PHD position in Cardiovascular Modelling and Inverse Problems

1.0 FTE (22103)

Job description

You are expected to be part of the group of cardiovascular mechanics. Our team is involved in cardiovascular imaging research, and specifically the development of new imaging modalities and the use of high-performance computing for the simulation of cardiovascular systems. You will join the Computational Mathematics group (CMG) at the University of Groningen, working closely on the development of super-fast magnetic resonance imaging (MRI) techniques. The CMG is a dynamic and international research group with a strong focus on developing mathematical and computational methods for simulating cardiovascular systems.

You will work on a PhD project that involves the development of novel mathematical models and computational methods for simulating cardiovascular systems. This includes the development of high-performance computing algorithms for simulating cardiovascular systems, and the development of new imaging modalities for cardiovascular research.

The goal of the proposed doctoral research is to develop super-fast MRI measurement strategies, using optimal measurement design theory, in order to develop in silico and in vitro models of cardiovascular tissue. The successful candidate will be involved in developing and implementing new mathematical and computational methods for simulating cardiovascular systems.

The PhD position will be part of the European Research Council (ERC) project "High-Fidelity Cardiovascular Modeling from super-fast Magnetic Resonance Imaging", a 1.5M Euro, 5-year ERC-Starting Grant awarded to Dr Cristóbal Bertoglio. Therefore, the PhD candidate will join a vibrant and collaborative research group, with access to a large, (inter-) national network.

Qualifications

The candidate should have a strong background in mathematics, particularly in the areas of partial differential equations, inverse problems, and computational mathematics. Knowledge of inverse problems and/or medical imaging is an advantage, but can be acquired during the PhD project. Good communication skills in English are essential, and the candidate should be willing to work in a team.

The successful candidate should have a Master's degree (or equivalent) in mathematics, applied mathematics, or computational science. The candidate must be proficient in English, and should have a strong interest in cardiovascular research.

Applications

Applications are invited from motivated candidates with a Master's degree (or equivalent) in mathematics, applied mathematics, or computational science. The successful candidate will join a vibrant and collaborative research group, with access to a large, (inter-) national network.

Information

For information you can contact:

- Dr Cristóbal Bertoglio, bm@math.rug.nl

Please do not use the email address for applications. Additional information

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