



**AtMol** will establish comprehensive process flow for fabricating a molecular chip, i.e. a molecular processing unit comprising a single molecule connected to external mesoscopic electrodes with atomic scale precision and preserving the integrity of the gates down to the atomic level after the encapsulation. Logic functions will be incorporated in a single molecule gate, or performed by a single surface atomic scale circuit, via either a quantum Hamiltonian or a semi-classical design approach. AtMol will explore and demonstrate how the combination of classical and quantum information inside the same atomic scale circuit increases the computing power of the final logic circuit. Atomic scale logic gates will be constructed using atom-by-atom manipulation, on-surface chemistry, and unique UHV transfer printing technology.

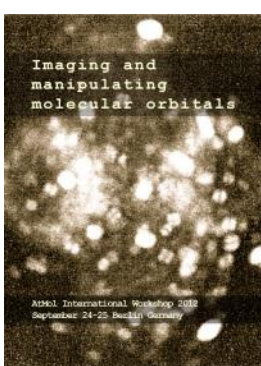
## AtMol "Les Houches" Winter School: Quantum resources for single molecule-machines.

(Les Houches, France). January 27- February 01, 2013

This is a winter school on surface atom and single molecule machines. We start from the basis of quantum control towards quantum and classical designs of atomic scale machineries.

## AtMol International Workshop (Berlin 2012). Abstracts Book Available

Real space imaging of the electronic cloud of a single atom or molecule is now of prime importance in the field of quantum information transmission, manipulation and storage and in the field of single molecule mechanics. One can also be simply interested by the intramolecular electronic and magnetic phenomena inside a single molecule.



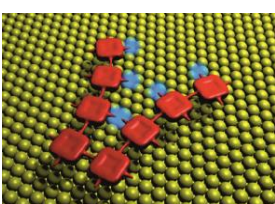
## E-Nano Newsletter nº 25 – AtMol contributions











**Towards atomic-scale logic gates construction on a Ge(001)-(2x1):H surface**  
M. Kolmer, S. Godlewski, H. Kawai, B. Such, F. Krok, M. Saeys, C. Joachim and M. Szymonski.

**Hierarchical linking of individual molecules into complex structures**  
L. Grill





**AtMol publications Further reading**



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