Short CV

Benjamin A. Piot

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- **EDUCATION**

2022: « Habilitation à diriger des recherches » (Diploma for research direction), Université Grenoble Alpes, Grenoble, France. Title: "Spin resonances in flat matter".
2006: PhD in condensed matter Physics, Université Joseph Fourier, Grenoble, France
Title: "Spin splitting in the quantum Hall regime".
2003: Master degree in condensed matter Physics, Université Joseph Fourier, Grenoble, France
2003: Graduated of the ENSPG (leading French school in Physics and Engineering) part of the INPG (Grenoble National Polytechnic Institute)

- **CURRENT POSITION**

Sept 2012-present: **CNRS (French national center for scientific research) permanent researcher**, Grenoble High Magnetic field Laboratory (LNCMI-G), CNRS, Grenoble, France.

Leader of the "*Low dimensional systems and Quantum transport"* group.
Responsible for the "transport" activity for external users of the laboratory.

- **PREVIOUS POSITIONS**

Oct 2009-sept 2012: CNRS researcher, LNCMI-G.
Oct 2008-sept 2009: Post-doctoral researcher, LNCMI-G.
Mar 2007-Sept 2008: Post-doctoral researcher, McGill University, Montreal, Canada.
Oct 2003-Dec 2006: PhD Student, Grenoble High Magnetic field Laboratory (GHMFL), Grenoble, France.

- **MAIN SKILLS**

Cryogenies (^{4}He, ^{3}He cryostats, ^{3}He /^{4}He dilution refrigerator expertise);

Transport, capacitance, magnetization and thermal measurements, sensitive detection techniques; High magnetic fields; Radio frequencies (Nuclear Magnetic Resonance), microwaves (Electron Spin Resonance), far and near infrared radiations.

- **MAIN RESEARCH INTEREST**

My researches have so far focused on the experimental study of the properties of low dimensional electronic systems. They mainly aim at characterizing two-dimensional electron 2 gases (2DEG) in various environements: semi-conducting structures, atomically thin layered materials such as graphene, transition metal dichalcogenides or other van der Waals heterostructures, and on "topological insulator" surfaces. Among the numerous issues raised by these systems, I fixed a particular attention on the quantum Hall effect and the spin and valley properties, closely related to the many-body effects arising from electron-electron interactions. This includes ferromagnetic quantum Hall states, fractional quantum Hall (FQH) states (associated with non-trivial "anyonic" and "non-abelian anyonic" quantum statistics), electron (Wigner-like) solids, quantum spin Hall state… I additionally pay a great attention to all new emerging 2D materials (semiconducting, superconducting, magnetic), with interaction and/or Moiré potential driven electronic phases.