Closing the temperature gap between spin-qubits and their control electronics

Organizers

- Dr. Fahd Ayyalil Mohiyaddin (imec, Belgium)
- Dr. Bogdan Govoreanu (imec, Belgium)
- Dr. Iuliana P. Radu (imec, Belgium)

Date & Time

Date: Wednesday 20 October, 2021

Time: 10:45 to 16:45

Time Zone: Mountain Time Zone (MDT): Denver, USA

Invited Speakers

1. Prof. Elena Blokhina & Dr. Imran Bashir, Equal1.Labs, Ireland & USA
2. Prof. Menno Veldhorst, Delft University of Technology, The Netherlands
3. Dr. Lars Schreiber, RWTH Aachen University, Germany
4. Dr. Sushil Subramanian, Intel, USA
5. Prof. David Awschalom, University of Chicago, USA
6. Prof. Andrew Dzurak, UNSW Sydney, Australia
7. Prof. Sorin Voinigescu, University of Toronto, Canada

Workshop Format

- Fully virtual workshop.
- 3 sessions each lasting 90 minutes, with a 45 minute break in between sessions.
- Pre-recorded presentations for the 7 speakers, each spanning 25 minutes.
- Two separate live discussions each, spanning ~ 40 minutes.
- Workshop is fully recorded and accessible on demand to all registered attendees till December 31, 2021.

Conference Registration

Website: https://qce.quantum.ieee.org/registration/registration-overview/
Agenda

Session 1:

10:45 – 11:00: Dr. Bogdan Govoreanu & Dr. Fahd Mohiyaddin: Introduction

11:00 – 11:25: Prof. Elena Blokhina & Dr. Imran Bashir: A 22nm FD-SOI CMOS Scalable Quantum Processor SOC with Fully Integrated Control Electronics at 3K


11:50 – 12:15: Dr. Lars Schreiber: Spin Qubit Design & Characterization in SiGe Quantum Dots

12:15 – 13:00: Break for 45 mins

Session 2:

13:00 – 13:25: Prof. Sorin Voinigescu: Electronic Design at Low Temperature

13:25 – 14:05: Live Q&A and Group discussion with Prof. Elena Blokhina, Prof. Menno Veldhorst, Dr. Lars Schreiber and Prof. Sorin Voinigescu - Chaired by Dr. Bogdan Govoreanu and Dr. Fahd Mohiyaddin.

14:05 – 14:30: Dr. Sushil Subramanian: Cryogenic CMOS Integrated Electronics for Spin Qubits

14:30 – 15:15: Break for 45 mins

Session 3:


15:40 – 16:05: Prof. David Awschalom: Creating and Controlling Quantum Systems With Silicon Carbide.

16:05 – 16:40: Live Q&A and Group discussion with Dr. Sushil Subramanian, Prof. Andrew Dzurak and Prof. David Awschalom - Chaired by Dr. Fahd Mohiyaddin and Dr. Iuliana Radu

16:40-16:45: Concluding remarks.

End