Imaging and interferometry (20h)
1/ Introduction [4h] : Data model - van Cittert-Zernike theorem -
Sampling the (u,v) space - Radio vs Optical interferometry -
- Image reconstruction vs Model fitting

2/ Classical reconstruction methods [8h] + 2h numerical
experiments) - The deconvolution problem and the amplification of
noise - Maximum Likelihood for Gaussian noise - Reconstruction
by : direct inversion, truncature of singular values, Wiener
filter. ML with positivity constraints : the ISRA (Gaussian noise)
and Richardson-Lucy (Poisson noise) algorithms. The CLEAN
algorithm. Maximum a Posteriori/regularized methods.

3/ Methods based on sparse representations [4h]
Sparse representations and dictionaries - Matching Pursuit - A bit
of Multiresolution analysis, Isotropic Undecimated Wavelets.

4/ Example of the "Beauty Contest" 2012 [2h].