Beyond linear algebra

Linear algebra is the foundation of scientific computing and its numerous applications. Yet, the world is nonlinear. In this lecture we argue that it pays off to work with models that are described by nonlinear polynomials, while still taking advantage of the power of numerical linear algebra. We offer a glimpse of applied algebraic geometry, by discussing current trends in tensor decomposition, polynomial optimization, and algebraic statistics. Students will especially enjoy the illustrations of these concepts by many colourful pictures.

The lecture will be followed by a dinner: registration by December 1st at isabella.trabelsi@unifr.ch

http://math.unifr.ch/plancherel/