



WVU ALGEBRA SEMINAR via ZOOM

Castelnuovo-Mumford regularity and its asymptotic behaviour

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Introductory talk: Saturday, September 26, 2020
9:00 am - 10:00 am (Eastern Time USA)

Research talk: Saturday, October 3, 2020
9:00 am - 10:00 am (Eastern Time USA)

Abstract: In my first talk, we shall discuss the importance of Castelnuovo-Mumford regularity and the main motivation to define this invariant along with examples. This talk is aimed for the graduate students and should be elementary.

In my second talk, we investigate the asymptotic behavior of Castelnuovo-Mumford regularity of Ext and Tor, with respect to the homological degree, over complete intersection rings. We derive from a theorem of Gulliksen, a linearity result for the regularity of Ext modules in high homological degrees. We show a similar result for Tor, under the additional hypothesis that high enough Tor modules are supported in dimension at most one; we then provide examples showing that the behavior could be pretty hectic when the latter condition is not satisfied.

To attend virtually, please register here to get the Zoom link for the talks:
<https://forms.gle/4FbLzQTZuyQmxhH99>.