

Speaker: Christoph Walker

Title: *Well-Posedness of Parabolic Equations in Time-Weighted Spaces*

Abstract:

A well-posedness theory in time-weighted spaces is established for certain semilinear parabolic problems with initial values that do not necessarily belong to the domain of the semilinearity. In applications, this allows one to derive global existence from weaker a priori estimates. The result is then used to show local and global well-posedness of the coagulation-fragmentation equation with size diffusion, which is a differential-integral equation describing the growth of certain particles, e.g. ice crystals. The first part of the talk is joint work with B. Matioc (Regensburg), the second part with Ph. Laurençot (Chambéry).