



भारतीय प्रबंध संस्थान बेंगलूर
INDIAN INSTITUTE OF MANAGEMENT
BANGALORE

The Decision Sciences Area at IIM Bangalore welcomes you to a webinar, titled:

'ARCH-GARCH models: Estimation, Inference, Forecasting'

by

Dr. Sayar Karmakar

Date: 21th July, 2021

Time: 6:30 p.m. to 7:30 p.m.



Abstract:

Since its inception, ARCH (1982, Engle) model and its generalization GARCH (1986, Bollerslev) model have remained the preferred models to analyze financial datasets. To econometricians the log-returns are more important than the actual value of the stock and thus with the mean-zero data in hand, all interesting dynamics of the datasets get transferred to the variance or volatility of the datasets conditional on the past observations. In this talk, we first focus on formally introducing these conditional heteroscedastic (CH) models. Then we steer the talk towards three of my recent works on these models. In the first one, we briefly touch upon simultaneous inference for time-varying ARCH-GARCH model. Addressing a concern of the need for large sample size, we next introduce a Bayesian estimation for the same models that has valid posterior contraction rate and an easily amenable computation. In the last part of this talk, we discuss a new model-free technique for time-aggregated forecasts for CH-datasets. Time-permitting, we discuss some ongoing works for the GARCHX model, where the inclusion of covariates can yield some forecasting gains.