

## **Codimension one foliations on algebraic varieties**

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The course aims to be a gentle introduction to the study of codimension one singular holomorphic foliations on projective manifolds. It will start by reviewing foundational results on the subject, like index theorems for invariant hypersurfaces and the existence of separatrices, adopting a viewpoint close to the one of <https://arxiv.org/abs/2206.09745>. It will then proceed to discuss more recent results, as well as some ideas and techniques currently pursued on the subject, including a non-empty subset of the following topics: criteria for algebraicity of leaves, deformation of rational curves along foliations, reduction of foliations to positive characteristics, the structure of codimension one foliations with trivial canonical class, and the MMP for codimension one foliations on 3-folds.