





June 28, 2019

Quantum Computing Workshop

Maison Minatec, Grenoble, France

We are pleased to invite you to Grenoble for the Quantum Computing Workshop, a special satellite event of Leti Innovation Days, to be held Friday, June 28th, 2019, from 10am to 5pm, Grenoble, Minatec, France.

http://www.leti-innovation-days.com/Pages/LID2019/WORKSHOPS/FRIDAY_JUNE_28TH/Quantum-Computing.aspx

The workshop will gather the French research ecosystem and young entrepreneurs which are actively involved in enabling **large scale quantum computing**. This workshop aims at providing an overview of the activities going on in France and at fostering interactions and collaborations between teams.

C Villani (directeur de l'OPCEST) and P Forteza (députée des Français d'Amérique du Sud, présidente de la commission parlementaire sur les technologies quantiques) will provide the opening talks to remind us what is at stake in the field from a strategic perspective.

The organization committee: T Meunier, S Tanzilli, A Auffèves (CNRS), S de Franceschi, M Vinet (CEA), D Horsman (UGA)
For more information, please contact Hughes Metras, event chairman at hughes.metas@cea.fr.

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|-------|--|-----------------------------|--------------------|
| 10:00 | Introduction and welcome | | |
| | Welcome talk: role of error in discoveries | C Villani | Député |
| | French perspectives on quantum computing | P Forteza | Député |
| 10:30 | Technology | Chair F Lefloch | |
| | 300mm Leti platform for quantum computing | F Nemouchi | CEA-Leti |
| | Carbon nanotubes technologies | M Desjardins | ENS LPA, CNRS |
| | Quantum light sources | P Senellart | Quandela |
| 11:35 | Qubits | Chair D Estève | |
| | Si spin qubits | S de Franceschi | CEA-IRIG |
| | Superconducting qubits | Z Lektas | ENS LPA |
| | Hardware-efficient quantum computation with cat-qubits | J Guillaud | INRIA |
| | Photons | N Treps | ENS LKB |
| | Carbon nanotubes | T Kontos | ENS LPA |
| | Molecular qubits | F Balestro | CNRS Néel |
| 12:35 | Working lunch - content to be precised | O Ezratty | |
| 13:30 | Towards large scale | Chair M Vinet | |
| | III-V 2D arrays | PA Mortemousque | CNRS Néel |
| | 2D arrays in Si | T Meunier | CNRS Néel |
| | Atoms based simulation | A Browyaes | Institut d'Optique |
| | Long distance spin shuttle | M Urdampilleta | CNRS Néel |
| | Microwave-optical photons via NEMS | T Jacqmin | ENS LKB |
| | Spin-photon coupling | R Maurand | CEA-IRIG |
| 14:40 | Cryoelectronics/cryocontrol | Chair X Jehl | |
| | CryoCMOS circuits | G Pillonnet | CEA-Leti |
| | Superconductor amplifiers | N Roch | CNRS Néel |
| BREAK | | | |
| 15:10 | Architecture and system | Chair T Meunier | |
| | Power consumption of QC | A Auffèves | CNRS Néel |
| | QC architecture | Y Thonnart | CEA-Leti |
| | Quantum computing and system, ATOS perspectives | P Duluc | ATOS |
| 15:45 | Algorithms and softwares | Chair P Duluc | |
| | Compilers and QEC | D Horsman | UGA |
| | Compilers and QEC | S Perdrix - to be confirmed | LORIA |
| | Programming the quantum computer efficiently | C Gamrat | CEA-List |
| 16:15 | Discussions | | |
| | Innovation ecosystem and training | O Ezratty/C Jurczak | |
| | Conclusion - Actions/items | M Vinet/S Tanzilli/ATOS | |