

## Postdoctoral Fellows and Ph.D. Students

**The newly established team "Superconducting Hybrid Quantum Systems", led by Sunghun Park, is looking for postdoctoral fellows as well as Ph.D. students willing to join the team.**

The research interests of the team are an understanding and a characterization of superconducting hybrid structures based on semiconductors and topological materials. We develop theoretical models and novel manipulation mechanisms of superconducting quantum states, aiming to use for quantum computation. Among them, the team is currently focusing mostly on the following themes:

- Modelling of superconducting hybrid nanostructures
- States read-out using circuit-QED
- Majorana fermions in topological superconductors
- Magnetic impurities in superconductors
- Coherent electron transport in mesoscopic systems

Strong oral and written communication skills, excellent computational skills (analytical and/or numerical are both welcome) and the ability to work on the main research interests of the group are essential for these positions. Applicants should also have a strong interest to work in a multidisciplinary and dynamic research environment.

Interested applicants should provide *a single PDF file including a cover letter, a full CV (including a list of publications) and a research plan (perspective Ph.D. students can send a statement of interest)*, to be sent to the following email address,

[pcs@ibs.re.kr](mailto:pcs@ibs.re.kr)

At the same time, two letters of recommendation should be sent at the same address.

Informal inquires about the announced positions can be directed to Sunghun Park at

[sunghun.park@ibs.re.kr](mailto:sunghun.park@ibs.re.kr)

The Institute for Basic Science (IBS), established in November 2011, is Korea's first dedicated basic science research institute. Currently, 31 research centers in physics, chemistry, mathematics, life sciences, earth science, and interdisciplinary fields operate under the IBS. For more information see [www.ibs.re.kr](http://www.ibs.re.kr).

The Center for Theoretical Physics of Complex Systems (PCS), operated under the IBS, was founded in December 2014, with scientific activities starting in May 2015. Besides hosting resident researchers, the PCS runs an active Visitor and Workshop Program aimed at providing young scientists an excellent research environment and connections with worldwide leaders in a broad variety of emerging fields. For more information see [pcs.ibs.re.kr](http://pcs.ibs.re.kr).

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