



**JÉRÉMIE BEC**

*From France to Sweden*



Project: **Fluid Dynamics and turbulent transport**

Research topic: **Physics**

Swedish Institution: **Gothenburg University**

French Institution: **CNRS**

Dates of mobility: **17/09/2018 to 26/09/2018**

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

## PRESENTATION

[Jérémié Bec](#) is a [CNRS](#) senior research scientist in the project-team [Calisto \(Inria Sophia Antipolis–Méditerranée/ Computing and Fluids group at the Center for Material Forming\)](#). He worked previously at the [Laboratory J-L Langrange at the Observatory of Côte-D’Azur](#) and graduated 2002 with a PhD degree with a thesis entitled “Particles, singularities and turbulence” ([Pierre and Marie Curie University/ Observatory of Côte-D’Azur](#)). His research interests concern the study of turbulent flows, and more precisely the development and deployment of new analytical and numerical tools to tackle fundamental and applied problems in fluid dynamics and turbulent transport.

## ACTIVITIES IN SWEDEN

Jérémié Bec interacted mainly with members of the “Statistical Physics” group at the [Department of Physics](#) at [Gothenburg University](#), including his host [Bernhard Mehling](#) and Professor [Stellan Östlund](#). He participated in the thesis defence of a PhD student. It allowed him to discuss with the Swedish group the large deviations in the distribution of separations between particles.

Jérémié Bec had moreover discussions on the dynamics of non-spherical particles and the formation of raindrops by successive coalescence in the hot clouds.

Potential projects have in plus been discussed during his stay, including a review article on the stochastic modelling of turbulent suspensions of inertial particles that has been submitted to Annual Review of Fluid Mechanics. They planned also to develop a project concerning AI and theoretical and numerical study of learning in convolutional neural networks.

Finally, Jérémié Bec had the opportunity to participate in a seminar at Gothenburg University on the “Buckling of small inextensible fibers in turbulence”.