



RADU STOICA

From France to Sweden



Project: Pattern detection and characterisation through statistical inference and probabilistic modelling for the analysis of spatio-temporal data

Research topic: **Mathematics**

Swedish Institution: **Chalmers University**

French Institution: **Université de Lorraine – Institut Elie Cartan de Lorraine**

Dates of mobility: 21/04/2024 to 26/04/2024

Program: **SFVE-A**

PRESENTATION

Radu S. Stoica is a full professor of mathematics at the University of Lorraine. He was previously a lecturer at the University of Lille. His research interests are probabilistic modelling and statistical inference for pattern analysis in spatio-temporal data. His theoretical work proposes Markov models, Monte Carlo algorithms and adapted inference procedures able to characterise and detect structured patterns hidden in the data. The application domains targeted are: astronomy, geosciences, image analysis and network sciences.

Web page : <https://sites.google.com/site/radustefanstoica/>

ACTIVITIES IN SWEDEN

The aim of the mission was to present my work, exchange ideas and lay the foundations for future cooperation with Prof. Aila Sarkka from the University of Chalmers. We are both interested in modelling and statistical inference relating to spatio-temporal data. During my stay there, my PhD student Nathan Gillot was visiting for two months, to work and collaborate with prof. Aila Sarkka. His visit was funded by the Université de Lorraine (LUE Dreams programme).

The programme for my stay was as follows:

- 22/04 : discussions with Aila Sarkka, Nathan Gillot and myself on the parametric estimation processes with interaction in the case of incomplete data. We studied the possibility of approaching this problem from a completely new angle, using the Bayesian paradigm.