



School of Nano Science



IPM Condensed Matter &  
Statistical Physics Group

## Weekly Seminar

# Quantum transport in graphene-based nanoelectronic devices

Invited speaker:

**Dr. Hakimeh Mohammadpour**

*Department of Physics, Azarbaijan Shahid Madani University*

### Abstract:

Shrinking down the size of semiconductor devices has reached the nanometer scales where unconventional current characteristics arise. We have modeled two and three terminal devices on graphene nanoribbons using NEGF formalism. Charge and spin currents have peculiar characteristics, such as having negative transconductance, rectified current for AC bias, negative differential conductance etc. These are quantum effects in the nanoscale devices.

**Wednesday, 20 Tir 1397 (July 11, 2018), 14:00-15:00**

**Seminar Room (classroom A), Farmanieh Building, IPM**