



Leibniz
Universität
Hannover

Oberseminar
Institut für Algebraische Geometrie

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**Studying the birational geometry of Fano
varieties using holomorphic forms.**

One of the best invariants for studying the birational geometry of a variety is its holomorphic forms. Unfortunately, in characteristic 0, low degree hypersurfaces (or more generally Fano varieties) do not have any holomorphic forms. For this reason, many problems about birational geometry of these varieties are quite difficult and interesting. E.g. (1) determining if the birational automorphism group is infinite or finite, (2) studying the possible rational endomorphisms of a Fano variety, and (3) understanding the rationality/nonrationality of a Fano variety. Surprisingly, Kollár showed that in characteristic $p > 0$, certain Fano varieties admit many global $(n-1)$ -forms, and introduced a specialization method for using these forms in characteristic p to control the birational geometry of characteristic 0 Fano varieties. In this talk, we show how this method gives answers to problems (1)-(3). This is joint work with Nathan Chen.

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16:30 - 17:30, online meeting

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Alle Interessierten sind herzlich eingeladen.