THE THIRTEENTH COLLOQUIUMFEST

Speaker:

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Title:

Semple-Nash modifications on toric varieties and Zariski-Riemann spaces of fans

Abstract:

If X is a toric variety and $\mathcal{I}$ is a monomial ideal on X, the blowing up $X' \to X$ of $\mathcal{I}$ can be seen as a toric morphism in a generalized way, even if X' is not normal. On any toric variety X the logarithmic jacobian ideal sheaf is a canonically defined monomial ideal on X, and its blowing up coincides with the Nash modification if the base field is algebraically closed and of zero characteristic. We study the iteration of the blowing up of the logarithmic jacobian ideal over the toric variety X. We obtain some partial finiteness results for this iteration which can be presented in the frame of the Zariski-Riemann space of the fan of X. The Zariski-Riemann space of a fan, introduced by Ewald and Ishida, plays for birational toric maps of toric varieties a role analogue to the Zariski-Riemann space for birational maps of algebraic varieties. This is a joint work with Bernard Teissier.