Martedì **23 Gennaio 2018**, alle **ore 11,30**, presso la **_Sala Riunioni_** di questo Dipartimento, il Chiarissimo

Professor **Delio Mugnolo**

della FernUniversität in Hagen (University of Hagen) terrà una conferenza dal titolo

Parabolic theory of bi-Laplacians

Sunto: The integral kernel of the semigroup generated by the bi-Laplacian on $\mathbb{R}^d$ has been studied in several papers by E.B. Davies, while other authors have successively studied positivity issues. Most of these properties strongly depend on the fact that the bi-Laplacian acts on functions in $H^4(\mathbb{R})$ as the square of the Laplacian; this is not true anymore if functions on bounded domains with generic boundary conditions are considered. We are going to show how the properties of the semigroup generated by bi-Laplacians on intervals and, more generally, network-like spaces strongly depend on the boundary conditions. Our most surprising finding is that, upon allowing the system enough time to reach diffusive regime, the parabolic equations driven by certain realizations of the bi-Laplacian on networks display Markovian features: analogous results seem to be unknown even in the classical case of domains. This is joint work with Federica Gregorio.

Sarà gradita la presenza della S. V.   Prof. E. Vitillaro