

# Applied Analysis Seminar

Thursday, October 27th  
14:15, SR 1

Institut für Angewandte Mathematik  
Mathematikon

## Density of bounded maps in Sobolev spaces into closed manifolds

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Given a submanifold  $N$  embedded in an Euclidean space  $\mathbb{R}^\nu$ , the Sobolev space  $W^{1,p}(B^m; N)$  is the set of those maps in  $W^{1,p}(B^m; \mathbb{R}^\nu)$  which are constrained to take their values into  $N$ . Such maps exhibit some specific singularities related to this constraint. When  $N$  is compact, these singularities are closely linked to the *topology* of  $N$ . In this talk, we investigate the case where  $N$  is assumed to be closed but not necessarily compact. The main novelty is that the *geometry* of  $N$  now plays a crucial role in the analysis of the singularities. This is a joint work with Augusto Ponce and Jean Van Schaftingen.