Seminar/Talk

Artin Approximation, Arc Spaces, and Infinite Dimensional Geometry

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Grothendieck asked whether the formal relations between analytic functions are generated by the analytic ones. Gabrielov gave a spectacular counterexample to this. Artin proved, on the opposite side, that the formal solutions of analytic equations can be arbitrarily well approximated by analytic solutions. And Nash proposed to study the singularities of algebraic varieties and their resolution through the arc space, the space of all formal curves on the variety.

In the talk, we first revisit this panorama and discuss various extensions of it, and then describe techniques from infinite dimensional differential geometry which allow us to understand Artin's approximation theorem and the theory of arc spaces from a geometric viewpoint.

Wednesday, April 26, 2017 01:45pm - 04:45pm
Mondi Seminar Room 2, Central Building

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