Topology Seminar

UNIVERSITY OF NOTRE DAME
Department of Mathematics

Speaker: Nima Moshayedi
University of Zurich

Tuesday, April 24, 2018
2:30 PM
258 Hurley Hall

Title: The globalization of the Poisson sigma model in the BV-BFV formalism

Abstract:

One of the central problems of mathematical physics is understanding how to pass from classical to quantum physics. One procedure that implements that passage, called deformation quantization, achieves quantization by deforming the Poisson algebra of classical observables into a non-commutative algebra of quantum observables. The algebraic structure of the quantum observables is determined by the star product, which is a formal deformation of the algebraic structure on the classical observables. Kontsevich showed that any Poisson manifold admits a star product and gave an explicit formula for it. The Poisson Sigma Model (PSM) is an AKSZ-theory closely related to deformation quantization. We will give a short introduction to the BV-BFV formalism, the PSM and discuss briefly how we can construct a globalized version of Kontsevich's star product using this formalism by extending a condition called the "modified Quantum Master Equation" to a differential version of it.