

*Exposé du jeudi 19 septembre 2013*

---

## CONSTRUCTIBLE COEFFICIENTS IN RIGID COHOMOLOGY

BERNARD LE STUM (IRMAR)

**Résumé :** Cohomological theories may have no coefficient at all (singular cohomology for example) or various type of coefficients running for the lisse category (locally constant), where dual do exist but no direct image in general, to the loose category (of all sheaves) with direct image but no dual in general. And in the middle sits the « constructible category ». Historically, rigid cohomology comes with a category of lisse coefficients : the overconvergent F-isocrystals. And it is necessary to switch to the world of arithmetic  $D$ -modules in order to extend it to a category of constructible coefficients : the regular holonomic arithmetic  $D$ -modules. We will see that the notion of overconvergent isocrystal extends very naturally to that of constructible isocrystals. And we will show that this is a very reasonable idea by looking more closely at the case of a curve. The talk is not intended for specialists : the first part of the lecture will review some classical results in the cohomology of varieties (singular, de Rham,  $\ell$ -adic) and introduce rigid cohomology (after recalling some non archimedean geometry).

---

1. Les jeudis matin, de 10 h 30 à 11 h 30, salle 004, IRMAR (bâtiment 22), Université de Rennes 1, Campus de Beaulieu