



**Toni KARVONEN**

From Finland to France



Research topic: **Mathematics**

Finnish Institution: **University of Helsinki**

French Institution: **EURECOM, Sophia Antipolis**

Dates of mobility: **15/05/2023 to 26/05/2023**

Program: **Maupertuis Programme**



## PRESENTATION

[Toni Karvonen](#) received his Master's degrees (in applied mathematics) from the [University of Helsinki](#), Finland, in 2015 and his Doctor of Science (Technology) degree, supervised by [Prof. Simo Särkkä](#), from [Aalto University](#), Finland, in 2019. During this time he visited [Ecole Polytechnique](#), Palaiseau, France, and the [Alan Turing Institute](#), London, UK, to collaborate with Profs. Eric Moulines and Chris Oates, respectively. After graduating he worked as a Research Fellow in the Alan Turing Institute with Profs. Mark Girolami and Chris Oates. Since September 2021 he has been a Postdoctoral Researcher in the Department of Mathematics and Statistics, University of Helsinki, on three-year funding from the [Academy of Finland](#). During his doctoral studies he worked on probabilistic methods for numerical integration and stability theory of nonlinear filtering algorithms; his doctoral dissertation Kernel-Based and Bayesian Methods for Numerical Integration was recognised as being “among the most meritorious top ten percent of the dissertations of the school [of Electrical Engineering]” in 2019. His current research interests are in the intersection of numerical analysis, machine learning and statistics, with focus on developing theory and methodology for approximation and estimation methods that use positive-definite kernels and reproducing kernel Hilbert spaces.

## ACTIVITIES IN FRANCE

During his stay, Toni Karvonen met with Prof. Kanagawa and worked intensively on two scientific projects. He gave a one-hour talk “Parameter estimation and uncertainty quantification for Gaussian process interpolation” at EURECOM. The audience included researchers from EURECOM and the nearby I3S laboratory (Laboratoire d'Informatique, Signaux et Systemes de Sophia-Antipolis). Toni Karvonen had a meeting with Associate Professor Maurizio Filippone (Data Science Department, EURECOM) and his doctoral student Ba-Hien Tran. They discussed common scientific interests and challenges in obtaining ERC funding. This visit was preceded by a visit to the Toulouse Mathematics Institute (hosted by Professor Olivier Roustant and Assistant Professor François Bachoc) and succeeded by a visit to the I3S laboratory in Sophia Antipolis (hosted by Directeur de Recherche Luc Pronzato).