Demazure Character Formula in an Arbitrary Kac-Moody Setting and its Consequences:

Abstract: I will define the Kac-Moody groups and their flag varieties from scratch. Then, I will recall the celebrated Demazure character formula and prove it in an arbitrary Kac-Moody setting via algebro-geometric methods. I will only use characteristic 0 methods and the proof will be self-contained. Further, I will derive its various consequences including the generalization of the Weyl-Kac character formula for an arbitrary (not necessarily symmetrizable) Kac-Moody Lie algebra.