ASTIN, AFIR, IAALS: International Colloquia 2012;
Gaussinan Mixtures and Financial Returns
Dr. Carlos Cuevas Covarrubias and Jorge Rosales-Contreras

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Most of the models applied in Finance assume that daily financial returns are normally distributed; however, this fundamental assumption is not always satisfied in practice. Financial returns frequently show leptokurtic distributions: does it mean that the Normal Distribution is not useful in Financial Modeling? To estimate the distribution function of financial returns is an important task in Actuarial Mathematics and Risk Theory. This article is a practical discussion on finite Gaussian Mixtures and its potential in Financial Risk Modeling. It is based on the analysis of different financial series from several markets in Latin America. The empirical evidence shows that Gaussian Mixture models are flexible and accurate. Our conclusion is that financial returns may not be normally distributed, but they frequently behave as a mixture of Gaussians.

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http://www.actuaries.org/mexico2012/abstracts/CuevasCovarrubias_RosalesContreras.pdf

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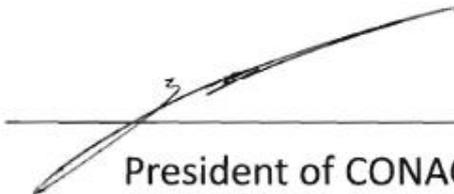
Carlos Cuevas-Covarrubias

this certificate of participation with the paper:

"Gaussian Mixtures and Financial Returns"

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October, 2012

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