

# Interesting Topological Spaces in Algebraic Geometry

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### 1 Ideas for Spaces

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- Curves
  - Elliptic Curves
  - Higher genus
  - Hyperelliptic curves
- Surfaces
  - Klein Quartic
- Fake projective planes
- Conics
- Elliptic Curves
- Kahler Manifolds
- K3 Surfaces
- Del Pezzo surfaces
- Hurwitz schemes
- Topological galois groups, e.g.  $G(\bar{F}/F)$  for  $F = \mathbb{Q}, \mathbb{F}_p$ .
- $\text{Spec}(R)$  for  $R$  a DVR (a Sierpinski space)
- Quiver Grassmannians
- Rigid analytic spaces