

BERNOULLIS TAFELRUNDE

GRADUATE STUDENT SEMINAR

Thursday, 27 September 2018, 12:15-13:00

Seminarraum 05.002, Spiegelgasse 5

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From Biology to Polynomials and Beyond: A Brief Look at Algebraic Statistics

ABSTRACT

Karl Pearson's seminal 1894 paper showed that studying evolutionary biology could lead to a polynomial formulation of a statistical question relating to mixtures of probability distributions. This original algebraic approach to statistical problems, lying fallow until the end of the 20th century, has eventually been taken up by the new field of Algebraic Statistics. Some important concepts (statistical models and polynomials), examples (Hardy-Weinberg allele recombination and probability simplices) and tools (Gröbner bases) out of Algebraic Statistics will be outlined, including a glimpse at a possible approach to studying extremal events.