NAME: Nilesh Vyas
NATIONALITY: Indian
PROJECT 3: Phase encrypted continuous variable quantum communication and hybrid quantum cryptography
SUPERVISOR: Dr. Romain Alleaum
EMAIL: nilesh.vyas@telecom-paristech.fr, 2408nilesh007@gmail.com

Research Interest

My research interest is focused on quantum communications (QKD theory and engineering, quantum networks, quantum repeaters), and quantum information (quantum cryptography, quantum information theory). I am currently working on devising new quantum cryptographic protocols and analyzing their security, with the aim to offer improved performance and better functionalities.

Research Experience

Quantum Communications for ALL (QCALL) is a European Innovative Training Network (project 675662) funded by the Marie Sklodowska Curie Call H2020-MSCA-ITN-2015.

- July 2016- May 2017: Masters thesis at NISER, Quantum Non-Local Games,
- SUMMER 2016: 4th-year summer project at BANGALORE UNIVERSITY, Bangalore, Joint Measurability,
- SUMMER 2015: 3rd-year summer project at S.N.BOSE NCBS, Kolkata, Quantum Steering and Evolution of a Quantum state in presence of Local Environment,
- JAN 2015 – MAY 2015: 6th-semester project at NISER, Bhubaneswar, Bell's Inequality and its application in Quantum Non-Local Games,
- SUMMER 2014: 2nd-year summer project at IISER, Kolkata, Quantum Teleportation,

Publications

1. Vyas, N. & Alleaume, R. "Everlasting Secure Key Agreement with performance beyond QKD in a Quantum Computational Hybrid security model". arXiv:2004.10173 [quant-ph].
2. Vyas, N. & Benjamin, C. "Negating van Enk-Pike's assertion on quantum games OR Is the essence of a quantum game captured completely in the original classical game?". arXiv:1701.08573 [quant-ph]
3. Vyas, N. & Saha, D. & Panigrahi, P.K. "Rooted-tree network for optimal non-local gate implementation". Quantum Inf Process 15, 3855–3867 (2016). https://doi.org/10.1007/s11128-016-1344-6.

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