



UNIVERSITÀ DI PARMA

DIPARTIMENTO DI SCIENZE MATEMATICHE, FISICHE E INFORMATICHE

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SEMINARI

Heiko Gimperlein, Full Professor of Mathematics
at Leopold-Franzens-University, Innsbruck, Austria

**Fractional diffusion: Modelling, analysis,
numerical approximation**

Giovedì 16 giugno ore 16:30, Sala Riunioni e Seminari
Plesso di Matematica e Informatica

ABSTRAC: Diffusion processes beyond Brownian motion have recently attracted significant interest from different communities in mathematics, the physical and biological sciences. They are described by partial differential equations involving nonlocal operators with singular non-integrable kernels, such as fractional Laplacians. This talk discusses a new approach to the analysis of these equations and the resulting quasi-optimal finite element methods for their numerical approximation. Applications are mentioned to the design of swarm robotic systems and the chemotactic movement of T-cells.

Organizzatrice : prof.ssa Alessandra Aimi