

## SEMINÁRIO DO GRUPO DE FÍSICA MATEMÁTICA

**Dia 25 de Setembro (quarta-feira), às 14h30, sala 6.2.33**

### Riemannian geometry on mapping spaces and relations to shape analysis and fluid dynamics

**Philipp Harms (FREIS, Univ. Freiburg)**

**Abstract:** Fluid dynamics and shape analysis are linked by a common underlying geometric structure, namely, Sobolev-type Riemannian metrics on manifolds of mappings. I will characterize the degeneracy and non-degeneracy of the corresponding geodesic distances, establish local well-posedness of the corresponding geodesic equations, and discuss applications of these results to shape analysis and fluid dynamics.