Abstract:

This will be a laid back introduction to affine schemes, one of the basic objects of study of modern algebraic geometry. Primarily, we will explore some simple and concrete examples, which will motivate the otherwise abstract theory. Finally, we will give a description of the arithmetic surface, and showcase David Mumford’s intimate and revealing portrait of Spec($\mathbb{Z}[X]$). No knowledge is assumed beyond a vague recollection of what a ring is.