

# Postdoc with focus planar Ge Research Group Katsaros

Full Time

| Klosterneuburg (Vienna), Austria

| € 57.680 gross/year\*

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### Postdoc position with focus on Qubits in planar Ge

While GaAs structures represent the current state-of-the art in device complexity, Si devices hold the current records in coherence times due to the nuclear-spin free environment in isotopically purified samples. Ge which has been much less studied, has recently emerged as a very promising material platform for hosting spin qubits due to the suppressed hyperfine interaction and strong spin orbit coupling. In only three years a single Loss-DiVincenzo qubit, 2-qubit and most recently even 4-qubit devices have been demonstrated.

In the [Nanoelectronics group of Georgios Katsaros](#) we have recently realized a hole spin qubit with dephasing times of 1  $\mu$ s operating already at fields of 500  $\mu$ T, within the range of magnetic fields currently used for on-chip biasing of superconducting circuits. This was achieved by using the large out of plane g-factors of holes in Ge and by encoding the qubit in the singlet-triplet states of a double quantum dot device. In this project we aim to use hole qubits in planar Ge devices and make further steps towards the realization of a hole spin based quantum processor. More information: [nanoelectronicsgroup.wordpress.com](http://nanoelectronicsgroup.wordpress.com)

## Your profile

- PhD and solid background in the following areas: microwave techniques, low temperature physics and quantum information
- Excellent track record in spin or superconducting qubits
- Excellent communication and presentation skills
- High motivation and ability to work closely with scientists of other disciplines
- Excellent command of English (working language)
- A proven ability to conduct independent research, as well as to work effectively as a member of a research team

**Application documents:** motivation letter, CV and two reference letters; **flexible start date**

**To submit your application please email:** [georgios.katsaros@ist.ac.at](mailto:georgios.katsaros@ist.ac.at)

\* This position comes with possible overpayment depending on education, qualification and work experience. IST Austria processes your personal data in accordance with the law. For more information, please refer to [www.ist.ac.at/data-protection](http://www.ist.ac.at/data-protection).

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