

The School of Engineering Science at KTH in Stockholm welcomes applications for a position as

PhD-student in Biomechanics

at the Department of Solid Mechanics.

The School of Engineering Sciences carries out research at the international front line in a wide area, from research within fundamental disciplines such as physics and mathematics, to engineering mechanics with applications like aeronautics and vehicle engineering. We offer the engineering programs Engineering Physics and Vehicle Engineering, as well as programs for Engineer and Education, Open Entrance and a number of master programs.

The PhD-position will involve research to analyze multi-scale phenomena in diseased blood vessels including atherosclerotic plaques. One goal is to design better vascular devices such as drug-eluting stents that combine the mechanical support of an artery with local drug delivery to its tissues. The approach encompasses the development of solid mechanical models by including micro-structural information, and of numerical simulations using the finite element method. In particular, a predictive computational tool of diseased arteries is developed for designing interventions and for designing coatings and stent platforms for drug delivery.

The candidate has a genuine interest in nonlinear solid mechanics, constitutive modeling and in the nonlinear finite element method. In order to better understand the underlying mechanobiology, interest in cell biology is welcome to consider the interaction between mechanical, biological and biochemical components.

Contacts are established with the leading national and international research groups working in this particular research area. Results from the research will be presented at conferences and in scientific journals.

Qualifications

A suitable background is a MSc exam in Mechanics, Biophysics, Engineering Physics, Applied Mathematics, Mechanical Engineering, Materials Engineering or a corresponding education. The ability to quickly learn and understand new subject areas should be demonstrated by grades or equivalent means. An applicant who in the next few months will finish his/her MSc exam will also be considered in the evaluation process.

KTH aims to employ a diversity of talent and thus welcomes applicants who will add to the variety of the University, especially as concerns its gender structure.

Employment

Position as PhD-student during a maximum of five years with up to 20% department duties (mainly teaching).

Application

The application should be sent by ordinary mail to:
Royal Institute of Technology (KTH)
Department of Solid Mechanics
Osquars Backe 1
SE-100 44 Stockholm, Sweden

Deadline for application: June 10, 2008
Reference number: S-2008-0289

Contact

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