Contribution ID: **117** Type: **Invited**

Towards large-scale quantum processors based on hole spin qubits

Wednesday, May 31, 2023 9:00 AM (50 minutes)

In recent years, hole spins in silicon and germanium have attracted increasing interest for quantum information processing. In this talk, I will describe recent advances in hole spin qubits for both silicon and germanium towards intermediate- or large-scale quantum processors.
First, I will present the coherent interaction of a hole spin in silicon with a microwave photon. This coupling scheme enables long-range, on-chip qubit connectivity. Second, I will show our progress on a 10-qubit system in planar germanium, structured in a 3-4-3 array. Finally, I will highlight other efforts towards large quantum dot arrays in germanium, such as device homogeneity and coherent shuttling of spin qubits

Primary author: YU, Cécile (QuTech/TU Delft)

Presenter: YU, Cécile (QuTech/TU Delft)

Session Classification: Session 3.1