Felix Klein Seminar

UNIVERSITY OF NOTRE DAME
Department of Mathematics

Speaker: Theodore Voronov
University of Manchester, UK

Thursday, April 19, 2018
2:00 PM
258 Hurley Hall

Title: Supermanifolds, brackets structures and microformal geometry

Abstract:

The aim of these lectures is to introduce the notion of thick (aka microformal) morphisms of (super) manifolds and to develop their application to brackets structures, e.g. homotopy Poisson manifolds and L-infinity algebroids. Thick morphisms are not maps, but they include ordinary smooth maps as a special case. The main feature of these morphisms is that they induce pullbacks on smooth functions that are in general non-linear. This non-linearity is essential for application to homotopy brackets. Though the definition of thick morphisms does not require itself anything "super", the applications are based on supergeometry. Hence I will start from recollection of the language of supermanifolds in differential geometry, in particular, for bracket structures. Tentative plan: 1. The language of supermanifolds in differential geometry. 2. Construction and properties of thick morphisms. Examples. 3. "Quantum" thick morphisms. Further developments.