

The seminar on differential geometry will continue with this lecture:

October 14, 10am, lecture room **M5**.

Radoslaw Kycia:

The Poincare lemma, antiexact forms, and fermionic quantum harmonic oscillator

Abstract:

I will present the connection between Poincare lemma and homotopy operator defined by Edelen. This will be used to determine functional calculus (Bittner's operator calculus), which, in the case of a homotopy operator, resembles quantum fermionic oscillator algebra.

I will also present a topological/chain complex version of a homotopy operator.

Finally, I will show how this operator calculus looks in the setup of complex manifolds and how it 'interacts' with the Dolbeault complex.