

Special Session Call for Papers

on

Satellite Quantum Communications

at the

**International Conference on Personal Satellite Services 2010
(PSATS'10)**

February 4 -6, 2010 - Rome, Italy

www.psats.eu

Special Session Co-Chairs

Prof. Paolo Villoresi (University of Padua, Italy)

Dr. Rupert Ursin (Austrian Academy of Science, Austria)

The emerging field of Satellite Quantum Communications is steadily attracting interest due multiple aspects: on one hand, free-space optical communications over long distances are associated with severe losses, and the natural limit for the energy associated to a single bit of information is just one photon. On the other hand, the Quantum Mechanics principles govern the properties and propagation of the photons, and in particular the state space associated to the internal degree of freedom. Protocols for the exchange of cryptographic keys bases on these principles has been proposed and implemented in the last two decades. The intrinsic security of the keys distribution emerges as radically different from the security associated on algorithmically complex inversion of the ordinary crypto keying.

The topics of this special session are the extension of the quantum communication to Space, which represent presently the frontier of this field, along the issues listed below.

This special session of the PSAT 2010 Conference will explore this emerging topic, and aims to serve as a premier international forum for discussions, bringing researchers from industry and academia interested in future techniques relating to the satellite communications, networking, technology, systems and applications.

➤ **Technical topics:**

1. Quantum Communications on space and long-distance channels.
2. Quantum Cryptography and Quantum Key Distribution protocols.
3. Developing and implementing quantum information over free-space channels.

For paper submissions, please visit <http://www.psats.eu/submission.shtml>

Submission Deadline: 8-Nov-2009

Notification: 30-Nov-2009

Camera Ready: 15-Dec-2009