



## **PCP0184 – “ADVANCED TOPICS FROM CONDENSED MATTER THEORY”**

**(32h/aula – 4 créditos)**

**NÍVEL:** Pós-Graduação

### **MATÉRIA LECIONADA:**

In the course we will study advanced topics from Condensed Matter Theory. Knowledge on field theory methods are recommended.

### **Topics:**

- Ising model and the functional renormalization group
- Kondo effect and the numerical renormalization group
- Nonlinear sigma models and Haldane's conjecture
- Disorder and Anderson localization
- Hertz model and quantum phase transitions
- Quantum Hall effects

### **Bibliografia:**

- *A. Altland and B. Simons, "Condensed Matter Field Theory"*
- *[E. Fradkin](#), "Field Theories of Condensed Matter Physics"*
- *S. Sachdev, "[Quantum Phase Transitions](#)"*