AtMol International workshop 2012

Architecture & Design of Molecule Logic Gates and Atom Circuits

12 & 13 January 2012

Barcelona

How to perform Boolean logic and more generally a calculation using one single molecule or a surface atomic scale circuit? A common answer is to design single molecule devices like rectifiers, switches, transistors and cascade - interconnect them in a circuit using an adapted nano-scale wiring. This generally involves a classical (semi-classical) device design playing for example with quantum interferences. Others approaches have also been explored like integrating the full calculating circuit inside one molecule semi-classically or playing with quantum superposition (with or without using a qubits architecture) to perform the logic operation within the single molecule or the atomic scale surface circuit. This workshop will bring together groups from all around the world which are working on the theory and design of single molecule or surface atomic scale circuit for logic gates applications.

Invited speakers include:

F. Ample (IMRE, Singapore)
M. Hliwa (CEMES CNRS, France)
S. Kaxiras (Uni. Uppsala, Sweden)
C.S. Lent (Uni. Notre Dame, USA)
Y. Luo (KTH Stockholm, Sweden)
V. Meunier (RPI, USA)
S. Monturet (CEMES CNRS, France)
F. Novaes (CSIC, Spain)
K. Ohmori (IMS, Japan)
A. Pecchia (CNR-Roma, Italy)
F. Remacle (Univ. Liege, Belgium)
N. Renaud (Uni. Northwestern, USA)
M. Saeys (Uni. Singapore, Singapore)
G. Solomon (Uni. Copenhagen, Denmark)
R. Stadler (Uni. Vienna, Austria)

This workshop is open for contributors to the field of single molecule logic gates and surface atomic scale circuits theory and design based on classical, semi-classical or quantum principles where one molecule (or one atomic scale circuit) is providing the calculating power. Interested participants can submit a page abstract (www.atmol.eu/) before November 18th 2011. Accepted talks to be notified November 25th, 2011.

Online abstract submission deadline:

18th Novembre 2011

Workshop registration deadline:

9th December 2011

www.atmol.eu

AtMol organizing committee :

C. Joachim (CEMES CNRS, France), N. Lorente (CSIC, Spain), M. Saeys (Uni. Singapore, Singapore), A. Correia (Phantoms Foundation, Spain), A-L. Allain (CEMES CNRS, France).

AtMol, an ICT/FET European Project