**FOCUS:** Concepts and analytical tools used in various scientific disciplines. Applications from condensed matter physics, fluid and solid mechanics, materials science, quantum mechanics, biology, number and probability theory.

**TOPICS:**

**PART I: ASYMPTOTICS:** Asymptotics and perturbations for Ordinary & Partial Differential Eqs. (ODE’s & PDE’s) and difference eqs: WKB analysis; boundary layers; homogenization theory; multiscale expansions.


**UMCP Department of Mathematics**