Views of Physical Chemistry on establishing LU at Brunnshög

In this document we express the views of the Division of Physical Chemistry, on the establishing of LU activities and the Science Village Scandinavia (SVS), at Brunnshög. While we are large users of neutrons and synchrotron light, we would like to express our deep concerns about the ideas of moving large parts of the Science Faculty to SVS, for example the departments of Physics and Chemistry, which we think would have detrimental scientific and economic consequences for the current dynamic research environments at the LU science (NMT) campus, including ours.

Scientists from Physical Chemistry are very frequent users of neutrons and synchrotron light, an expertise that goes back four decades. In 2019, scientists from the division had in total 11 days of beamtime at synchrotron facilities (SSRL Stanford, Swiss Light Source, Petra III Hamburg) and 63 days of neutron beamtime at ILL, NIST, ISIS, FRM-II, and ANSTO. Naturally, scientists from the division are also deeply involved in the development of and strategy work behind MAX IV and ESS: Ulf Olsson is the current spokesperson for the CoSAXS beamline and served on the board of MAX IV between 2014 and 2016. He was also part of the Strategy Group for ESS and MAX IV at the Faculty of Science between 2009 and 2016, serving as the chairman during the last three years. He is also a member of the Expert Council to the coordinator function for the implementation of LU's strategies for MAX IV, ESS and SVS. Peter Schurtenberger was a scientific advisor to ESS during 2010-15. He is also the founding director of the Lund Institute of Advanced Neutron and X-ray Science, LINXS, where Ulf Olsson also serves on the board since its start in 2016. Tommy Nylander was a member of the first Scientific Advisory Committee for ESS between 2008 and 2011 and is currently heading a project for developing a GISANS instrument and a fast chopper system for the Freia reflectometer at ESS. The division furthermore hosts two adjunct lecturers, Andrew Jackson and Hanna Wacklin from ESS, both working 20% at the division. Internationally, Anna Stradner, Peter Schurtenberger, Ulf Olsson, and Tommy Nylander have served on a large number of advisory boards and review committees of leading international X-ray and neutron facilities, such as the Paul Scherrer Institute, ILL, ISIS, SLS and the Jülich Centre for Neutron Scattering.

Needless to say, given our very strong scientific involvement in MAX IV and ESS, the establishment of these large-scale facilities in Lund will offer enormous opportunities for the future research at the division, as well as for LU as a whole. We are, and will continue to be, strong partners of both facilities, with expert users that participate in developing the beamlines with which we are involved.

As a result of the proximity to MAX IV and ESS, the SVS area is among the most attractive scientific environments that currently exist, at least in Sweden, and it needs to be used wisely such that LU and Sweden as a whole make the most out of this massive investment. Moving activities to SVS should ideally be based on a strong scientific case. In our view, SVS should thus not be used simply to get larger, more modern or better equipped facilities for individual departments, but to create new structures that really profit from the proximity to the facilities, and who help to explore and further develop MAX IV and ESS, and allow us to optimally harvest this investment. When planning the future of LU at SVS, we therefore should first ask if and why a given entity should be at SVS, how it would profit from the location, how it would help to further increase the attractiveness of SVS, and whether this would lead to a significant gain for the entire scientific ecosystem compared to it remaining at its

current location. We are thus critical about the idea to move entire existing departments, as the overall gain can hardly justify the large additional investment involved in such massive moving operations. However, for activities such as the Lund Institute for Advanced Neutron and X-ray Science, LINXS, the SVS is indeed the natural place to be located, and the same possibly holds for the Lund Laser Center, LLC. Several other candidates can probably be identified, based on the above mentioned principles. The Engineering Faculty have plans to move Lund Nano Lab to SVS.

The Department of Chemistry is located at the LU science campus hosting the faculties of science, engineering and medicine (NMT), thus providing a uniquely broad scientific competence within a small area. It is a dense and dynamic research environment, offering enormous opportunities for cross-disciplinary research and further development. The division of Physical Chemistry is involved in countless collaborations across the campus, with researchers at BMC, CEC, Lund NanoLab, and the departments of Biology, Food Technology, Chemical Engineering and Medical Radiation Physics. We judge that our engagement in cross disciplinary research in the near future will probably increase, rather than decrease. Hence, from this perspective, we judge that it is more important for us to be located at the LU science campus than at the SVS.

Within the Department of Chemistry, the division of Chemical Physics and the microscopy unit nCHREM have for a long time expressed their interest in moving to SVS. We see this as well motivated, considering their close collaborations with LLC and Lund NanoLab, respectively.

In spite of the X-ray and neutron-related research focus of the division of Physical Chemistry, we thus do not see any good arguments for a relocation of the division, nor for the Chemistry Department as a whole, to SVS. As stated above, we have many important and active collaborations within the current science campus. We benefit strongly from the opportunities for cross disciplinary research that such a well-integrated research environment provides, and we have all reason to believe that we will continue to do so in the future. Breaking up this well-integrated scientific environment would thus potentially have detrimental effects on our future research collaborations.

Another essential point to consider when moving activities from the current campus to SVS is the integration between research and education. Separating the students from the teachers would inevitably lead to a decrease in quality of our undergraduate and graduate education, in addition to significant time and effort for teachers and students to relocate between the different campuses.

We hope that the LU activities moving to SVS will be selected wisely.

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Peter Jönsson, Martin Malmsten, Tommy Nylander, Ulf Olsson, Karin Schillén, Peter Schurtenberger, Emma Sparr, Joakim Stenhammar, Anna Stradner, Daniel Topgaard.