Speaker: Mr. Markus Dutschke.

Affiliation: University of Augsburg,
Augsburg, Germany.

Title: CONTINUOUS TIME QUANTUM MONTE-CARLO SOLVER FOR CORRELATED ELECTRONS
IN A MAGNETIC FIELD

Abstract:
The concepts and the practical implementation of the Continuous-Time Quantum Monte Carlo (CT-QMC) impurity solver using the hybridisation expansion, for the Dynamical Mean Field Theory of strongly correlated electron systems will be presented. This method is applied for the one-band Hubbard model on a Bethe lattice in the presence of an external magnetic field. The results of the CT-QMC solver are benchmarked against the numerical exact NRG - DMFT solver. Using the same model parameters, a rather good agreement between the two methods is obtained, except difficulties in reproducing features of the spectral functions. These difficulties are connected with the analytical continuation performed using the maximum entropy method the technique inherently used in stochastic analysis.

Time: 4pm - 5pm, 21st August, Thursday.

Venue: SETS Auditorium, ISI-Chennai.