

DIM QuanTiP Kick-off meeting

November 10, 2022

Amphi D, Institut Galilée, Université Sorbonne Paris Nord
99 avenue Jean-Baptiste Clément, 93430 Villetaneuse

Program of the day

08:30 - 09:00	<i>Reception - Coffee - Installation of posters</i>	<i>Galileo Institute, Rooms F001-F004</i>
09:00 - 09:05	Opening and introduction - Agenda	Hélène PERRIN, Coordinator of the DIM QuanTiP, LPL
09:05 - 09:10	Welcome speech	Christophe FOUQUERE, President of the USPN
09:10 - 09:15	Presentation of the CNRS	Thérèse HUET, Deputy Scientific Director INP
09:15 - 09:45	Presentation of the DIM QuanTiP	Senka ČUK - Hélène PERRIN - COPIL
09:45 - 09:55	Presentation of the Paris Region	Île-de-France representative
09:55 - 10:20	<i>Quantum computing: Quantum computing with cat qubits</i>	Mazyar MIRRAHIMI, INRIA
10:20 - 10:50	<i>Coffee break</i>	<i>Galileo Institute, Rooms F003-F004</i>
10:50 - 11:15	<i>Quantum communications: Qubit encoding converter for quantum interconnects</i>	Beate ASENBECK, LKB
11:15 - 11:25	Scientific and economic impact & <i>Launch of the AAP Valorisation</i>	Matthieu DELBECQ Pascale SENELLART-MARDON
11:25 - 11:30		Romain VIDAL, Île-de-France
11:30 - 11:40	Enabling quantum computing by interconnecting quantum processors	Tom DARRAS, startup WeLinq
11:40 - 11:50	Alice&Bob, from academia to a serious contender in the race for fault-tolerant quantum computing	Théau PERONNIN, startup Alice & Bob
11:50 - 12:25	Experiments with entangled photons : The Nobel Prize in Physics 2022	Alain ASPECT
12:25 - 14:30	<i>Lunch break - Poster session</i>	<i>Galileo Institute, Rooms F001-F004</i>
14:30 - 14:55	<i>Quantum simulations: Synthetic polariton matter</i>	Sylvain RAVETS, C2N
14:55 - 15:20	<i>Quantum sensing and metrology: Marine and airborne quantum gravimetry</i>	Yannick BIDEL, ONERA
15:20 - 15:45	<i>Enabling science and technology: Integrable rare-earth material platforms for quantum technologies</i>	Diana SERRANO, IRCP
15:45 - 17:00	<i>Poster session - Coffee break</i>	<i>Galileo Institute, Rooms F001-F004</i>
17:00 - 17:10	Conclusion	Hélène PERRIN, Coordinator of the DIM QuanTiP, LPL

Poster session

QUANTUM COMPUTING

1. Building neutral-atom quantum processors, *Adrien Signoles*
2. TSV-integrated Surface Electrode Ion Trap for Scalable Quantum Information, *Luca Guidoni, et al.*

QUANTUM SIMULATORS

3. Adiabatic spin-dependent momentum transfer in an SU(N) degenerate Fermi gas, *Pierre Bataille, et al.*
4. Non-destructive image of Ultracold atoms, *Rishabh Sharma, et al.*
5. One-dimensional Bose gas with an atom chip, *Manon Ballu, et al.*
6. Piégeage d'atomes de Rydberg circulaires individuels pour la simulation quantique, *Paul Méhaignerie*
7. Resonant excitation of a quantum dot in a photonic crystal cavity coupled to a tapered waveguide for light extraction, *Anatole Bach*
8. Simultaneous sub-Doppler laser cooling of ^6Li and ^7Li isotopes, *Tim de Jongh*
9. Spectroscopies des Matériaux Quantiques, *Philippe Mendels*
10. Towards Single-Atom Imaging of the Unitary Fermi Gas, *Maxime Dixmierias*
11. Towards the realisation of Quantum Hall states with Rotating Fermi gas, *Theo Breyse*

QUANTUM COMMUNICATIONS

12. AlGaAs photonics and two color quantum imaging, *Maria Amanti, et al.*
13. QOQLIQO Quantum Optics and Quantum Light with semiConductors team at C2N, *Nadia Belabas, et al.*
14. Solid state nano-emitters in fibered cavities, *Yannick Chassagneux*
15. Source de paires de photon accordable par pression d'un gaz entourant une nanofibre, *Philippe Delaye, et al.*
16. Spontaneous parametric down-conversion in nanopatterned resonators, *Vincent Vinel, et al.*

QUANTUM SENSORS AND METROLOGY

17. Accuracy measurement of the Casimi-Polder interaction, *Julien Lecoffre*
18. Carbon-based defects in pristine α boron, *Yeonsoo Cho, et al.*
19. Creation of high density of NV centres by nitrogen-Helium ions implantation in a diamond layer, *Midrel Ngandeu*
20. Delta-kick Squeezing, *Robin Corgier*
21. Frequency metrology and mid-infrared high resolution molecular spectroscopy, *Yuhao Liu*
22. Fundamental measurements at LAC, *Daniel Comparat, et al.*
23. High frequency vibration sensing in cryostats, *Anne Louchet-Chauvet*
24. High-resolution mid-infrared molecular spectroscopy with cold molecules for precision measurements, *Marylise Saffre, et al.*
25. Ionisation d'atomes (froids) : une source monochromatique d'ions et d'électrons pour les nanosciences, *Daniel Comparat, et al.*
26. Quantum detection in optical lattice clocks, *Jérôme Lodewyck, et al.*
27. Référence optique autonome et transférable pour l'instrumentation et les technologies quantiques, *Tatiana Steshchenko, et al.*
28. Spin-Mechanics with Trapped Diamonds, *Gabriel Hetet*
29. Squeezed Light Optomechanics with SiN membranes, *Pierre-Edouard Jacquet*
30. Toward the nano-g with a cold atom absolute gravimeter, *Maxime Pesche*
31. Towards a high flux transportable Ytterbium Optical lattice Clock, *Fatima Rahmouni*
32. Towards quantum thermometry, *Ferhat Loubar, et al.*
33. Ultra High Sensitivity Gravi-Gradiometer, *Joel Gomes Baptista*