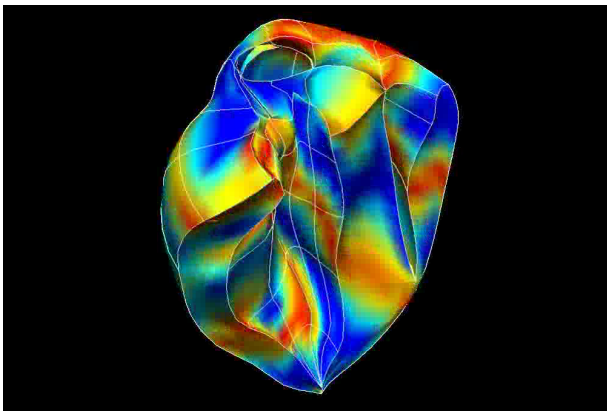


PhD Studentship

Department of Theoretical Biology,
Utrecht University, The Netherlands.

A four year PhD studentship is available at the Department of Theoretical Biology, Utrecht University, The Netherlands.

The aim of this PhD project is development/study of an electromechanical model of cardiac tissue which combines description of electrical and mechanical activity of the heart. Electromechanical modelling is a new trend in computational cardiac electrophysiology and is important for understanding mechanisms of life-threatening cardiac arrhythmias and many other clinical applications. Mathematically the aim is to initiate studies of a new class of partial differential equations: coupled reaction-diffusion-mechanics systems, which are reaction-diffusion equations coupled with equations of finite elasticity. The project includes nu-



merical studies of electromechanics in simple 2D and 3D geometries and in anatomically accurate models of the heart. Possibilities of analytical approaches for these systems will also be investigated. The numerical studies will be performed together with the Bioengineering Institute of Auckland University, New Zealand. (For additional info see

Panfilov et al., *Phys. Rev. Lett.*, v.95,258104,2005; and *Proc. Natl. Acad. Sci. USA*, v.104,p.7922-7926,2007.)

Requirements

We seek a motivated candidate with broad interest in integrative computational and mathematical biology and biomedical engineering. The position also requires assisting in teaching of courses given by our group.

Additional information about the job:

Our Theoretical Biology group (<http://www-binf.bio.uu.nl/>) performs fundamental research in Biology by means of formal models. One of the directions of our research is whole heart modelling with a main focus on anatomically accurate modelling of the human heart and understanding the mechanisms of cardiac arrhythmias (<http://www-binf.bio.uu.nl/panfilov>)

Conditions of employment:

Estimated salary per month from €1918 gross per month (1st year) till €2457 gross per month (final year), based on full-time employment.

Employment: Temporary for specified period

Duration of the contract: 4 years

Application:

A written application including your c.v. should be sent to Dr. A.V.Panfilov:

email: a.panfilov@uu.nl