

Postdoctoral Researcher position at the University of Warsaw

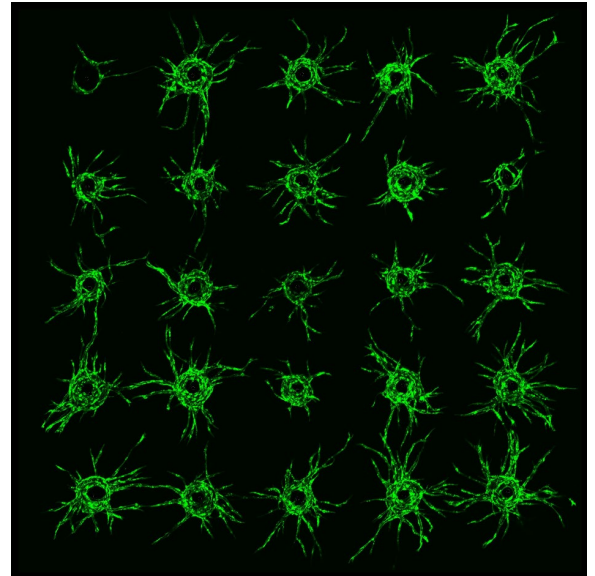
Modeling Vascular System Formation

We are looking for a highly motivated and creative Postdoctoral Research Fellow to work on a project involving numerical modeling of the early stages of vascular system formation.

The project will focus on constructing a numerical model of the capillary formation process in *in vitro* systems, inspired by experimental observations. The primary objective of the study is to develop a theoretical model describing the formation of new capillaries during angiogenesis. Two key factors influence growth at this stage: the concentration of vascular endothelial growth factor, which is produced when cells experience hypoxia, and mechanical stresses in the extracellular matrix. The proposed research involves constructing a theoretical model, implementing it in numerical simulations, and comparing its predictions with experimental results, contributing to an improved understanding of the growth laws governing such networks. We seek candidates with expertise in one or more of the following areas:

- numerical modeling of growth processes,
- fluid dynamics,
- physical processes in biological soft matter,
- applied mathematics.

A strong background in continuum mechanics and programming, and fluent English are also necessary.



Formation of new capillaries from the beads coated by endothelial cells (experiments carried out at the Institute of Physical Chemistry of Polish Academy of Sciences)

The position start date is flexible. The salary is 9000 PLN gross (~2100 EUR) per month, which is competitive for the cost of living in Warsaw. The contract includes health coverage for Poland and EU. The post holder will have access to travel funds for international meetings/conferences. Inquiries and applications should be sent by email to Maciej Lisicki and Piotr Szymczak (Maciej.Lisicki@fuw.edu.pl, Piotr.Szymczak@fuw.edu.pl). Applications should include a detailed CV, a cover letter with a short statement of research interests and motivation and two names of potential referees. Complete applications should be received before Feb 22, 2025 for full consideration. Later applications will also be accepted until the suitable candidate is identified.

More about this research:

<https://ichf.edu.pl/press/bloody-net>