

## **FINANCIAL ENGINEERING IN AGRICULTURAL FINANCE AND INSURANCE**

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### **Abstract**

The agricultural sector is a major sector in the economy of many countries and is the critical source of livelihood in most of them. Given the fast growth of population, we have to constantly develop the range and efficiency of agricultural products to meet the demand, given all range of uncertainty that affect the agricultural production. The aim of this talk is to introduce advanced methodologies for pricing agricultural insurances and designing efficient reinsurance policies. In this talk I will discuss two main issues: First, I will quickly review the existing knowledge of Financial Engineering and discuss that, except few cases, almost all discussions in this field are still open to be studied for Agricultural Business. Second, since most of the models developed in FE are designed for asset pricing in stock markets (in particular derivative pricing), they are unable to capture agricultural prices specifications. In this part, I will outline three of my works that use the FE formalism for modeling agricultural prices while trying to capture the agricultural market specifications (demand, supply, storability, speculation, statistical characteristics, etc).