



**AMÉLIE PIVETEAU**

*From France to Sweden*



Project: **Experimental quantum optics and quantum communication**

Research topic: **Physics**

Swedish Institution: **Stockholm University**

French Institution: **Université Bourgogne Franche-Comté**

Dates of mobility: **19/01/2020 to 31/12/2020**

Program: **SFVE-A (ex ÖMSE)**



## PRESENTATION

[Amélie Piveteau](#) is a PhD student at [Université Bourgogne Franche-Comté](#) and [Stockholm University](#). Her research focus on experimental quantum optics and quantum communication. The objective of her thesis is to study and implement an experimental system using frequency modulation methods combined with different sources of discrete or wide spectrum entangled photons, to demonstrate the possibility of manipulating them over long distances.

## ACTIVITIES IN SWEDEN

Amélie Piveteau did a double degree PhD between Stockholm University and The University of Bourgogne Franche-Comté.

The first year took place in France and was devoted to literature research and preliminary experiments around quantum entanglement and twin photon generation. In parallel to the quantum studies, she set up a soliton generation experiment to use this short pulse generating set up to pump the quantum setup. The second part of her thesis took place in Sweden and was more focused on quantum communication, which then resulted in the implementations of different QKD protocols.