Algebraic Surfaces – Computing, Visualizing, Modelling
Oliver Labs

Algebraic surfaces are often given implicitly, as the set of all points satisfying a certain equation involving polynomials. We explain how we may use tools such as specialized computer algebra software (in particular "Singular", see http://www.singular.uni-kl.de) and specialized visualization tools (such as "Surfer", see https://imaginary.org/program/surfer) to gain information about which surfaces are interesting and why and which parts of those surfaces we want to use for our illustrations. These may range from computer generated 2d-images of the surfaces to 3d-printed models. Among the examples we will use are the famous cubic surfaces which contain a certain number of straight lines.