

**ICTP DIPLOMA PROGRAMME IN CONDENSED MATTER PHYSICS**  
**2013-14**  
**Electronic Structure (CMP-ES) - S. De Gironcoli**  
**(12 lectures : 18 hrs)**

**Syllabus:**

- Adiabatic Approximation and definition of the electronic problem
- Hartree Fock (self-consistent field, Koopman's theorem)
- DFT (HK+KS, LDA,GGA etc)
- Hellman-Feynman theorem
- pseudopotentials (and very briefly all-electron) methods