ICFO Congratulates a New PhD Graduate

Dr. Daniel Cavalcanti obtained his Doctoral Degree with a project on quantum information supervised by Prof. Antonio Acin.

October 21, 2008

Dr. Daniel Cavalcanti holds a Physics degree (2004) and a MSc degree (2006) from the Universidade Federal de Minas Gerais in Brazil. He has been working in the field of quantum information in Prof. Acin?s group at ICFO since 2006.

Dr. Cavalcanti?s research project studies entanglement with focus on its mathematical description and its experimental observation.

Entanglement is the main quantum property that makes quantum information protocols more

powerful than any classical counterpart. Moreover, understanding entanglement allows a better comprehension of physical phenomena in the fields of condensed matter, statistical physics and quantum optics, among others. The open questions on entanglement range from fundamental to practical issues. How to characterize the entanglement of quantum systems? What is entanglement useful for? What is the relation between entanglement and other physical phenomena? These are some open questions we are faced with nowadays. Dr. Cavalcanti?s thesis contains some original results in this field. Some of the questions addressed rely on the mathematical description of entanglement while others on its description in some physical systems.

Thesis Committee