HOW TO GET YOUR HANDS DIRTY WITH CANONICAL SINGULARITIES

SECOND SERIES OF SISSA ALGEBRAIC GEOMETRY SEMINARS

You find below a (provisional) schedule of the next seminars on algebraic geometry. Some topics may require some special skills (e.g. toric geometry) so we can consider modifying the list depending on our convenience.

	TITLE	REFERENCE	PAGES
1	Introduction to canonical singularities	[5]	345-359
2	Reduction to the surface case	[5]	359-369
3	Normal surface singularities	[6]	80-89
4	Rational surface singularities	[6]	90-94
		[4]	1-10
5	Toric methos for hyperquotient singularities	[5]	369-379
6	Minimal models of surfaces via Mori theory	[6]	110-120
7	TO BE DISCUSSED...		

At some points, in [5], it might be useful to integrate following the therein references. However, much of what is needed to integrate has been collected, in more modern times, in [3] or [2]. As for the part on the surfaces, it can be very useful to also take a look at [1].

REFERENCES

1. Wolf P. Barth, Klaus Hulek, Chris A. M. Peters, and Antonius Van de Ven, *Compact complex surfaces*, second ed., Ergebnisse der Mathematik und ihrer Grenzgebiete. A Series of Modern Surveys in Mathematics, vol. 4, Springer-Verlag, Berlin, 2004.

2. Shihoko Ishii, *Introduction to singularities*, Springer, Tokyo, 2014. MR 3288750

3. János Kollár and Shigefumi Mori, *Birational geometry of algebraic varieties*, Cambridge Tracts in Mathematics, vol. 134, Cambridge University Press, Cambridge, 1998, With the collaboration of C. H. Clemens and A. Corti, Translated from the 1998 Japanese original. MR 1658959

4. Miles Reid, *The du val singularities A_n, D_n, E_6, E_7, E_8*, https://homepages.warwick.ac.uk/~masda/surf/more/DuVal.pdf.

5. Miles Reid, *Young person's guide to canonical singularities*, Algebraic geometry, Bowdoin, 1985 (Brunswick, Maine, 1985), Proc. Sympos. Pure Math., vol. 46, Amer. Math. Soc., Providence, RI, 1987, pp. 345–414. MR 927963

6. Miles Reid, *Chapters on algebraic surfaces*, arXiv:alg-geom/9602006v1 (1996).