## What does the study of nearby galaxies teaches us about the ISM processes?

Caroline Bot<sup>1</sup>

<sup>1</sup> Observatoire astronomique de Strasbourg, Université de Strasbourg, CNRS, UMR 7550, 11 rue de l'Université, F-67000 Strasbourg, France

It is much more common to think about "how our knowledge of interstellar medium (ISM) processes from the lab or from detailed studies in our Galaxy impacts what we know about nearby galaxies" than the reverse. This is mainly due to the idea of going from high to low resolution, going from individual regions to integrated ones, etc.

However, the increase in resolution of infrared to millimeter observations and the rise of very large surveys in the optical and radio domain give us the possibility to study the ISM of nearby galaxies with more and more precision. Furthermore, nearby galaxies enable us to sample a wider range of environments, for example in metallicity. Also, studying different regions within a nearby galaxy is a unique opportunity to be free of the effect of distance and to get an outsider view (no -or fewer- confusion along the line of sight), two uncertainties that are making studies in our Galaxy more difficult. Finally, if the galaxy is observed with enough resolution and fully covered, one can get a global picture of all the ISM phases in a galaxy. Studies of nearby galaxies hence bring important clues on different processes at stake in the interstellar medium.

I will review different studies of nearby galaxies, with some bias toward the Magellanic Clouds since these galaxies are the easiest to observe due to their proximity and location on the sky. In particular, I will touch upon the evolution with metallicity of the structure of molecular clouds and their interface, dust mass budgets, molecular clouds/star formation evolutionary sequences, ...