

After introducing the basic principles of galactic chemical evolution, I will discuss the physical processes responsible for the formation of radial abundance gradients in galactic disks.

They are: i) the inside-out disk formation, ii) radial gas flows, iii) a threshold in the gas density for star formation, iv) a variable efficiency star formation and v) a variable IMF: Then I will introduce galactic chemical models for the Milky Way and show a comparison between model results and observations. From these comparisons, I will extract important constraints on the formation of the disk of the Milky Way as well as on stellar nucleosynthesis. The evolution of gradients with cosmic and the high redshift gradients will be discussed