



JEAN PAUL CHARPENTIER

*From France to Sweden*



Project: **Microdensitometric and near infrared wood analysis**

Research topic: **Environment**

Swedish Institution: **RISE Innventia**

French Institution: **National Institute for Agriculture, Food, and Environment**

Dates of mobility: **30/05/2015 to 06/06/2015**

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



## PRESENTATION

[Jean Paul Charpentier](#) is a Researcher at the Department of [Forest, Grassland and Freshwater Ecology](#) at the French National Institute for Agriculture, Food, and Environment ([INRAE](#)) at the Centre [Val de Loire](#) Orléans. He is interested in wood chemistry.

## ACTIVITIES IN SWEDEN

Charpentier visited the [unit Optimal Wood and Fiber Utilization](#) of the Research institute [RISE Innventia](#) (now RISE), a research and development company working on innovations based on forest raw materials. It is a world leader in research and development in pulp, paper, graphic media, packaging and biorefinery. The aim was to discuss among others common and complementary research methodologies in the fields of wood and its added value, and the genetic development of forest trees. Notably, he met with the Senior Project Leader [Sven-Olof Lundqvist](#), infrared spectroscopy expert [Thomas Grahn](#), and Head of SilviScan implementation [Lars Olsson](#), in the framework of the European project [Trees4Future](#), in which INRAE was also involved. Innventia was developing new methods for measuring wood properties based on the [SilviScan instrument](#) (wood microdensitometry) and NIRS (Near InfraRed Spectroscopy) imaging of wood surfaces. The SilviScan equipment is unique in Europe and Innventia possesses one of three in the world. It allows for certain wood properties to be analyzed that traditional technology cannot offer. Charpentier brought samples to be analyzed by the NIRS, a state-of-the-art equipment allowing for measurements of chemical variations on practically any surface between a few centimetres and a meter. These two technologies were of great interest to his own research and to his research unit at INRAE in Orléans. He had the opportunity to observe the processing, analysis and treatment of infrared images taken of Scots pine samples, on which stilbene content predictions was detailed in a joint publication. They also developed a joint collaboration on SilviScan and NIRS utilization to improve resistance toward drought and climate change of the species.