

## Mathematical Colloquia

---

**Monday, 08 November 2021**

17:15 h, lecture room 119 (ExWi)

Dr. Christopher Heng Chiu, Eindhoven University of Technology

# The space of arcs as an infinite-dimensional scheme

**Abstract:** The space of arcs of an algebraic variety has been a central object of study in different branches of algebraic geometry. Going back to the work of Nash in the 60s, its topological structure has been shown to have deep relations to resolution of singularities of the base variety. More recently however its schematic structure - i.e. that of the underlying rings - has attracted considerable attention, with connections to invariants which appear in birational geometry. As the space of arcs is infinite-dimensional in all interesting cases, results establishing various finiteness properties are of great importance. In this talk, we will give a brief introduction to arc spaces from the point of view of the study of singularities and present some recent developments, including joint work with Tommaso de Fernex and Roi Docampo.

### **CORONAVIRUS SAFETY MEASURES:**

From September 20, 2021, the certificate requirement applies to all activities that take place within the framework of the University of Bern, regardless of the number of participants. Compliance with the certificate requirement will be checked by means of random sampling.

All other measures, especially the social distancing rules and hygiene recommendations, remain in place and apply until further notice.