

DIDIER LUCOR

From France to Sweden

Project: **Cardiovascular models**

Research topic: **Medecine & Health**

Swedish Institution: **KTH Royal Institute of Technology**

French Institution: **CNRS-Orsay and Université Paris Saclay**

Dates of mobility: **22/10/2019 to 25/10/2019**

Program: **SFVE-A (ex-TOR)**



PRESENTATION

[Didier Lucor](#) is a senior research scientist from the [CNRS](#) (French National Center for Scientific Research) at [LISN](#) (Laboratoire Interdisciplinaire des Sciences du Numérique). His research interests include stochastic modelling/computational mechanics with emphasis on uncertainty quantification, machine learning, data assimilation and robust optimization. Applications range from biomechanics to compressible flows, turbulence and environmental flows. 2004, he received his PhD degrees in Applied Mathematics from [Brown University](#). After having spent two years at the department of [Ocean Engineering at MIT](#), USA, he worked for 10 years at [the Faculty of Science and Engineering at Sorbonne University](#).

ACTIVITIES IN SWEDEN

Didier Lucor met with [Johan Hoffman](#), Professor at [the Department of Computational Science and Technology at KTH Royal Institute of Technology](#) and his PhD student [Frida Svelander](#). They continued their discussions, started 2017 during the first mobility of Didier Lucor in the frame of the TOR program, on cardiac modelling and simulations. The project focused on the application of techniques allowing to quantify the numerical uncertainty introduced in hemodynamic simulations of blood flows in the heart. Afterwards, they have submitted summaries of their research entitled “data-driven parametric model for simulation of mitral valve disease” and “Patient-specific simulation of blood flow in the left ventricle associated with mitral valve disease” to the 14th [World Congress on Computational Mechanics](#) (WCCM) that took place online 2021.