

IQFA'X Colloquium

Quantum Engineering, from Fundamental Aspects to Applications

CNRS Headquarters

Campus Gérard Mégie

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GDR IQFA
gdriqfa.cnrs.fr

**NOV.
13-15
2019**



Depuis 80 ans, nos connaissances
bâtissent de nouveaux mondes

Wednesday the 13th of November 2019

09:00

Welcome - S. Tanzilli & A. Lambrecht
(CNRS/INP)

09:30

Tutorial - QCOM/QSIM - P. Senellart (CNRS,
Univ. Paris Saclay, FR): *Pure quantum light
generation in the solid-state*

10:30

Coffee break

11:00

Invited Talk - QCOM/QSIM - V. Parigi
(Sorbonne Université, Paris, FR):
*Continuous variables quantum complex
networks*

11:30

QCOM - R. Parekh (Sorbonne Univ., FR &
Indian Inst. Techno., Roorkee, IN): *Quantum
protocol zoo*

12:00

QMET - E. Albertinale (CEA-Saclay, FR): *An
irreversible qubit-photon coupling for the
detection of itinerant microwave photons*

12:30

Lunch

14:00

Tutorial - QMET - S. Gröblacher (TU Delft,
NL): *Quantum acoustic experiments*

15:00

QMET - V. Cimini (Univ. Roma, IT): *Tracking
enzymatic activity with quantum light*

15:30

Coffee break

16:00

Invited Talk - QMET - S. Nascimbene
(Collège de France, Paris, FR): *Quantum-
enhanced sensing using non-classical spin
states of a highly magnetic atom*

16:30

QMET - R. Geiger (CNRS, Univ. PSL,
Sorbonne Univ., FR): *High-sensitivity
inertial measurements by cold-atom
interferometry*

17:00

Poster session 1



Thursday the 14th of November 2019

09:00

Tutorial - QCOM - T. Northup (Univ. Innsbruck, AT) : *Trapped ions for quantum networks*

10:00

QCOM - M. Schiavon (Univ. Padova, IT & Sorbonne Univ., FR): *Chip-based daylight quantum-key-distribution at 1550 nm*

10:30

Coffee break

11:00

Tutorial - QCOM - G. Ribordy (ID Quantique, CH) : *Quantum-safe cryptography, from research to industry*

12:00

QCOM - N. Sangouard (Univ. Basel, CH): *Self-testing - a trustworthy certification tool for quantum communications*

12:30

Lunch

14:00

Tutorial - QPAC - A. Montanaro (Univ. Bristol, UK) : *Quantum algorithms: an overview*

15:00

QPAC - P. Campagne-Ibarcq (Yale Univ., USA): *A fully stabilised logical quantum bit encoded in grid states of a superconducting cavity*

15:30

Coffee break

16:00

Tutorial - FQA - A. Acin (ICFO, Barcelona, ES): *Device-independent quantum information processing*

17:00

Poster session 2

19:00

Banquet



Friday the 15th of November 2019

09:00

Tutorial - QPAC - J. Home (ETH Zurich, CH):
Quantum error correction in ion traps

10:00

QPAC - B. Jadot (CNRS, Univ. Grenoble
Alpes, FR): *Remote spin entanglement in
semiconductor quantum circuits*

10:30

Coffee break

11:00

Invited Talk - QCOM - D. Efetov (ICFO,
Barcelona, ES): *2D material enabled
quantum networks*

11:30

QCOM - D. Oser (CNRS, Univ. Paris-Saclay,
FR): *High-quality entanglement on a silicon
chip*

12:00

QPAC/QCOM - B. Pingault (Univ. Cambridge,
UK): *Transform-limited photons from a
long-lived tin-vacancy spin in diamond*

12:30

Lunch

14:00

FQA - S. Restuccia (Univ. Glasgow, UK):
*Photon bunching in a rotating reference
frame*

14:30

FQA - A. Peugeot (CEA-Saclay, FR):
*Quantum microwaves with a dc-biased
Josephson junction*

15:00

FQA - B. Pointard (IOGS, FR): *Quantum
storage of one-photon and two-photon
Fock states with an all-optical quantum
memory*

15:30

Closing session - S. Tanzilli

