

Boundedness and Moduli Problems in Birational Geometry and Foliation Theory



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Blowups, Gale duality and moduli spaces.

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In this talk, we discuss the birational geometry of blowups of projective spaces at points in general position. For that, we explore Gale duality – a correspondence between sets of $n = r + s + 2$ points in projective spaces $\mathbb{P}^s$ and $\mathbb{P}^r$. For small values of s , this duality has a remarkable geometric manifestation: the blowup of $\mathbb{P}^r$ at n points can be realized as a moduli space of vector bundles on the blowup of $\mathbb{P}^s$ at the Gale dual points. This perspective allows us, in particular, to partially describe the birational geometry of the blowup of $\mathbb{P}^n$ at $n + 4$ points in general position. This is a joint work with Ana-Maria Castravet, Inder Kaur and Diletta Martinelli.

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