

## Quantum Matter and Nanoscale Science

### **Cold Atoms (</research/activity/physics/quantum/cold-atoms/index.aspx>)**

- Quantum many body physics: cold atoms in optical lattices.
- Quantum information: entangled images, quantum memories and quantum simulation.
- Quantum sensors: optical clocks and precision inertial sensors.

### **Condensed Matter (<http://www.cm.ph.bham.ac.uk/>)**

- Studying superconducting, magnetic and electronic properties of materials

### **Metamaterials Research Centre (</research/activity/physics/quantum/metamaterials/index.aspx>)**

- Metamaterials are materials with exotic optical properties (e.g. negative refractive indices).

### **Molecular Physics Group (</research/activity/physics/quantum/molecular/index.aspx>)**

- The study of the reactions of electrons and ions with neutral molecules at low energies.

### **Nanoscale Physics (<http://npri.bham.ac.uk/>)**

- Investigating nanostructured surfaces, clusters, atomic manipulation, nanophotonics, nanotools and nonofabrication.

### **Theory (<http://www.theory.bham.ac.uk/>)**

- Studying condensed matter, cold atom and statistical systems from microscopic to macroscopic.