

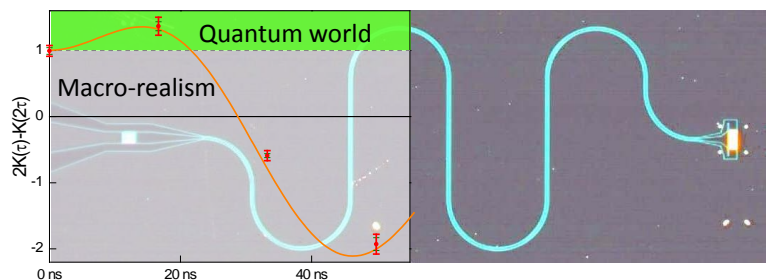
YOU ARE CORDIALLY INVITED TO
AGUSTÍN PALACIOS-LALOY'S PhD THESIS DEFENSE:

SUPERCONDUCTING QUBIT IN A RESONATOR: TEST OF THE LEGGETT-GARG INEQUALITY AND SINGLE-SHOT READOUT

TAKING PLACE ON SEPTEMBER THE 23RD 2010, 2PM
SALLE ITZYKSON, BAT. 774, ORME-DES-MERISIERS
CEA SACLAY

This thesis presents a series of experiments in which artificial atoms consisting of superconducting circuits are strongly coupled to the electromagnetic field stored in a microwave resonator, which can be used as a measurement apparatus for the atom.

In a first experiment we continuously monitored the evolution of a quantum system, we observed the crossover from weak to strong measurement and the freezing of the dynamics by the Quantum Zeno Effect. We probed if the artificial atom complies with the macroscopic realism hypotheses, from which Leggett and Garg have derived a Bell's inequality in time. In a second experiment, we have demonstrated a high fidelity single-shot qubit readout, a crucial element for quantum processors.



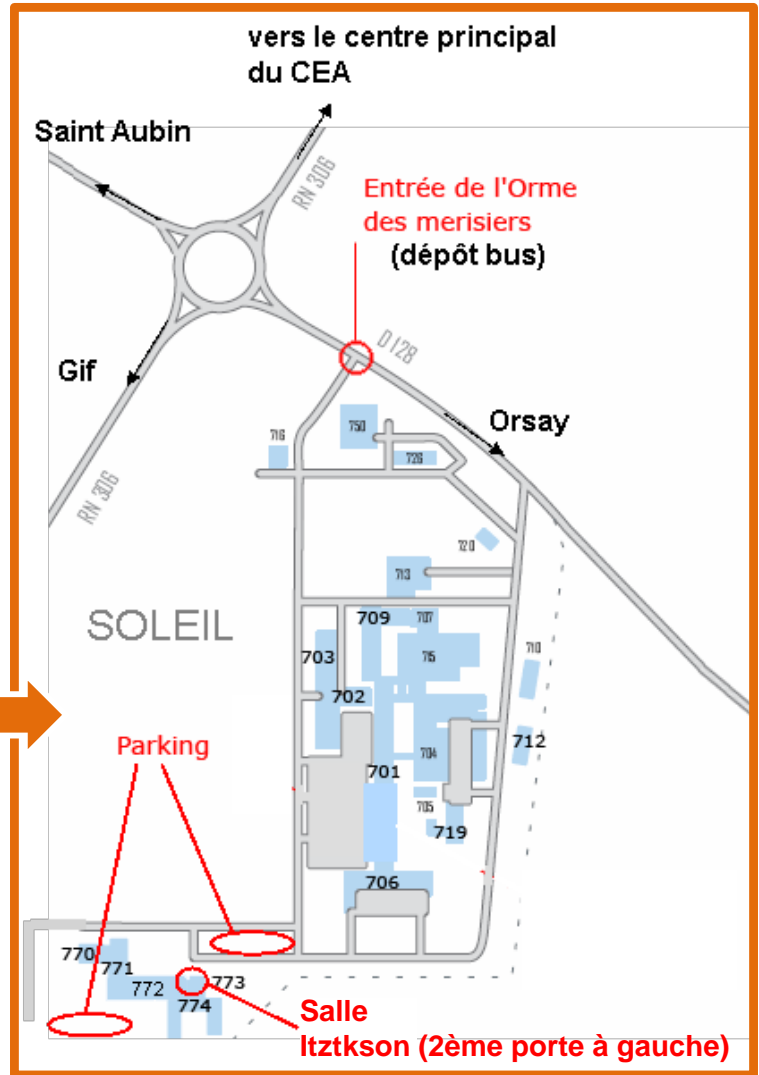
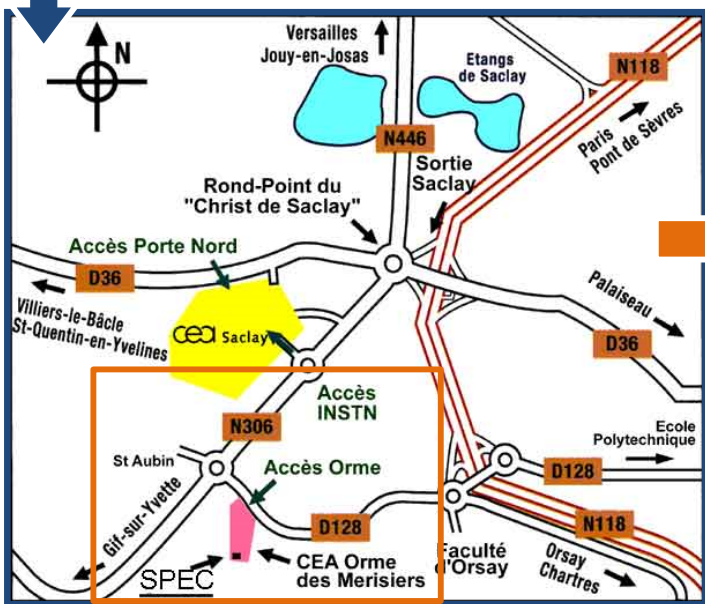
After the PhD defense some Spanish specialities and revigorating drinks will be served. Note that we do not guarantee your (macroscopic quantum) coherence after this event.

Contact: Agustin Palacios-Laloy, +33678784435

Pour venir à l'Orme des Merisiers

Par la route : Depuis la N118, prendre la sortie Centre Universitaire, et suivre le plan.

Par le RER : De la station "Le Guichet" (RER B), le bus 269-02 vous conduit vers le site de l'Orme en quinze minutes. (attention ce bus est peu fréquent, surtout les jours de grève : eh oui le 23 grève probable affectant aussi le RER).



Contact

Téléphone laboratoire: +33 1 69 08 55 29