, the development of a research methodology for imaging endothelial glycocalyx in isolated murine blood vessels using scanning electron microscopy (SEM) and fluorescence microscopy is needed to assess the pharmacotherapeutic mechanism of glycocalyx integrity. The aims of the project are to better understand the mechanism involved in maintaining glycocalyx integrity and to better understand the effect of various therapeutic agents to prevent glycocalyx disruption. This project is interdisciplinary, and its implementation covers the fields of science from the border of biophysics, biochemistry, biology, and medicine.

[1] N. Villalba, S. Baby, S. Y. Yuan, Front. Cell Dev. Biol. 2021, 9, 711003.

[2] S. Reitsma, D. W. Slaaf, H. Vink, M. A. Van Zandvoort, et al., Pflügers Archiv, 2007, 454, 345.

To make the application process fast and easy, [please follow the rules](#).

Please send your application documents to the Online Application System (OAS) at:
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End of registration: 11.07.2022