Professor Mihai Păun

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CV

I obtained my PhD from Université Joseph Fourier, Grenoble, in January 1998 under the supervision of Jean-Pierre Demailly. My primary research interests lie in the field of complex algebraic and differential geometry. The main research directions I have followed so far share many common points with problems arising from algebraic geometry. However, the methods that I am currently using in my research are mostly analytic, which positively complement the existent techniques in algebraic geometry.

My current research interests focus around these themes:

- Estimates for the Monge-Ampère operator and applications to algebraic geometry
- L2 metrics on direct images of relative canonical bundles.

Selected Publications

- **A numerical criterion for the Kähler cone of a compact Kähler manifolds**, joint with J.-P. Demailly, in Annals of Math., 159, 2004. ([journal](#))
- **Siu's invariance of plurigenera: a one-tower proof**, preprint 2005, in J. Differential Geom. 76 (2007), no. 3, 485-493. ([journal](#))
- **Relative critical exponents, non-vanishing and metrics with minimal singularities**, in Invent. Math. 187 (2012), no. 1, 195-258. ([journal](#))
- **Extension theorems, non-vanishing and the existence of good minimal models**, joint with Demailly, Jean-Pierre et Hacon, Christopher D., in Acta Math. 210 (2013), no. 2, 203-259. ([journal](#))
- **Kodaira dimension of algebraic fiber spaces over abelian varieties**, joint with Junyan Cao, in Invent. Math. 207, 345-387 (2017). ([journal](#))

Further papers can be found on the [arXiv](#)