

## **ICTP DIPLOMA PROGRAMME IN MATHEMATICS 2014-15**

### **Differential Equations and Dynamical Systems (MTH-ODE) (10 lectures : 15 hrs)**

- 1) Basic concepts of ODE's and Dynamical Systems. Orbits, fixed and periodic orbits, dense orbits, topological and differentiable conjugacy, structural stability.
- 2) Classification of one dimensional linear maps on the real line up to topological and differentiable conjugacy.
- 3) Hyperbolic interval diffeomorphisms.
- 4) Two dimensional linear maps with real and complex eigenvalues.