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ANHÅLLAN

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To: Department board

Recruitment of a researcher in the Quantum Matter Theory Program, Division of Materials Theory

Within the division of Materials Theory, in the Quantum Matter Theory program, Annica Black-Schaffer holds an ERC Consolidator Grant, SUPERLAND, 2023 – 2028. The project aims to theoretically create and enhance superconductivity by producing large DOS peaks at zero energy using nanoscale inhomogeneity, through disorder, moiré structures, and superconducting phase crystals.

In addition to the ERC grant, the PI also holds a number of other external grants, including a VR Consolidator Grant, a Wallenberg Academy Fellows prolongation, a Wallenberg Scholar grant, a WISE Ph.D. student grant, and co-PI on two Wallenberg project grants. The research group currently consists of 6 Ph.D. students, 6 postdocs, a few Master students, and will grow further within the next few years, entirely on external funding. Due to its substantial size, the research group is currently in need of a permanent staff member beyond the PI, to be able to both successfully conduct the research and provide sufficient supervision and management, in particular within the ERC project.

The successful candidate will work, and be funded, within the ERC project SUPERLAND. The researcher will also be encouraged to further develop their teaching skills (if a suitable situation arises within the division) and other merits that are favorable for a future career, including applying for their own research funding and submitting a docentship application in the future.

One such promising candidate is Dr. Patric Holmval, who has a unique set of expertise in both superconducting phase crystals and moiré structures. Dr. Holmval has been employed in the research group, first as a three-year postdoc and since Jan 1st, 2024 as a researcher (SÄVA). He is already involved in the projects of several Ph.D. students, all working within the scope of the ERC project. Continuing this and his other research activity that align with the ERC project will be important for the success of the ERC project. Attached is a draft of the announcement.

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