ICN2 Institut Català de Nanociència i Nanotecnologia

SEMINAR

SPIN CONTROL IN SEMICONDUCTORS

& TOPOLOGICAL INSULATORS

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The manipulation of electron spins in solid state devices via electric, magnetic and exchange fields is a core concept in spintronics [1,2]. This talk will provide a general overview of key advances in the development of this field, highlighting the role of the spin-orbit interaction in controlling electron spin polarization in conventional semiconductors [3] and in the more contemporary context of "topological insulators" [4-6].

1. D. D. Awschalom, M. E. Flatte and N. Samarth, Scientific American 286, 67 (2002).
2. N. Samarth, Solid State Physics 58, 1 (2004).
3. D. D. Awschalom and N. Samarth, Physics 2, 50 (2009).
4. S.Y. Xu et al., Nature Physics 8, 616 (2012).
5. D.M. Zhang et al., Phys. Rev. B 86, 205127 (2012).
6. A. Kandala et al., arxiv 1212.1225.

REMEMBER

Dr. NITIN SAMARTH
Spin control in semiconductors & topological insulators.

May 31, 2013 – 15:00h
Place: ICN2 Seminar Hall, ICN2 Building, UAB
Invited by: Prof. Pablo Ordejón

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