



# Implementation of the grant for international recruitment of leading researchers

Midterm evaluation

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Swedish Research Council  
Vetenskapsrådet  
Box 1035  
SE-101 38 Stockholm, Sweden

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## Preface

The Swedish Research Council has carried out a mid-term evaluation of the implementation of the grant International recruitment of leading researchers. The evaluation has been performed by an international panel who has summarized their findings in this report. Their assessments are based on material from site visit interviews and surveys, by the Swedish Research Council, and hearings with the HEIs management and the recruited leading researchers.

The main conclusions from the panel are that the grant for International Recruitment of Leading Researchers has so far been very successful. The goals for the grant have, to this point been achieved and the recruited researchers have with a few exceptions moved a large part, or all, of their research activities to Sweden. In several cases, a completely new research area has been built up at the universities and in other cases, existing ones have been developed and strengthened.

The panel observed among other things that long-term and well-integrated research environments have been established at the universities and successful younger researchers have been recruited to the environments. The panel's report also provides learning for the Swedish Research Council for the ongoing grants and if similar grants were to be announced in the future.

The Swedish Research Council would like to thank the chair of the panel, Professor Kirsten Drotner and the rest of the international panel for an excellent work. The report produced by the panel will be of great value to the Swedish government, the Higher Educational Institutions and the Swedish Research Council, to strengthen Swedish research.

Stockholm, 30 mars 2021

Sven Stafström

*Director General*

Swedish Research Council

## Sammanfattning

Vetenskapsrådet fick i mars 2013 i uppdrag av regeringen att utlysa medel för framstående forskare i tre olika satsningar. Satsningarna resulterade i bidragsformerna; Bidrag för Internationell rekrytering av framstående forskare, Bidrag till framstående yngre forskare och Rådsprofessorprogrammet (långsiktigt stöd till de mest framstående forskarna). Dessa bidragsformer utgör tillsammans en excellenssatsning med syfte att skapa forskningsmiljöer kring några av de mest framstående forskarna och att stimulera till mer långsiktiga mål för forskningen.

Vetenskapsrådet har genomfört en halvtidsutvärdering av implementeringen av bidraget Internationell rekrytering av framstående forskare.

Syftet med utvärderingen av de 19 beviljade bidragen har varit att undersöka om villkoren följts av lärosätena samt att forskningsmiljöerna och forskningen har integrerats och utvecklats enligt utlysningens målsättningar.

### Om bidraget

Bidraget till internationell rekrytering av framstående forskare utlystes vid två tillfällen, 2013 och 2014. Totalt beviljades 19 bidrag av ett sammanlagt belopp av 1,94 miljarder kronor. Bidragsbeloppet per ansökan varierade mellan 36 – 150 miljoner kronor fördelat på sju till tio år. Uppföljningar av bidragen har gjorts vid två tillfällen sedan starten där lärosätena har rapporterat till Vetenskapsrådet, 2014/2015 och 2016. Den nu genomförda halvtidsutvärderingen ersätter den tredje uppföljningen.

Syftet med bidraget var att ge svenska lärosäten en möjlighet till att attrahera internationellt mycket framstående forskare till Sverige med långsiktig och tillräcklig finansiering. Bidraget söktes av lärosätets rektor och fungerade som ett verktyg för att stödja internationella rekryteringar och forskningsområden inom lärosätets egna strategiska satsningar. Då bidraget var avsett att stödja lärosätenas prioriterade områden och strategiska utveckling förutsattes också medfinansiering från lärosätena. I den andra utlysningssomgången preciserades detta krav på lärosätenas egen finansiering till 30 procent över bidragsperioden. Lärosätet ansvarade som arbetsgivare för rekryteringen och gjorde bedömningen om forskaren var lämplig för en anställning. Därefter genomförde Vetenskapsrådet bedömningen av den föreslagna forskarens meriter.

### Panelens bedömningar och rekommendationer

Den internationella panelens övergripande bedömning är att satsningen är lyckad och målen för bidraget är uppfyllt. För att säkerställa att satsningen fortsätter att

bygga vidare på den framgångsrika implementeringen av bidragen efterfrågar panelen en tydligare kommunikation mellan Vetenskapsrådet och lärosätena men även internt på lärosätena mellan forskarna och universitetsledningen. Lärosätena skulle då i ännu högre grad än vad som hittills skett kunna tillvarata de rekryterade forskarnas akademiska och strategiska erfarenheter.

För några av forskarna finner panelen att aktivitetsnivåerna i Sverige tydligt avviker från villkoren och föreslår att lärosätena specificerar för Vetenskapsrådet vilka förhandlingar och överenskommelser de gjort med forskarna.

För i princip alla miljöer noterar panelen att det är otydligt vad lärosätena avser att göra för att stödja forskningsmiljöerna efter bidragsperiodens slut. Panelen rekommenderar Vetenskapsrådet att efterfråga en redovisning om detta från lärosätena.

Inför eventuella framtida utlysningar lyfter panelen ett antal förtydliganden och rekommendationer när det gäller bidragsvillkoren. Till exempel: karriäråldern på de rekryterade forskarna, hur ofta ett bidrag borde utlysas, tydligare regler för lärosätenas medfinansiering samt hur arvet från miljöerna kommer att förvaltas. Slutligen pekar panelen på vikten av en slututvärdering av det vetenskapliga resultatet av satsningen efter bidragsperioden.

## Vetenskapsrådets slutsatser

Mot bakgrund av vad som framkommer i panelens utvärderingsrapport och i lärosätenas rapportering har satsningen hittills varit mycket framgångsrik. Målen för bidraget har uppnåtts och de rekryterade forskarna har verkligen flyttat delar av, eller hela, sin forskningsverksamhet till Sverige. Man har etablerat långsiktiga och väl integrerade forskningsmiljöer vid lärosätet och rekryterat framgångsrika yngre forskare till miljön. Vetenskapsrådet noterar att panelen särskilt lyfter fram den långsiktighet och flexibilitet som bidragsformen inneburit som en viktig framgångsfaktor.

Vetenskapsrådet konstaterar att implementeringen av bidragen överlag har varit mycket framgångsrik. De utmärkande fördelarna med den internationella rekryteringen verkar huvudsakligen vara två: (1) bidraget möjliggör internationell rekrytering till universiteten, vilket ger förnyelse och inspiration; (2) de rekryterade forskarna fungerar ofta som "magneter", som får lovande yngre forskare att vilja komma till Sverige och etablera sig.

I de fall forskaren har kvar verksamhet vid sitt tidigare lärosäte har man också lyckats sammanföra och integrera sina båda miljöer. Till exempel genom gemensamma workshops och/eller kortare vistelser/utbyten mellan medlemmar av de olika miljöerna.

De rekryterade forskarna och forskningsmiljöerna visade sig vara väl integrerade vid lärosätena och har etablerat sin forskningsverksamhet och har börjat producera

forskningsresultat. I flera fall har ett helt nytt forskningsområde byggts upp vid lärosätet och i andra fall har befintliga utvecklats och förstärkts.

Ett av villkoren för bidraget är att den rekryterade forskaren under hela bidragsperioden årligen ska vara verksam minst 50 procent av en heltidstjänst vid det svenska lärosätet. Några av forskarna har rapporterat en låg närvaro vid det svenska lärosätet. Panelen understryker vikten av hög grad av närvaro för att bygga upp och leda en forskningsmiljö och ifrågasätter om intentionen och villkoren för bidraget uppfylls i dessa fall. Detta kommer att följas upp av Vetenskapsrådet. Vidare kommer panelens alla enskilda utvärderingar att gås igenom och Vetenskapsrådet planerar att fortsätta att ha en dialog med lärosätena och följa upp bidragen med bla avseende på budgeten under återstoden av bidragsperioden. I samband med detta kommer lärosätenas planer efter bidragsperioden att efterfrågas då detta saknas för flera miljöer.

Det kan också konstateras att det fanns otydligheter i utlysningen när det gäller tex. definitionen av medfinansiering. Skrivningarna har därmed tolkats på olika sätt vid olika lärosäten och olika institutioner. Det finns också en otydlighet huruvida det är ett miljöstöd eller ett individuellt stöd. Båda dessa delar ska förtydligas om bidraget kommer att utlysas igen. En annan viktig aspekt vilket lärosätena vittnat om är att det tar tid att rekrytera en internationell forskare utanför Sverige vilket gör att det behövs längre tid för att förbereda en ansökan av detta slag. Publiceringen av den första utlysningen gav lärosätena relativt kort tid för att förbereda för rekrytering av internationellt ledande forskare. Om en utlysning skulle göras igen behöver den förannonseras i så god tid som möjligt.

Ytterligare rekommendationer som bör tas i beaktande vid en eventuell framtida utlysning är karriäråldern på de rekryterade forskarna samt vikten av ledaregenskaper för att kunna bygga upp och leda en större forskningsmiljö.

De 19 bidragen kommer att slututvärderas 2025/2026 med fokus på sampubliceringsmönster och vetenskaplig kvalitet i miljöernas vetenskapliga produktion.

## Executive Summary

In March 2013, the Swedish Research Council was commissioned by the government to announce funding for eminent researchers in three different initiatives. The investments resulted in the following forms of grant; Grant for international recruitment of leading researchers, Consolidator grant and Distinguished Professor programme. Together, these forms of funding constitute an investment in excellence with the aim of creating research environments around some of the most prominent researchers and stimulating more long-term goals for research.

The Swedish Research Council has carried out a mid-term evaluation of the implementation of the grant International recruitment of prominent researchers.

The purpose of the evaluation of the 19 grants awarded has been to investigate whether the conditions of the grants have been followed by the higher education institutions and that the research environments and research have been integrated and developed according to the objectives of the call.

### About the funding

The grant for international recruitment of leading researchers was announced on two occasions, in 2013 and 2014. A total of 19 grants of a total amount of SEK 1.94 billion were approved. The grant amount per application varied between SEK 36 - 150 million over seven to ten years. Follow-ups of the grants have been made on two occasions where the higher education institutions have reported to the Swedish Research Council, 2014/2015 and 2016. The now completed mid-term evaluation replaces the third follow-up. The purpose of the grant was to give Swedish universities an opportunity to attract internationally very prominent researchers to Sweden with long-term and sufficient funding. The grant was applied for by the university's vice-chancellor and served as a tool to support international recruitments and research areas within the university's own strategic initiatives. As the grant was intended to support the higher education institutions' priority areas and strategic development, co-financing from the higher education institutions was also required. In the second call for proposals, this requirement for the higher education institutions' own funding was specified at 30 per cent over the grant period. The university was responsible as an employer for the recruitment and made the assessment of whether the researcher was suitable for employment. Subsequently, the Swedish Research Council carried out the assessment of the proposed researcher's qualifications.

## Panel assessments and recommendations

The international panel's overall assessment is that the investment is successful and the goals for the grant have been met. To ensure that the initiative continues to build on the successful implementation of the grants, the panel suggests clearer communication between the Swedish Research Council and the higher education institutions, but also internally at the higher education institutions between the researchers and the university management. The higher education institutions would then be able to utilize the academic and strategic experiences of the recruited researchers to an even greater degree than has happened so far.

For a couple of the environments, the panel finds that the activity levels in Sweden clearly deviate from the conditions of the grant and proposes that the higher education institutions specify to the Swedish Research Council what negotiations and agreements they have made with the researchers.

For basically all environments, the panel notes that it is unclear what the higher education institutions intend to do in order to support the research environments after the end of the grant period. The panel recommends that the Swedish Research Council request a clarification of this from the higher education institutions.

Prior to any future announcements, the panel raises a number of points for clarifications and recommendations regarding the grant conditions. These concerns the career age of the recruited researchers, how often a grant should be announced, clearer rules for higher education co-financing and how the legacy from the environments will be managed. Finally, the panel points to the importance of a final evaluation of the scientific results of the investment after the grant period.

## The Swedish Research Council's conclusions

In light of the panel's evaluation report and in the higher education institutions' reporting, the initiative has so far been very successful. The goals for the grant have been achieved and the recruited researchers have really moved part, or all, of their research activities to Sweden. Long-term and well-integrated research environments have been established at the university and successful younger researchers have been recruited to the environment. The Swedish Research Council notes that the panel emphasizes the long-term perspective and flexibility of the grant has entailed as an important success factor.

The Swedish Research Council acknowledges that the implementation of the grants has generally been very successful. The distinctive benefits of international recruitment seem to be twofold: (1) the grant enables international recruitment to universities, providing renewal and inspiration; (2) the recruited researchers often act as "magnets", which make promising younger researchers wanting to establish themselves in Sweden.

In cases where the researcher still has activities at his or her previous university, the researcher has also succeeded in merging and integrating the two environments. For example, through joint workshops, shorter stays and exchanges between members of the two environments.

The recruited researchers and research environments proved to be well integrated at the higher education institutions and have established their research activities and have begun to produce research results. In several cases, a completely new research area has been built up at the university and in other cases, existing ones have been developed and strengthened.

One of the conditions for the grant is that the recruited researcher must be active at least 50 percent of a full-time position at the Swedish higher education institution throughout the grant period. Some of the researchers have reported a low attendance at their Swedish university. The panel emphasizes the importance of a high degree of attendance to build and lead a research environment and questions whether the intention and conditions for the grant are met in these cases. This will be followed up by the Swedish Research Council. Furthermore, the assessments by the panel will be analysed and the Swedish Research Council plans to continue to have a dialogue with the higher education institutions and follow up the grants with regard to, among other things, the budget for the remainder of the grant period. In connection with this, the higher education institutions' plans for the research environments after the grant period will be requested as these are lacking for several environments.

It can also be stated that there were ambiguities in the call with regard to e.g. the definition of co-funding. The writings have thus been interpreted in different ways at different universities and different departments. There is also a lack of clarity as to whether the grant is an environmental support or support for an individual researcher. Both of these parts must be clarified if the grant will be announced again. Another important aspect that the higher education institutions have testified to is that it takes time to recruit an international researcher from outside Sweden, which means that a long time is needed to prepare an application of this kind. The publication of the first call gave the universities relatively little time to prepare for the recruitment of internationally leading researchers. If a call were to be made again, the higher education institutions need longer time for preparation and recruitment of suitable candidates.

Additional recommendations that should be discussed in a possible future call are the career age of the recruited researchers and the importance of leadership qualities in order to be able to build and lead a larger research environment.

The final evaluation of the 19 grants is planned to be performed in 2025/2026 with a focus on co-publishing patterns and scientific quality in the environments' scientific production.

# 1. Introduction

In March 2013, the Swedish Research Council was commissioned by the Swedish Government to announce funding for eminent researchers in all research areas: international recruitment of eminent researchers (Grants for international recruitment of leading researchers), recruitment of prominent younger researchers (Consolidator grant programme) and support for the most prominent researchers (Distinguished Professor programme). These three grants form an initiative aimed at creating research environments around some of the most prominent researchers at different career levels as well as stimulating more long-term goals for research. The Consolidator grant (six-year grants) and Distinguished Professor grant (ten year grants) are still announced at the SRC unlike international research grants that were announced only twice.

The purpose of the grant for recruitment of international leading researchers was to enable Swedish higher education institutions (HEI) to be able to offer long-term and sufficient funding for recruitment of eminent researchers from abroad. The grant was applied for by the HEI vice-chancellor and served as a tool to support recruitment of internationally leading researchers in areas within the university strategic initiatives. With the help of the grant, an internationally outstanding researcher would be able to move her or his research from abroad to a Swedish HEI.

In 2013 and 2014, the Swedish Research Council announced calls for grants for international recruitment of leading researchers, resulting in a total of 19 funded grants (of total 74 applications) with a total budget of 1.93 billion SEK. The amount of the grant awarded per application varied between SEK 36 and 150 million SEK, distributed over seven to ten years.

Two reporting rounds have to date been completed to follow up the grants. The present report is the result of a half-time evaluation of the implementation of the grant, conducted during 2019 - 2020 at all HEIs that have received such grants. On average, the grants have now been running for five years.

## 1.1 Background

International recruitment is often regarded as an important component to raise the quality of research. Compared with other leading research countries, Sweden recruits few established, high-level researchers from abroad. The grant for international recruitment formed a unique, new programme at the Swedish Research Council funded by the Swedish government. The aim was to give top international researchers qualified for a tenured post as a Full professor at one of the world's ten highest ranked universities, a long-term support to develop their research fields and build a strong research environment at a Swedish research institution.

With the help of the grant, the HEI recruited leading international researchers who were expected to establish research environments at the respective university and move his or her research to the HEI. The employer, the HEI, was responsible for the recruitment and assessment of whether the proposed researcher was suitable for a position and the SRC assessed whether the merits of the proposed researcher and the quality of their research programme were sufficient to be awarded this grant. The SRC aspired to give women and men equal opportunities to benefit from the research funds from this call for applications. International and highly merited experts were invited to evaluate the applications. The final funding decision was made by the SRC Director General on behalf of the Board of SRC.

***Table 1. The distribution of awarded grants at HEI***

<b>HEI</b>	<b>Total no of grants</b>	<b>HS</b>	<b>NE</b>	<b>MH</b>
GU – University of Gothenburg	3 (4)	2 (3)*		1
KI – Karolinska Institutet	6			6
KTH - Royal Institute of Technology	1		1	
LiU - Linköping University	2	1		1
LU – Lund University	1 (0)	1 (0)*		
SU – Stockholm University	4		4	
UU – Uppsala University	2	1		1
<b>TOTAL</b>	<b>19</b>	<b>5</b>	<b>5</b>	<b>9</b>

**HS – Humanities and social sciences (5 applications granted)**

**MH – Medicine and Health (9 applications granted)**

**NE– Natural and Engineering sciences (5 applications granted)**

**\*One grant has been moved from GU to LU**

## 1.2 Evaluation assignment and data

The main purpose of the evaluation of the awarded grants is to assess whether the research environments have been established as coherent and feasible entities and that the terms and conditions of the grant are met. In addition, the evaluation will also assess to what extent the research environments and the research have been integrated into the HEI and developed according to the aims of the application. The evaluation contains two major parts: one part is based on data gathered by the SRC, and one part is based on data generated by an international panel which performed an evaluation. The panel has made recommendations to the SRC, as well as to the HEIs. The evaluation results offer a basis for adjustment of the remaining grant period or the grant amount. In addition, SRC will also use the results of the evaluation as a part of its research policy work.

Collection and compilation of data for the evaluation was performed by a team at the SRC for all 19 grants, and this information served as background for the international panel. The international panel conducted the evaluation in two steps, first by a pre-assessment of the compiled data, at the end of 2019/early 2020, and secondly, by hearings on line in September 2020.

The original plan was to conduct the evaluation through hearings on site in Stockholm, but due to the Covid-19 pandemic, the panel week had to be carried out in a digital format. The pandemic also delayed the whole evaluation process with approximately six months.

### 1.2.1 Evaluation objectives

The main objective of the midterm evaluation was to investigate how the HEIs have implemented the funded grants, the degree to which the research environment has been established at the HEIs, the level of integration of the research environment into the HEI and finally to what extent the conditions of the grant have been met. The terms of the grant were slightly different in the two calls. The main questions asked in the evaluation are:

- Has the university provided conditions enabling the establishment of the researcher and the research environment, and in what way? Has the HEI fulfilled the conditions: (i) of at least 50% degree of activity of a full-time equivalent of the recruited scientist at the Swedish HEI; (ii) co-funding of the research environment according to the application (with at least 30% co-financing from the HEI applying to the three approved grants in the 2014 call).
- To what extent has the research environment been developed? Has the research been established as a coherent, productive and well-functioning environment? Have highly qualified researchers and PhD students been recruited to the research environment? Has the research environment been established and developed vital collaborations with prominent national and international research settings?

- Has the recruited researcher moved his or her research activities to the Swedish HEI? How has this influenced the research at the HEI, as well as the Swedish research system? Has the researcher fulfilled the requirement of an activity level of at least 50% of a full-time position at the Swedish HEI?

### **1.2.2 Evaluation framework**

An evaluation framework was developed to support the data collection from the 19 grants and to frame the evaluation questions regarding scope and depth. The evaluation contains two main parts:

- 1) Data provided by HEI via questionnaires to the vice-chancellor of the HEI, the recruited researcher and an economic report from the head of the university and by interviews performed at the HEI. In addition, some bibliometric analysis was performed.
- 2) The international evaluation panel performed an in-depth pre-evaluation according to detailed guiding questions covering the main evaluation questions, followed by hearings with the leadership of the HEI and the recruited researchers.

The following data and reports for each of the 19 grants was made available to the panel in order to prepare for their pre-evaluations and hearings:

- Original applications
- Application guidelines for 2013 and 2014
- Self evaluation from the vice-chancellor at the HEI
- Self evaluations from the recruited researcher
- Interviews performed on site by the SRC:
  - » Interview with the vice-chancellor
  - » Interview with Head of the department
  - » Interview with the recruited researcher
  - » Interviews with post-docs at the research environment
  - » Interviews with PhD students at the research environment

The interviews and self evaluations (3-5) were compiled into one document for each recruited researcher

- A summary of the economy reports received from the HEI (2014-2018)
- Publication data from the period before the researcher were recruited compared to publication data 2018 in order to see whether the publications noted the Swedish HEI.

These two parts constituted the base for the international panel's evaluation resulting in the present report. It offers the panel's evaluation and recommendation for each one of the 19 grants, as well as its general reflections on the grant design and implementation. The report formulates recommendations to the SRC regarding the

remaining part of the grant funding periods. So, the report forms an important tool for the development of research grant instruments at the SRC, as well as for policy discussions.

### **1.2.3 International panel**

The international panel's responsibilities were to conduct the evaluation and examine how the implementation of the grants at the HEIs has been performed. The panel were also supposed to give recommendations to the HEIs and to the research environments on improvements for the remaining time of the grant period. The members of the panel were appointed after nominations by all Swedish higher education institutions, ie also higher education institutions that did not benefit from receiving a grant for international recruitment.

The tasks of the international panel members were to perform an individual pre-assessment of the 19 grants by analyzing the collected data and conduct hearings with respect to the implementation of the grants prior to the hearings. The documentation together with guidelines was provided to the panel in early spring of 2020. The pre-evaluation procedure was guided by specific guidelines and were submitted by the panel members in August 2020. The panel had a preparatory meeting before the hearings in order to go through the pre-evaluations and set up procedures for their work for the hearings. Conflicts of interest were handled according to the Swedish Research Council's guidelines.

The panel's final report is presented in chapter 2.

### **1.2.4 Budget and use of grants**

The grant for international recruitment originally amounted to a total of SEK 1.94 billion. The grant amount per application varied between SEK 36 and 150 million over seven to ten years. There is a requirement for co-funding from the HEI, but the first call in 2013 did not specify the size of the co-funding. For the second call in 2014, the requirement had been specified to at least 30 % (see appendix 4 for reported co-funding from the HEI). The size of the grants awarded was based on the amount that the HEIs stated in each application. Table 2 reports how much has been granted per HEI and recruited researcher. In a few cases, adjustments have been made to the amount granted as a result of deviating attendance.

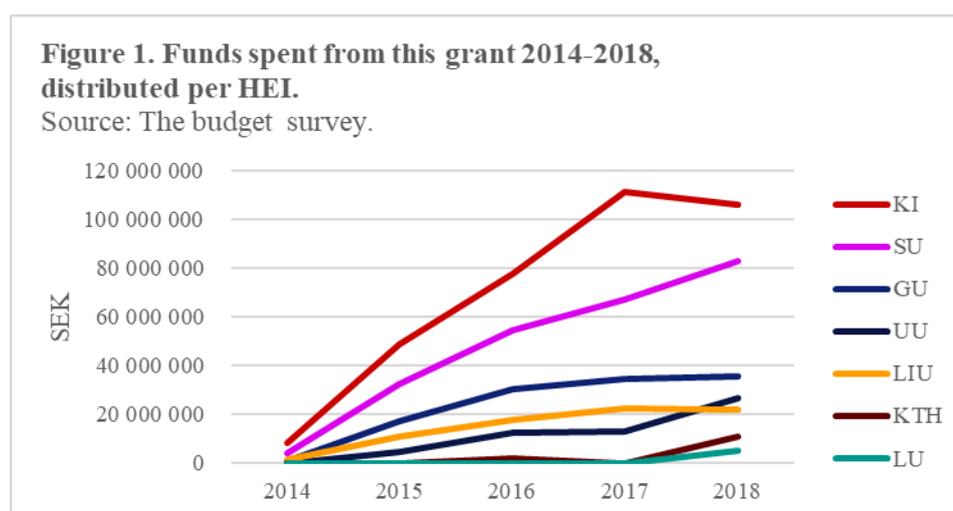
**Table 2. Amounts granted in SEK, per HEI and per researcher.**

<b>Established center/research program</b>	<b>Recruited researcher</b>	<b>Total amount granted in SEK:</b>
<b>University of Gothenburg</b>		<b>389 834 000</b>
Unit of Metabolic Physiology	Rorsman Patrik	117 578 000
Program on Governance and Local Development	Lust Ellen	131 256 000
Centre for Linguistics and Studies in Probability	Lappin Shalom	109 000 000
Gothenburg Responsibility Project From 2018 in Lund,	Russel Paul	32 000 000
<b>Karolinska Institutet</b>		<b>649 239 600</b>
Department of Microbiology, Tumor and Cell Biology	Lane David	115 453 600
Centre for eating disorders innovation	Bulik Cynthia	137 010 000
Department of Medical Epidemiology and Biostatistics	Sullivan Patrick	132 355 000
Center for Hematology and Regenerative Medicine	Jacobsen Sten Eirik	92 963 000
Division of Genome Biology	Fernandez-Capetillo Oscar	71 458 000
Division of Genome Biology	Bartek Jiri	100 000 000

<b>Established center/research program</b>	<b>Recruited researcher</b>	<b>Total amount granted in SEK:</b>
<b>Royal Institute of Technology</b>		<b>36 050 000</b>
Quantum Nano Photonics	Zwiller Valery	36 050 000
<b>Linköping University</b>		<b>170 456 569</b>
Thematic studies	Woolgar Stephen	40 007 569
Centre for Social and Affective Neuroscience	Heilig Markus	130 449 000
<b>Lund University</b>		<b>64 151 300</b>
Lund-Gothenburg Responsibility Project	Russel Paul	64 151 300
<b>Stockholm University</b>		<b>392 450 000</b>
X-ray Science of Liquids and Surfaces, XSoLaS	Nilsson Anders	125 000 000
Nordita/ Department of Physics	Freese Katherine	101 500 000
Nordita/ Department of Physics	Wettlaufer John	105 950 000
Quantum Frontiers / Department of Physics	Wilczek Frank	60 000 000

Established center/research program	Recruited researcher	Total amount granted in SEK:
<b>Uppsala University</b>		<b>225 000 000</b>
Engaging vulnerability	Kulick Don	80 000 000
Vacular biology / Dept of Immunology, Genetics and Pathology	Dejana Elisabetta	145 000 000
<b>Total sum</b>		<b>1 927 181 469</b>

The grant has been paid to the HEIs since 2014, in some cases as early as 2013. The amount paid is evenly distributed over the years. However, the expenditures have not been evenly distributed over the years, which has meant that many HEIs have built up on significant surpluses of the grant during the first years. In a financial report for each grant, the HEIs have reported how the grants have been used up to and including 2018, and for several grants, large amounts of unused funds are reported. The HEIs are aware of the surpluses and they are explained, among other things, by the fact that it takes time to establish a new research environment and to recruit researchers to the environments.



## **2. OVERALL SUMMARY, CONCLUSIONS AND RECOMMENDATIONS FROM THE EXPERT PANEL**

### **2.1 Foreword from the Panel Chair**

All research funding instruments impact deeply on existing research communities and on the direction of science. When research funding instruments form part of public research funding there is a particular opportunity and obligation to honour due diligence measures in terms of transparency and accountability. The present evaluation report is framed by these concerns.

The report is the result of an evaluation conducted by an international evaluation panel (see appendix 1). The evaluation is a half-term evaluation of all 19 grants under the funding instrument Recruitment of International Leading Researchers, where Swedish higher education institutions (HEIs) are grant holders.

The panel's work has been guided by Terms of Reference as set out by the Swedish Research Council (SRC). Here, the key objectives of the evaluation are defined as follows: "to investigate how the HEIs have implemented the funded grants, the degree to which the research environment has been established at the HEIs, the level of integration of the research environment at the HEI and finally to what extent the conditions of the grant have been met." Based on evaluation results, the international panel was commissioned to offer general and specific recommendations to the SRC in terms of existing grants and future calls.

The Swedish Council provided an evaluation design which designated a two-step evaluation process: A pre-assessment of each grant based on quantitative and qualitative data generated by the SRC followed by a panel assessment based on the panel's hearings in the form of personal interviews with each principal investigator and her or his university leadership (Vice-Chancellor, Dean, Head of Department or similar).

Importantly, the objectives and research design imply that the international panel's evaluation has focused on institutional and individual aspects of grant implementation. No evaluation has been made of scientific quality or relevance of the grants in question, and the report makes no comparisons across grants or HEIs. Moreover, the evaluation focuses on the grant scheme as such, so the evaluation offers no comparison with other SRC grant schemes, nor does it consider whether similar objectives could be met through different research priorities, be they national, international or regional.

A few notes on the panel's interpretation of key definitions in the Terms of Reference. One definition concerns the PI's activity level. The Terms state that the HEI has an obligation to secure "at least 50% degree of activity of a full-time equivalent of the recruited scientist at the Swedish HEI." The panel has assessed this obligation in light of the overall aim of the grant scheme: to stimulate world-leading research at Swedish HEIs by attracting distinguished researchers from abroad. The panel views the PIs as instrumental for generating and sustaining an academic culture and a coherent and productive research environment. Hence, the panel notes that a sound proportion of a PI's activity must be in the form of physical presence at the HEI, not online access.

As part of the panel's evaluation of each HEI research environment, the SRC's evaluation design also included assessment of "gender balance" in the composition of research groups. Here, the panel's evaluation is based on a notion that the question of gender balance is important as a scientific objective of harnessing the full talent pool, not as a measure of personal equity. In that light, the panel has considered the issue of gender balance as an aspect of wider diversity measures to develop scientific excellence.

The report is structured according to the panel's Terms of Reference. Based on an introduction outlining the background to the grant scheme and the evaluation process, the report first offers the panel's overall evaluation of the grant scheme and recommendations to the SRC. Then follows an overall evaluation of and recommendations to each HEI grant holder and last is an evaluation of and recommendations made to each grant.

The panel would like to thank leaderships at each of the participating HEIs and all PIs for their constructive responses and willingness to engage in the evaluation process. Due to the Covid-19 pandemic, the online format of the crucial hearing stage became taxing for all. The panel would like to extend its thanks to the SRC for its excellent administrative online support and for overseeing the entire evaluation process.

Kirsten Drotner  
Professor, dr.phil., FRDAS, MAE  
International panel chair

## 2.2 Main recommendations to the Swedish Research Council

### Overall evaluation

The international evaluation panel assesses that the initiative has been a success in fulfilling its overall aims.

### Recommendation

In order to create a lasting impact on the Swedish higher education institutions (HEIs) and the Swedish research environment at large, the SRC should continue the initiative with the following specific amendments of the 2013 and 2014 grants.

### Future calls

To ensure more stability and higher chances of strong long-term integration, the panel recommends the following adjustments to future calls:

- SCR: bi-annual calls for c. 4-5 grants per call and with clear policy clearance of longer-term funding – in order to optimize HEIs' long-term planning
- SRC to clarify the key aim of the initiative: personal grants or institutional grants for long-term centres – in order to optimize programme leaders' obligations and means of programme evaluation
- SRC to draw up binding contracts with HEIs inc. sustainability measures - in order to secure legacy
- SRC to consider amending academic career levels for programme leaders towards more rising stars at mid-term career levels – in order to optimize pool of excellent candidates with verifiable leadership experience and potentials to innovate scientific substance
- HEI to clarify criteria of nomination and selection of candidates – in order to optimize public transparency and legitimacy
- HEI to clarify importance of diversity with regard to gender and scientific fields as means of optimizing scientific excellence
- HEI to specify verifiable success measures in application - as a means of formative evaluation.

### Present programmes

- Liaise: SRC to appoint an international scholar programme coordinator – one contact point for all HEIs
- Added value: each HEI to appoint a senior contact point, such as pro vice-chancellor, in order to harness and review programme leader's academic, leadership, and strategic resources
- Co-funding: HEI to document and specify scale and scope to SRC (what, how, when)
- Activity level: HEI to document to SRC negotiation and its results with programme leader when there is a large non-compliance with regard to activity level in Sweden

- Legacy: HEI to specify exact sustainability measures beyond the programme period
- Evaluation: the programme initiative should undergo a final, summative evaluation conducted by a panel of international experts as a basis for decision on continuation of the initiative.

## 2.3 Implementation of the grants at University of Gothenburg

The University of Gothenburg (GU) leadership appears to have had a good strategic plan for their recruitments as set out in the applications to the international recruitment programme of the SRC in 2013 and 2014. Based on this strategy GU won three grants (initially four grants but one grant was transferred to Lund University) that are all delivering at a very high level, including developing new high-profile centres which generates new recruitments, considerable additional funding and new international collaborations. Yet, the current GU leadership does not appear to be aware of the strategy for such recruitments made in 2013-14 and does not appear to have much contact with several of the initiatives, since the ordinary GU organisational structure does not facilitate direct contact between upper levels of leadership (chancellor, vice rector) and programme leaders.

GU has provided conditions that sufficiently enable its three programmes to establish their activities in a coherent and efficient manner. Initial challenges with respect to contracts and infrastructure indicate that GU may not have been fully prepared for programmes of this scale and scope. These challenges are now resolved.

It is not clear what the commitment of the HEI (current GU leadership) is to ensure a legacy from these environments. There appears to be a lack of understanding of key strategic concepts in the SRC international recruitment programme such as sustainability and added-value and a “disconnect” with the previous leadership at GU in how strategic these recruitments actually were. No concrete legacy measures are planned at present and there appears to be a lack of strategy for how to capitalise on these grants. Of note, there is also expressed insecurity and anxiety with respect to the future and lack of a clear path forward among recruited junior faculty and mid-level researchers.

### **Recommendations**

GU leadership should systematically evaluate its administrative and scientific implementation of the three SRC programmes, including reflection on learning points provided by programme leaders (for example on gender equality)

The GU leadership should establish a strategic committee for each grant involving the senior management, representative(s) from the department, and the internationally recruited researcher. This committee should start designing a process for ensuring legacy and a critical mass of scholars to continue to carry forward the area.

The GU leadership should implement coherent tenure-track programme with transparent go/no-go decisions (for example utilising a new mechanism available (biträdande lektor).

## 2.3.1 Centre for Linguistics and Studies in Probability

### 2.3.1.1 Overall comments and recommendations

Shalom Lappin is an outstanding researcher who has established a thriving research Centre for Linguistics and Studies of Probability (CLASP) within a multi-disciplinary department (Philosophy, Linguistics and Theory of Science). There is a coherent world-class research programme embracing: language, perception, robotics and machine learning. CLASP is well-connected internationally through conferences, international visitors and research collaborations. Lappin and members of CLASP are also well integrated within the department, though integration was initially slow. Lappin describes CLASP as outward-facing seeking cross-university collaborations and making connections across Sweden with both academics and industry.

Support from aspects of the GU infrastructure has been strong, in particular from its Research Grants and Innovations Office, and university co-funding has been appropriately forthcoming. However, it was concerning to find that CLASP is not formally connected with GU's strategic initiative for the development of AI, and cross-departmental links are more limited than one might expect. Direct communication with senior university leadership is also limited, which is a problem since GU is technically the Principal Investigator (PI) for the programme.

#### **Recommendations:**

GU senior leadership might create stronger connections with CLASP for the benefit of the University and its strategic direction and for the research centre. The panel would suggest ensuring that one member of the senior leadership team liaises with CLASP (and the other GU centres funded through this initiative) as part of their portfolio of responsibilities.

One indication of work to be done at university level is that Lappin will retire when funding ceases, and although he will remain connected there needs to be serious senior-level conversations about planning for the sustainability of CLASP post current funding.

In addition, there is a significant underspend on the CLASP budget. Lappin, together with the University, needs to liaise with SRC on ways forward with regard to the underspend.

### ***2.3.1.2 Start-up phase of the research environment***

*HEI perspective:* There was some confusion over co-funding at the outset, but that was quickly resolved and Lappin was able to proceed rapidly with setting up his lab with good GU support including good administrative, ICT and library support. There was an initial problem over location and space, which GU resolved by locating CLASP in a stand-alone villa.

*Researcher perspective:* Lappin was coming to the end of his UK ESRC (UK Economic and Social Research Council) Professorial Fellowship and had already collaborated with a GU colleague. The research programme, clearly outlined in the application, moved rapidly with the purchase of equipment etc. and Lappin started his involvement at 50% fte (full time equivalent) as planned. The integration of the research centre into the department was initially slow. Team-building across the different activities appears to have been helped by being accommodated together in a stand-alone villa, however, the consequent lack of close proximity to the department did not aid integration. The recruitment and training of PhD students is a priority for Lappin and the full quota of 12 has been recruited. Though Lappin is concerned that they will all have graduated and moved on before the award ends: PhD students will be missed as their contributions to the programme are significant. There has also been successful recruitment of permanent researchers and of postdocs, and the latter are moving on to other positions once their 2 years are completed. Capacity-building with a view to future careers is a priority which is being successfully addressed.

### ***2.3.1.3 Current phase of the research environment***

*HEI perspective:* GU leadership receives annual reports from CLASP, and co-funding continues as planned. GU also shows commitment to CLASP by covering the additional 25% of Lappin's salary from 2018.

*Researcher perspective:* CLASP has now been relocated to be close to the department and with more space, Lappin's involvement has risen to 75% and a GU professorial colleague allocates 35% of his time to the centre. The research programme continues apace, international collaborations continue and there has been success with gaining external funding allowing for the recruitment of additional senior researchers. The development of CLASP as a world-class centre with a range of connected activities is clearly the main activity for SL.

The teams in the centre comprise very well-qualified PhD students and postdocs, who make valued contributions. The centre is linguistically and culturally diverse, though overall there are more men than women. Lappin is aware of the gender imbalance, consequently currently 4 of the 9 PhD students are female and he hopes to recruit more female postdocs. Postdocs and PhD graduates are finding positions elsewhere and there are personal connections being made across GU departments. There is an underspend that Lappin would like to use to recruit at least one more PhD student as the current cohorts will have left before the end of the award.

The team has good links with other Swedish universities and there is a strategy for public engagement. Lappin has been involved in a wide variety of outreach activities, some of which have been enabled by GU. The potential for connections with industry is strong - so far these have largely been facilitated by the professorial colleague mentioned above, who has a spin-off company.

Having held UK ESRC funding, Lappin was accustomed to closer direct links with the research funders. However, as GU is the PI, the need is for closer links with someone in the GU senior leadership team.

#### ***2.3.1.4 Future phase: Remaining part of the grant period, and beyond***

*HEI perspective:* GU expects CLASP to continue as a self-sustaining environment with support from the department and faculty as well as external funding sources. As stated above, there needs to be serious senior-level conversations about planning for the sustainability of CLASP post current funding.

*Researcher perspective:* There are legacy plans for the continuation of CLASP, perhaps in a reduced form, with the support of a consortium of funders including industry. Although CLASP is already gaining a steady flow of external funding, Lappin is planning for major efforts at attracting external funds at around 2 years before SRC funding ends. Lappin is due to retire at the end of SRC funding and plans to continue engaging with CLASP, but not as Director. He is confident that there is good potential for the leadership of CLASP within the current members, but this raises questions about the prospects for tenure for current postdocs.

### **2.3.2 Program on Governance and Local Development**

#### ***2.3.2.1 Overall comments and recommendations***

This is a very successful programme on all counts. It is well-integrated into GU and contributes to the department, including teaching. It has galvanized innovative research collaborations locally, nationally, and internationally, and it has spurred approximately 40 MSEK in third-stream funding. Ellen Lust is a mentor also in terms of gender, and other forms of diversity, actions, and she offers innovative and substantial pathways to impact.

#### **Recommendations**

GU would do well to use Lust as a guide in terms of defining gender balance in the academy as a means of scientific excellence and not just as a measure of justice.

GU should harness and support Lust's considerable resources in advancing its pathways to wider societal impact in a more strategic fashion.

GU should clarify its policy in terms of financial support and make it more transparent, especially with regards to overheads.

GU should enter negotiations with Lust of securing sufficient space for her expanding activities.

### **2.3.2.2 Start-up phase of the research environment**

*HEI perspective:* GU notes that the programme has more than fulfilled its aims of establishing a new and internationally prominent research programme in tandem with further strengthening two existing research groups.

*Researcher perspective:* Lust expresses that moving her research programme has fully met her expectations.

Since initiating her programme at GU in 2015, Lust has expanded her Governance and Local Development programme from Yale University, following a clear strategy to formalise collaborations locally, nationally and internationally, and build an infrastructure going beyond the programme itself. This strategy has been very successful, and Lust has moved to Gothenburg where she has a tenured position with 100% FTE since 2016.

Lust and her group are fully integrated into the department, including seminars and teaching. No co-funding was required (2013 grant scheme). Yet, GU has supported relocation costs, in addition to provision of offices, IT and logistics support, administrative, financial functions and grant application support. Lust has obtained considerable extra third-stream funding (approximately 40 MSEK from e.g. the World Bank, Carnegie, Formas, Riksbanken, SRC).

Lust has instigated a very successful formation of an international research group with a fair gender balance. In terms of recruitment, the GU vice-chancellor expresses no insight into the correlation between scientific excellence and diversity. Conversely, Lust expresses awareness of gender-sensitive leadership including mentoring of junior faculty.

### **2.3.2.3 Current phase of the research environment**

*HEI perspective:* Lust's programme has increased GU visibility considerably, and it has galvanized stronger networks nationally and internationally. In addition, the programme has secured considerable third-stream funding.

*Researcher perspective:* Lust expresses her full integration into GU faculty and indicates that she gets sufficient support in expanding her many international partnerships and networks.

Academic output is amply sufficient. Lust's diverse publication profile in terms of co-authorship speaks to ambitions of academic inclusion and diversity.

The project has galvanized more, and more diverse, national and international networks and formalised modes of collaboration, including public sector stakeholders (World Bank, UNDP, OECD, EU).

The programme has an impressive list of impact initiatives, including public outreach (e.g. Almedalen, annual policy day) open lectures, blogs and pod-casts. A GU appointment of a Deputy for Outreach and cooperation in 2018 does not seem to have implied a utilization of Lust's experience.

The programme has added value for GU and Swedish research. Its innovative and important research programme complements the internationally recognized department programmes Varieties of Democracy and Quality of Government. The programme has clearly widened the diversity of GU's international collaboration and visibility. The programme has more than met the expectations expressed by GU leadership and Lust.

#### ***2.3.2.4 Future phase: Remaining part of the grant period, and beyond***

*HEI perspective:* Expectations of further flourishing of the programme, and there is a signed obligation to secure Lust's position beyond the programme period.

*Researcher perspective:* Lust expresses confidence in continued growth and a personal commitment to GU in making that happen.

The project has more than fulfilled the milestones and ambitions as set out. The research theme is likely to continue beyond the SRC grant, since Lust has a permanent position and is a full faculty member. Both Lust and GU leadership express confidence in continuation of the theme beyond the SRC grant based on Lust's success in generating additional third-stream funding. Pending issues of space because of programme expansion.

### **2.3.3 The unit of Metabolic Physiology**

#### ***2.3.3.1 Overall comments and recommendations***

The recruitment of Professor Patrik Rorsman from Oxford University with the purpose to establish a unit for Metabolic Physiology at the University of Gothenburg (GU) appears to have been a very well planned and successful recruitment attracting a very successful and high-profile researcher and with a gradual phase-over with 35% at GU in 2014, 50% in 2015-17, 65% in 2018 and 80% from 2019 on. Rorsman still maintains a part-time (20%) adjunct professorship at Oxford and spends some 4-5 days/month there maintaining also the links to the Oxford environment. It is evident from the statements that Rorsman, a Swedish native that trained in GU and then worked in Lund University (LU), really wanted to return to Scandinavia and to be part of building a new unit and developing it strategically. He has relocated and moved and participates as a full faculty member at GU and in Sahlgrenska Academy.

In the recruitment, GU committed more than 37 MSEK in institutional support including Rorsman's salary (over the 10-year period). In addition, Rorsman already had grants in Sweden of more than 20 MSEK whereas SRC committed 118 MSEK. In the original documents there is a justification for what Rorsman would require based on a plan for the new GU unit and a budget explaining in detail which types of

positions and other incurred costs this would cover and also including anticipated future grant income.

Professor Rorsman is clearly a highly distinguished researcher, he has been very productive over the period and has succeeded in creating a strong hub for metabolic research within the Institute of Neuroscience and Physiology at GU, an exciting new environment which has flourished. This unit brings together expertise in several metabolically active tissues such as the brain, fat and pancreatic islets that fosters a more holistic approach to metabolic regulation and disorders. The team, which has been built, has established new advanced technologies that can be used by other members of the university and has provided important contributions to the research field. They are well integrated, internationally recognized, and they have been successful in attracting external funding. Through the Rorsman's mentoring and support he is developing the next generation of international researchers which are promoted internally.

This appears to be an exceptionally successful recruitment that has met all expectations and more. It has delivered on most aspects and has led to outstanding research and strengthened the strategic leadership at GU and its ability to recruit and mentor younger PIs. The recruitment has also led to a lot of other research support and has generally helped in recruiting several younger PIs in the area setting up their own groups.

### **Recommendations**

Despite having established a strong unit, there appears to be a need for GU leadership to think about long-term impact of the investment, to carefully plan for continuation and legacy, and to formalise some of this planning. See also general recommendations and recommendations specific to GU.

The HEI and researcher should think about maximising added value by drawing on researcher's experience and expertise in specific areas.

### ***2.3.3.2 Start-up phase of the research environment***

*HEI perspective:* The start appears to have been slow, partly due to negotiations between Oxford University and GU. Also, the area was new to the Department so it took time to establish an infrastructure and organisation.

GU provided support in the recruitment on administrative processes for establishment of Rorsman's group and its integration.

*Researcher perspective:* Recruitment has gone very well, the new unit is home to four young mid-career scientists, with a total staff of 35. Fourteen of them are funded by the grant and represent a mixture of PhD and postdocs, mostly non-Swedish. The unit occupies an entire floor (floor area approx. 500 sq m).

The scientific activities are clearly coherent, and they have succeeded in creating a new unit, which did not exist before. The gender balance has been discussed, and there seems to be a good balance. There is some teaching performed by the team. Good connection between the PI and the students/postdocs based on feedback in the written material.

### **2.3.3.3 Current phase of the research environment**

*HEI perspective:* Although no details on co-funding from the HEI were requested in the 2013 call, the application specifies that "Professor Rorsman's personal stipend will be paid by the university (department) and that GU additionally provides two MSEK/year for hospital-based research (ALF), one MSEK/year as joint-funding with the Wallenberg Scholar Award and two MSEK for equipment". In total, this amounts to 37 MSEK. In addition, Rorsman already held other Swedish funding in the amount of 20 MSEK that went into the initiative and plan including funding from the Wallenberg Scholars programme (of 15 MSEK).

*Researcher perspective:* The activities commenced gradually in 2014, and Patrick Rorsman has held a part-time contract (50%) with GU from October 2014. As of beginning of 2019, GU is his main employer (80%). Rorsman is an active member of Sahlgrenska Academy and, since he started the SRC grant, he has been very active in collaborating, recruiting and supporting young scientists in their career. He has also served as a member of the Faculty board 2015-2018. He has now a very small group left in Oxford and the bigger group is in Gothenburg. His role in Oxford is currently limited to mentoring four mid-stage career scientists and one PhD student. At GU, he is not regularly involved in teaching to a large extent but he is organizing seminars.

The group has developed collaborations with other teams working on various aspects of metabolism within the home department (Physiology), the Institute (Neuroscience & Physiology), the Faculty (the Sahlgrenska Academy) and GU as a whole. They have had discussion on diabetes centres in Sweden, (Lund, Uppsala, Linköping), and Denmark (Copenhagen). Some of the researchers have collaborated, such as conducting experiments in Copenhagen.

They also started new collaborations with the Centre for Regenerative Therapies at the Technical University in Dresden (Germany), the University of Cambridge (UK), and colleagues in Denmark and in Malmö. The team collaborates with German groups, Japanese groups, Switzerland and Canada besides the group in Oxford. They also have collaborations with the private sector: with AstraZeneca, and with the Insphero (a Zurich-based Biotech firm).

The academic output of the team is of high level and entirely coherent with regard to overarching research questions and themes. Professor Rorsman has further strengthened the international presence and visibility of the University's research. Together with his collaborators he has published frequently in top-ranking journals and is a frequent speaker at international diabetes meetings. Professor Rorsman was awarded the Nordic Medicine Prize in 2018, the Feldberg Award in 2016 and the

Alfred and Hilda Erikssons Price for Medical Research (Royal Swedish Academy of Sciences) in 2014.

In terms of outreach, the team has given lectures at upper secondary education and first-cycle higher education, lectures open to the public and interviews in media (Swedish Television and the Wallenberg Foundation)

Added value is evident, since the unit in Gothenburg did not exist prior to the Rorsman's arrival. The SRC grant has enabled the building of strong infrastructures in terms of imaging, molecular biology, tissue culture and whole-body physiology. Importantly, the grant has helped to hire relevant support staff. Key components of the Rorsman's Oxford-based research have been successfully relocated to GU and there are synergies between the two groups.

A stream of high quality early-career researchers has joined the University and the research environment established by Rorsman. He also became a Wallenberg scholar in 2014 and the other prizes and recognitions conferred to him and his team have given increased visibility and credibility to the university. His international scientific network also benefits the reputation of the university, and its visibility and research environment was further increased by the recruitment of a visiting professor, who is a world-leading researcher within experimental diabetes research and well-known for her public engagement – a recruitment that had not been possible without the attractive research environment that Rorsman has created.

Many of the staff recruited/retained with the help of this grant now hold tenure-track posts and a few of them are en route to become full professors. Thus, the grant and the establishment of the unit will hopefully have a lasting impact on the research landscape in Gothenburg and beyond.

#### ***2.3.3.4 Future phase: Remaining part of the grant period, and beyond***

*HEI perspective:* From the University leadership perspective, the plan for the environment is to grow, to consolidate the infrastructure already being attained and to support Professor Rorsman in his plans to perform research in the field of metabolic physiology at top international level. There is a strong development among the junior scientists in the environment, one of them has already applied for full Professorship and several of junior scientists are part of the Institute's recruitment plan for the future. The expectations are high for this research environment, to both grow and deliver even better now when being established and with Professor Rorsman increasing his time employed by the University of Gothenburg even further. To further strengthen the research environment around Professor Rorsman, Sahlgrenska Academy has also supported the recruitment of a researcher from the Max Planck Institute in Cologne.

The University, Institute and Department are willing to continue supporting this activity.

*Researcher perspective:* Rorsman has laid the foundation of a strong unit with several mid-career scientists, and they are likely to attract their own awards particularly as the group has already been very successful in attracting external funds. So the unit on metabolic physiology should continue to grow and the infrastructure be consolidated even further during the remaining period of the grant but also remain and survive beyond.

In terms of additional external income, Professor Rorsman has been very successful, and in the period of 2014–2018 he has raised 19 MSEK.

## 2.4 Implementation of the grants at Karolinska Institutet

Karolinska Institutet (KI) is a flagship institute in Sweden, and this is reflected in its ability to attract the highest number of SRC programs among the HEIs. The SRC grants have enhanced KI's international standing and put KI in a more visible position internationally than before, and they also bring increased visibility of KI to the Swedish public. This is despite a number of challenges in the institutional application process: a lack of an overall strategy and transparent process for selection of candidates to apply for the grants; applications that mainly argued that prior excellence (based on candidates' CVs and past performance) would generate future excellence; and budget justifications focussed on what would be needed to attract candidates rather than what the money would be used for.

Most of the programmes have achieved considerable success. The SRC programmes have helped KI build an exciting and dynamic environment and, in some cases, they also bring the relevant scientific communities together both within KI, Sweden, the Nordic countries and beyond. The recruited scientists are all delivering at a high level, which includes developing new high-profile centres, attracting outstanding junior faculty and excellent new recruitments at all levels, raising considerable additional funding and implementing new international collaborations. Yet, for some programme leaders there have been issues with presence and deliveries according to the grant rules. This situation raises important issues on how little presence a grant of this magnitude can justify and of how little presence a PI can have and still contribute to the formation of new scientific areas, an excellent research environment and a legacy.

KI has provided conditions that sufficiently enable its six programmes to establish their activities. Initial challenges with respect to contracts, infrastructure and with honouring budgeted KI's own contributions for some grants indicate that KI may not have been fully prepared for programmes of this scale and scope. These challenges are now mostly resolved. The current KI leadership does not appear to have much contact with most of the initiatives, since the KI organisational structure does not facilitate direct contact between upper levels of leadership (chancellor, vice rector) and programme leaders.

As a «victim of its own success», a major challenge for KI is how to maintain its current national and international standing and to ensure the future success of its SRC grants and beyond. It is not clear what the commitment of the current KI leadership is to ensure a coherent and lasting legacy from these environments. Few concrete legacy measures are presently planned for most of the grants, and there appears to be a lack of strategy for how capitalise on these grants. There also appears to be a lack of strategy with respect to gender equality and, hence, few concerted efforts to harness the full scientific talent pool. More ambition could be expected here from an institution of KI's format.

Sustainability/legacy of the established programs is one of the biggest challenges KI faces. As noted, KI has been the most successful HEI in attracting SRC grants. Unsurprisingly, KI will soon be faced with tough decisions on which programs to expand, to keep or to terminate. Since the internationally recruited scholars and their programs are housed in multiple departments, KI leadership needs a buy-in from all participating departments to develop its future strategy in order to preserve the legacy for some, but not all, the established programs. As a flagship institution in the life sciences, KI could also take this opportunity to consider what is best for Sweden with respect to sustaining outstanding research and preserving legacy in its areas of research. KI's ability to overcome this challenge will provide KI with great opportunities in the future.

### **Recommendations**

KI leadership should systematically evaluate its administrative and scientific implementation of the six SRC programmes, including reflection on learning points provided by programme leaders (for example on gender equality).

KI leadership should establish a committee for each grant involving the senior management, representative(s) from the department, and the recruited researcher to facilitate extracting added-value of these programmes.

KI leadership should work together with participating departments to identify the international scholar programs that have achieved or are generating synergy internally, inside the HEI and/or with national and international environments. Special attention should be paid to the ones that will have long-lasting impact on Swedish society and globally and where KI could take a lead nationally to instil more transversal coordination, collaboration and cohesion in a particular area.

KI leadership should work internally with each PI and environment (grant office, higher level leader) to design a plan that will preserve legacy and sustain programs, for example by generating other funding, and by transition to tenure for successful recruits.

KI leadership should work with the PIs to recruit the best next generation scholars from national and international talent pools to ensure the longevity and future success of the program beyond the current SRC investments.

## 2.4.1 Division of Genome Biology (I)

### 2.4.1.1 Overall comments and recommendations

The recruitment of Jiri Bartek to the Department of Medical Biochemistry and Biophysics (MBB) and SciLifeLab at KI from the Danish Cancer Society (DCS) Research Centre, Copenhagen, Denmark, in 2014 appears to have been a well-planned and successful recruitment attracting a very successful and high-profile outstanding senior researcher to a 50% position at KI (originally planned to increase to 100% at KI, but that plan has been abandoned). Bartek still also maintains a part-time position (70%) as group leader at the DCS Research Centre, and according to this agreement he has a physical presence of one week/month at KI and otherwise works remotely. Bartek was tasked with building a laboratory for cell-cycle control and DNA damage responses in cancer and to involve himself in the academic drug development programme with phenotypic drug screening at SciLifeLab, an activity that appears to have been successfully developed. He also contributes strategically to SciLifeLab and MBB. This recruitment was also coordinated with that of Oscar Fernandez-Capetillo from the Spanish National Cancer Research Center (CNIO) in Madrid who got a SRC grant in 2013 to the same environment. From Bartek's side the attraction was the possibility to expand the scope of his research by accessing new technologies available at KI.

In the recruitment, KI committed 47 MSEK and requested 150 MSEK from SRC of which SRC appears to have committed 100 MSEK. In the original application there is a justification for what Bartek would require based on required positions and other incurred costs.

Professor Bartek is clearly a highly distinguished researcher, he has been very productive over the period and has substantive teams both at KI and at DCS in Copenhagen that interact regularly.

In sum, this is a successful recruitment that has met a number of the expectations and delivered on many aspects, has led to outstanding research and strengthened the environment at SciLifeLab and MBB and its ability to build an internationally strong environment in cell-cycle control.

#### **Recommendations**

KI leadership should think long-term about the impact of the investment and make careful forward planning for continuation, see general recommendations and recommendations specific to KI.

The HEI and researcher should think about maximising added-value by drawing on researcher's experience and expertise in specific areas such as drug development and screening technologies and by encouraging more local collaborations.

### ***2.4.1.2 Start-up phase of the research environment***

*HEI perspective:* Co-funding seems to have been generous over the first 5-year period (start-up money) and is then logically tapered off to 0 during the second 5-year period. There appears to have been some discussion on how KI could release their own contribution.

Bartek's ability to attract other funds is generally strong, and he has won grants from Cancerfonden. However, Bartek says that he has been told not to apply to other SRC grants and that the Wallenberg Foundation would not fund a scientist with this type of large SRC grant. But this does not seem to be the case, and Bartek may have possibilities to raise considerably more funding in Sweden.

KI provided support in the recruitment on administrative processes for establishment of the Bartek's group and its integration. Furthermore, KI supported different aspects of re-allocation of Bartek's group and the space has been developed as indicated but the Bartek's group wonder about their possible expansion.

*Researcher perspective:* Recruitments to the group is reported by Bartek to have been very successful and fast and attracting really good people. Currently Professor Bartek has a total of 12 people at KI as well his group at DCS in Copenhagen. At KI he recruited a scientific coordinator in a 50% position (jointly with Fernandez-Capetillo), next a researcher and Co-PI and then postdocs. He has PhD students as main (1) and co-supervisor (4) at KI. He now focusses more on mentoring postdocs in his own lab and via his co-PI.

Gender balance is in favour of males in the postdoc category – due to who got individual grants. Bartek has a focus on transition of female postdocs to PIs. Recently, the group has become more gender balanced, as is also the case at the Division level (shared space).

The group seems well integrated at SciLifelab and also into the MBB, and Bartek is happy with the premises although surprised at how space and all services are charged at KI. Based on interviews with group members, Bartek is responsive and attentive when he is present at KI 1 week/month.

The group seems focussed, coherent and well-coordinated inside the Division of Genome Biology with Fernandez-Capetillo's group as well as with Bartek's own group at DCS in Copenhagen.

There appears to have been some differences of opinion and issues in the initial setup at SciLifeLab and coordination with the activity of other groups, which led Bartek and Fernandez-Capetillo to set up their own Division.

### ***2.4.1.3 Current phase of the research environment***

*HEI perspective:* Bartek is clearly active at KI and has a strong presence both with respect to research and strategic recruitment. He seems to have integrated very well into the SciLifeLab environment. With respect to added value, the KI vice-

chancellor emphasises four main points: i) that the recruitment has successfully bolstered the quality and volume of research; ii) that there is increased visibility in the research area and surprisingly also at the dimension of outreach and science dissemination in Sweden; iii) that this has led to recruitment of younger talents; and iv) that the recruitment has helped the environment raise additional funding.

All of these and other aspects have been emphasised by the Department Heads and the programme leader, particularly the strategic and development sides of developing SciLifeLab and Genome Biology Division. KI took full benefit of the J. Bartek scientific reputation through his mentorship and attractiveness.

Ten very good and outstanding papers are listed as the most important contributions so far resulting from the affiliation and grant. For two Professor Bartek is senior author on the papers (*Nature*, *Oncogene*) and in three Bartek is second last author, and in at least one of these with a lab-member as last author. In total Bartek has published 74 papers with his KI affiliation since 2014. Hence from the research side and looking at outputs, the research is outstanding and strong and the total output can be said to be justified versus funding.

From the HEI side administrative support is stated to function well.

The Bartek group appears to be involved in seminars, courses and teaching at KI. The researcher is a world-class scientist, frequently invited to scientific meetings around the world, but also by several media, thus representing KI and increasing its visibility.

*Researcher perspective:* Bartek indicates that the level of administrative support functions well.

He focuses on basic and translational research in the area of cell-cycle control, genomic integrity, cellular stresses and cancer. The projects in Stockholm and Copenhagen are related to elucidating basic molecular mechanisms, with aspects of translational character. Both teams collaborate to some extent, they organise joint retreats, mutual visits, and this arrangement seems to be mutually beneficial. Another major positive feature has been the establishment and fostering of new collaborations, at SciLifeLab, with other Departments of KI, and beyond KI. The group appears to be involved in seminars and courses at SciLifeLab.

Bartek has largely contributed to build a solid scientific environment. There are somewhat variable responses from different categories of staff with respect to mentoring. He has implemented an active line of collaboration which integrates a number of KI groups and other scientists across Sweden which has led to numerous collaborative papers.

#### ***2.4.1.4 Future phase: Remaining part of the grant period, and beyond***

*HEI perspective:* The HEI expects that this research environment should be fully functional and continue to perform very well. The PI has shown some high-level

results and supported new clinical trials in Nordic countries, in particular in the area of drug repurposing in oncology.

For the future, KI will continue to provide “usual” support but will not be able to compensate for the funding from SRC when it ends. Nevertheless, it seems that they (the department, the division and the PI) are concerned about preserving the future by opening/offering assistant professor positions. In this regard, the Bartek environment already secured some very talented and productive senior scientists and/or assistant professor candidates, who may very well be able to take over the leadership role if required.

*Researcher perspective:* Specific future plans have not been detailed yet. However, based on its prior performance the group is expected to continue doing exceptionally well. It is understood from the interview that Bartek plans to continue the research for a number of years still although his official retirement should occur before the end of the SRC grant funding period. He also plans to start applying for more grants to sustain activity at KI beyond the 10-year SRC funding period.

Of note, however, is that this researcher is hired at 50%, yet has an agreement on 25% physical presence (75% at DCS in Copenhagen) and maintains two fully operational groups. Bartek indicates that it functions well to commute Copenhagen – Stockholm on a regular basis.

Against this backdrop, and as there is no institutional plan to sustain the programme in place at present, it appears that a risk would be that the activity could phase out when the funding period ends.

## **2.4.2 Centre for Eating Disorders Innovation (CEDI)**

### ***2.4.2.1 Overall comments and recommendations***

Overall, this is an extremely successful program of international recruitment. Despite of the initial difficulties in negotiating with University of North Carolina (UNC), this has been a smooth and successful appointment, both for the researcher and the HEI. Professor Bulik is an outstanding, internationally recognized researcher in the area of the genetic basis of eating disorders. She has surpassed the initial expectations in what she has achieved so far, both in terms of creating an exciting and dynamic environment and attracting young talents. She has recruited up to 30 people to her research team, with an almost 50/50 gender balance. She has established a new research centre (Centre for eating disorders innovation, CEDI) and has built collaborations outside KI in Sweden and beyond. Professor Bulik’s recruitment has undoubtedly enhanced the visibility of KI both in the national and international scientific communities and in the Swedish public.

### **Recommendation**

The panel assesses that in the next five years, Bulik will continue with her outstanding work to strengthen and to expand CEDI and will bring much of her current research to academic fruition and to the benefit of society. However, one of the major challenges for both professor Bulik and KI is how to sustain the current activity beyond the SRC funding scheme. It is therefore critical for Bulik, her host department and KI leadership to start the succession plan in order to preserve and sustain the legacy of this highly successful SRC investment.

Although co-funding from the HEI was not stipulated at the application stage, funding (including commitment to future positions) from KI, in particular a recruitment of a full time faculty member, could help keep up with the momentum, thereby strengthening the existing activities and ensuring the longevity of the successful centre beyond the SRC funding cycle.

#### ***2.4.2.2 Start-up phase of the research environment***

*HEI perspective:* The funding scheme provided the KI with a great opportunity to expand into a new and exciting research area, as well as to attract an outstanding international leader. The Department of Medical Epidemiology and Biostatistics (MEB) was a driving force and played a key role in the initial recruitment. Bulik was known and respected by PIs at MEB, so this facilitated a successful establishment of her research lab and her subsequent ability to build a research centre, CEDI, which has 30 people ranging from PhD students, postdocs and senior researchers with 50:50 gender balance.

*Researchers perspective:* Professor Bulik has been collaborating with people at the MEB department, KI for some time so SRC funding provided a great opportunity for Bulik to take her research to a new level. However, Professor Bulik did have some administrative challenges at the outset. In order for her to spend 50% of FTE at KI, which she has fulfilled successfully, the two universities (KI and UNC) had prolonged negotiations of a contract that was acceptable, especially to UNC. The research leader did receive some administrative, IT and biostatistical support from the department/HEI. However, the IT support provided is at a sub-optimal level for the requirements of the research activity. Bulik was not provided with any support for housing and immigration. This oversight of the HEI was unfortunate because it created unnecessary problems for the researcher, who was taking on a challenging task. It should be noted that although Professor Bulik is on a 50% contract, she has honored this successfully, with high professionalism, presence and integration in the local HEI and host society.

Also of note is that in the initial application to the SRC, there were several sources of co-funding. These include the department of medical epidemiology and biostatistics (salary & premises): 1,5 MSEK, KI faculty contribution (1

MSEK/year), science for life laboratory (2 MSEK/year), biobank: 1,5 MSEK per year. It has been difficult for the HEI to fully document co-funding, as much of it is in kind. There has, however, been some funding for junior positions. Mostly, co-funding (in kind) comprises infrastructure facilitating the scholars' efficient work conditions.

#### ***2.4.2.3 Current phase of the research environment***

HEI perspective: Professor Bulik has surpassed the initial expectations. Not only has she fulfilled her promise to spend 50% of her time at KI, she has successfully integrated into the KI research community and established a research centre (CEDI). She has attracted external grants, including from the Lundbeck Foundation to support the expansion of the research to include samples from Denmark. She is also very active in public engagement activities. The output and the dissemination of the centre is impressive, with many publications in high impact journals, including the *JAMA Psychiatry* and *American Journal of Psychiatry*.

Researchers perspective: Professor Bulik had extensive collaborations with staff in the department prior to her recruitment, and she continues to do so since joining KI. Acting as a joint supervisor is one way in which she has achieved this. Professor Bulik is a highly collaborative individual and the nature of her research also depends on extensive collaborations. It is therefore not surprising to see that, during the past few years, Bulik has set up various collaborations with people in Scandinavia as well as in the US and the UK. She has also established collaborations with industry and this resulted in her receiving an unrestricted research grant (Shire Pharmaceuticals) worth around \$900K. Additionally, CEDI has made a strategic alliance with the public sector, (Swedish knowledge centre for eating disorders (Kunskapscentrum för ätstörningar (KÄTS) and this enabled collaboration with the national patient organisation Frisk & Fri, as well as allowing access to a rich network of specialist eating disorder treatment clinics/centres.

Professor Bulik's is a good example of an added-value recruitment. Her research has benefited from a unique infrastructure, such as the high-quality twin registry that is only available in Nordic countries including Sweden, which is key for her genetic studies of eating disorders. KI has benefited from having an outstanding scientist to lead an area of research activity that is needed in Sweden. This combination has undoubtedly enhanced the visibility of KI in the area of the genetic basis of eating disorders, in public debate and in considerations of treatment of eating disorders in Sweden and Scandinavia.

#### ***2.4.2.4 Future phase: Remaining part of the grant period, and beyond***

HEI perspective: The establishment of CEDI, the central role it plays in Scandinavia, especially in Sweden, as well as its ability to closely link to specialist eating disorder treatment clinics all point to solid future achievements of CEDI in terms of research, dissemination, engagement with society, and integration into KI. Despite a changes in departmental chairs, Bulik has demonstrated leadership, energy

and commitment to the future success of CEDI. CEDI is very well placed to translate basic scientific discoveries to benefit patients in the future.

Researcher perspective: KI leadership is urged to provide Bulick with the requisite support to enable the future success of CEDI. Being a victim of its own success, with 30 people in CEDI and many of them being junior researchers, the HEI and the researchers are encouraged to set out strategic legacy plans to ensure that the research momentum can be sustained beyond the life time of the SRC grant, even at a different level.

### **2.4.3 Division of Genome Biology (II)**

#### ***2.4.3.1 Overall comments and recommendations***

The recruitment of Professor Oscar Fernandez-Capetillo in 2014 to the Department of Medical Biochemistry and Biophysics (MBB) and SciLifeLab at KI from the National Centre for Cancer Research (CNIO), based in Madrid, Spain, appears to have been very successful, attracting a high-profile younger researcher (twice ERC grant recipient, who has won a prestigious international Harvard Hughes Medical Institute (HHMI) grant) with a steep upward trajectory to a 50% position at KI. Professor Fernandez-Capetillo also maintains a part-time position as group leader at CNIO (70%) in Madrid and according to his agreement with KI he has a physical presence of one week per month at KI and otherwise works remotely. Professor Fernandez-Capetillo was tasked with building a laboratory for gene repair/gene stability in cancer and aging and to involve himself in the academic drug development programme with phenotypic drug screening at SciLifeLab, an activity that appears to have been successfully developed. He also contributes strategically to SciLifeLab and to the host Department MBB. His recruitment was considered as strategic and indispensable to gain a leading position within academic-led drug discovery research and thus aligns with KI priorities. In addition, Fernandez-Capetillo also brings his strong expertise in the generation of sophisticated mouse models of human disease, and in this manner his expertise complements the technical expertise that is currently strong at SciLifeLab. The integration of his group into MBB should guarantee a long-term critical mass for cancer research at KI, one of the most competitive areas of biomedical research.

In the recruitment, KI committed 34 MSEK whereas SRC committed 72 MSEK. In the original documents there is a justification for what Fernandez-Capetillo would require based on required positions and other incurred costs.

Professor Fernandez-Capetillo is clearly a highly energetic and distinguished researcher who has a medium-size team at KI that integrates and synergises with his team at CNIO in Spain. He has established an excellent facility for high-content microscopy to conduct phenotypic chemical screens as a resource and he has also contributed to generating a Swedish academic drug-development community and to building an international collaborative research environment at KI. Professor Fernandez-Capetillo seems active and innovative in capacity-building and public visibility, even if it should be noted that he is less physically present than

stipulated. Fernandez-Capetillo has also helped organise an international meeting and the SciLifeLab science summit. Additionally, he has established a network (research community program) that consists of 20 different groups from across Sweden that are interested in drug development. Through his work in Madrid, he helps synergize Swedish and Spanish cancer research communities. There appears to be some difference in opinion about PI collaboration across leadership and junior faculty. Junior staff associated with the group expresses concern over lack of transparency in the Swedish academic career system.

In sum, the recruitment of Professor Fernandez-Capetillo has been very successful. He is active at KI in research terms and in his contribution to the Department, SciLifeLab and KI overall.

### **Recommendations**

The HEI need to think long-term about the impact of the investment and for careful forward planning for continuation, see general recommendations and recommendations specific to KI.

The HEI and PI should think about maximising his physical presence and harness added-value by drawing on his experience and expertise in specific areas such as drug development and screening technologies and by encouraging more local collaborations.

#### ***2.4.3.2 Start-up phase of the research environment***

*HEI perspective:* Co-funding seems to have been generous over the first 5-year period (start-up money) and is then logically tapered off to 0 during the 2nd 5-year period. Fernandez-Capetillo's ability to attract other funds has been strong (got grants as applied). However, Professor Fernandez-Capetillo also states that the SRC grant really covers most of the current activities and that he does not need to ask for that much more at present (he will when the time frame is right, when the present grant approaches the end of its award period).

KI provided support in the recruitment including administrative processes for establishment of the Fernandez-Capetillo's group and its integration into KI. Furthermore, different aspects of relocation of Fernandez-Capetillo's activities were supported and space has been developed as indicated.

*Researcher perspective:* Recruitment to the group is reported by Fernandez-Capetillo to have been very successful in attracting really good people. Professor Fernandez-Capetillo currently has a total of 9 researchers at KI (2.5 FTE senior staff, 3 postdocs, 2 PhD students) as well as his group at CNIO in Spain. At KI he recruited a researcher/lab manager in a 50% position, next a researcher and a Co-PI and then postdocs. He also has one PhD student as main supervisor at KI (and 5 at CNIO). So, he now has a good spread across various steps of the academic career

ladder. He currently focuses on his own postdoc mentoring, and mentoring via his co-PI, in the group.

Gender balance is in favour of females, and with focus on the transition of female postdocs to PIs. Gender is more balanced recently in the group and at the Division level of KI.

The group seems well integrated at SciLifeLab and also into the MBB, although the distance from the rest of the MBB Department is an issue for the integration of staff and students. Fernandez-Capetillo is happy with the premises although surprised at how space and all services are charged at KI compared to other institutions he is/has been at. Group members see Fernandez-Capetillo as very responsive and attentive both when present one week per month and during the remaining time when away.

The research group seems focused and coherent and well-coordinated inside the Division of Genome Biology with Bartek's group as well as with Fernandez-Capetillo's own group at CNIO. The only point raised by staff is that it might be better for the students to be at Biomedicum (KI Solna) because of its scientific environment (more seminars). Also, SciLifeLab is multi-institutional which makes taking decisions somewhat complex. Office space in the SciLifeLab building seems to have been an issue in the past, but is noted to be sufficient now.

There appears to have been some differences of opinion and issues in the initial setup at SciLifelab coordinating with the activity of other key investigators, which led Fernandez-Capetillo and Bartek to set up their own Division of Genome Biology at MBB.

#### ***2.4.3.3 Current phase of the research environment***

*HEI perspective:* Professor Fernandez-Capetillo is clearly active at KI and has a strong presence both with respect to research and strategic recruitment. He seems to integrate very well in the SciLifeLab environment. With respect to added value, the KI vice-chancellor emphasises four main points: i) that the recruitment has successfully bolstered the quality and volume of research; ii) that there is increased visibility in the research area and surprisingly also the dimension of outreach and science dissemination in Sweden; iii) that this has led to recruitment of younger talent; and iv) that the recruitment has helped the environment raise additional funding.

Equally, these and other aspects have been emphasised by Department Heads and researchers, particularly the strategic and developmental sides of developing SciLifeLab and Genome Biology Division and more.

Two publications from 2018 are listed in the documents as having originated from the SRC-funded research, one of which is a review. However, based on Pubmed records, several more papers list KI as the affiliation from 2016, 2017 and 2018. Furthermore, even more papers are found in 2019 listing KI as affiliation. Hence, Fernandez-Capetillo is clearly capitalising on the efforts and investments made.

Hence, the research is outstanding and strong and the total output can be said to be justified versus funding. The Department states that the development of the environment and what has been delivered has been extraordinary and considerably more than expected.

*Researcher perspective:* Fernandez-Capetillo indicates that the level of administrative support functions well.

The group appears to be involved in seminars, courses, running of core facilities as at SciLifeLab and Fernandez-Capetillo organised a SciLifeLab retreat.

Fernandez-Capetillo has contributed to building a solid scientific environment. He has implemented an active line of collaboration which integrates the groups from several Swedish institutions and departments. He made the scientific platform open to other scientists.

#### ***2.4.3.4 Future phase: Remaining part of the grant period, and beyond***

HEI perspective: It is expected that this research environment should be fully functional and continue to perform very well.

*Researcher perspective:* Specific future plans have not been detailed yet. Fernandez-Capetillo plans to continue his research and also start applying for more grants to sustain activity at KI past the 10-year SRC funding period.

Of note, however, is that this researcher is hired at 50%, yet has an agreement with KI of merely 25% physical presence (75% at CNIO in Spain) and maintains two fully operational groups. The researcher states that he is not actively and extensively seeking additional funding as of yet, but will do so as the present grant progresses into its second 5-year period and approaches its termination.

Against this backdrop, and as there is no institutional plan to sustain the programme in place at present, a risk would be that the activity could phase out when the funding period ends unless KI and Fernandez-Capetillo take a somewhat more active approach.

### **2.4.4 Center for Hematology and Regenerative Medicine**

#### ***2.4.4.1 Overall comments and recommendations***

The recruitment of Professor Stein Eirik Jacobsen in 2014 to the Center for Hematology and Regenerative Medicine (HERM) at KI from the Weatherall Institute of Molecular Medicine (WIMM) at Oxford University, UK, followed on his affiliation with HERM, KI, as a guest Professor from 2010, which facilitated developing the grant and plans for a transition. It appears to have been an exceptionally very well-planned and successful recruitment attracting an outstanding and high-profile researcher and with a gradual phase-in with 30% at KI in 2014, 65% at KI in 2015 and 100% from 2016 on. Professor Jacobsen still holds a part-time adjunct professorship at WIMM and spends 3-4 days/month (20%) there

maintaining the links to the Oxford environment. It is evident from the statements that Jacobsen really wanted to return to Scandinavia, to be part of building HERM and to develop it strategically. He now fully functions as a faculty member at KI and is co-director of HERM.

In the recruitment, KI committed 36 MSEK in addition to Jacobsen's salary (approx. 22.3 MSEK over the 10-year period) with SRC committing approx. 92 MSEK.

The access to state-of-the-art infrastructure and technology platforms available at KI, combined with the SRC grant allow Jacobsen and his group to have a major impact on basic and also on translational hematopoietic research. This is an exceptionally successful recruitment that has met all expectations and more. It has delivered on all aspects and has led to outstanding research and strengthened the strategic leadership of HERM and its ability to recruit and mentor junior PIs. The recruitment has also led to considerable additional funding and the PI has been key in recruiting several junior PIs who in turn have set up new groups. The grant has been used to forge these recruitments and build a critical scientific mass and a stronger environment. The grant also allowed recruitment of an outstanding researcher as a guest professor, an arrangement that strategically helped develop HERM. The recruitment of Jacobsen, and the results obtained, epitomizes what this funding scheme is about.

### **Recommendations**

The HEI need to think long-term about the impact of the investment and for careful forward planning for continuation, see general recommendations and recommendations specific to KI.

The HEI and the PI should think about maximising added-value by drawing on Jacobsen's experience and expertise in specific areas such as drug development and screening technologies and by encouraging more local collaborations.

#### ***2.4.4.2 Start-up phase of the research environment***

*HEI perspective:* Co-funding seems to have been generous over the first 5-year period (start-up money) and is then tapered off in the 2nd 5-year period. Jacobsen's ability to attract other funds has been very strong. On this background and due to the Jacobsen's strategy to only hire really good people, the SRC grant has not yet been spent in full but runs a surplus. Good arguments are presented as to why the co-funding and other time-limited grants had to be spent first and that Jacobsen will rely more on the SRC funding from 2019 and onward.

KI provided support in the recruitment on administrative processes for establishment of the Jacobsen's group and its integration. Furthermore, different aspects of Jacobsen's reallocation to Sweden was supported (housing, taxation ao) and the space for his research activities has been developed as indicated.

*Researcher perspective:* Recruitment is reported by Jacobsen to have been successful and attracting really good people, and on par with Oxford in attracting good students and postdocs. Jacobsen currently has a total of 9 people at KI and 3 at WIMM in Oxford (lab managers, researchers/postdocs and two PhD students, one as main and one as a co-supervisor). Eleven people are listed as funded, at least one of them (junior group leader) is now off that list and has received own funding. Jacobsen now focuses on mentoring postdocs in his own lab and young group leaders. He may want to go to a total of 14-15 people and is currently recruiting an additional three persons.

Gender balance is in favour of females in the Jacobsen lab, and the focus is on transition of female postdocs to PIs (successful in this at HERM). He has also recruited a junior PI on the grant.

The group seems very well integrated into HERM and is happy with the premises. Based on interviews with group members Jacobsen is very responsive and attentive, however quite a large part of the supervision has typically been by Skype reflecting travel and other commitments.

#### ***2.4.4.3 Current phase of the research environment***

*HEI perspective:* The KI vice-chancellor emphasises four main points: i) that the recruitment has successfully bolstered the quality and volume of research; ii) that there is increased visibility in the research area and surprisingly also the outreach and dissemination of science in Sweden; iii) that this has led to recruitment of junior talent; and iv) that the recruitment has helped the environment raise additional funding.

All of these and other aspects have been emphasised by the Department Heads and the PI, particularly the strategic and developmental sides of developing HERM with other junior faculty recruitments, mentoring young PIs and more.

*Researcher perspective:* Jacobsen indicates that the level of administrative support functions well.

Thanks to Jacobsen's links with Oxford University, there is technology transfers, students and postdocs visits on both sides and common retreat. Jacobsen also expanded the collaborations of KI researchers to involve key scientists from abroad; the group has extensive collaborations and research visits internationally and inside KI, but not with other Swedish institutions. He also typically has co-senior authors on papers (8 of 10 listed papers among the 10 most important from the period) to foster collaboration or promote junior PIs.

#### ***2.4.4.4 Future phase: Remaining part of the grant period, and beyond***

*HEI perspective:* It is expected that this research environment should be fully functional and continue to perform exceptionally well. For the remaining period, there is still part of the SRC grant that has not been used and collectively, KI central and the departments, plan to put in addition 20 MSEK, besides the "regular" support

(administrative and strategic research support). The ultimate goal of the heads of the department is to use the developments driven by Jacobsen as a role model to strengthen other translational aspects in order to make this into one of the world strongest hematology research centres and to include cell therapies.

*Researcher perspective:* Specific future plans other than what is outlined in the transcript of the interview has not been provided to the panel. It is, however, understood from this that the challenge is to keep 4 or 5 strong junior groups so to have the junior leaders as successful as they are at the moment. Jacobsen plans to continue the research as ongoing. Based on the prior performance it is expected that the group and the HERM will continue to do exceptionally well.

Against this backdrop, and as there is no institutional plan currently in place to sustain the programme, a risk would be that parts of the activity could phase out when the SRC funding period ends. Indeed beyond, it is mostly based on the ability of young PIs to raise funding.

## **2.4.5 Department of Microbiology, Tumor and Cell Biology**

### ***2.4.5.1 Overall comments and recommendations***

Professor Lane is a leading light in cancer biology globally and has been collaborating with researchers at KI as an adjunct Professor, a few years prior to his SRC grant appointment. Given this history of KI collaboration, there were no challenges regarding his institutional integration. There is no doubt that his recruitment has strengthened KI's capability in cancer biology and associated drug discovery. When taking up the SRC grant position, Lane was Scientific Director of the Ludwig Institute for Cancer Research in Oxford, and a long-protracted phase of negotiation took place with the Institute. There were some initial issues with regard to suitable premises, issues that were subsequently resolved.

There is a sustained non-compliance between the activity level stated in the SRC grant proposal and the actual activity accomplished. Lane's physical presence at KI is not at 50% (in fact closer to 10%), but the institute is confident that whilst not physically present at KI his activity level is at 50%. This does not meet the requirements of the grant.

Physical presence is key to long-term and sustained formation of an academic culture where the programme leader acts as a collegial role model and mentor. So, a "coherent and productive" research environment cannot be sustained almost entirely online.

### **Recommendations**

KI needs to renegotiate Lane's activity level including his physical presence. KI should clarify its means of documenting this change and submit results of this negotiation and means of documentation to the SRC for the programme to continue.

A 6 MSEK co-funding stipulated in the application has not been met. Department head provides no strategies to remedy that indicating that the large number of successful grants to KI makes these promises difficult to honour. The SRC should ask KI to deliver concrete plans for co-funding during the remainder of the grant period.

KI is recommended to develop transparent strategies of legacy and sustainability of programme activities beyond the grant period and report these to the SRC.

#### ***2.4.5.2 Start-up phase of the research environment***

*HEI perspective:* KI and the department state that Lane's recruitment has met, and in some ways exceeded, their expectations. In their view, the success of the programme should be judged by the excellence of research outputs and that Lane is available virtually and is able to support his team remotely when he is not present at KI. Yet, there is a remarkable and sustained discrepancy between Lane's activity level, as stated in the application, and his actual activity level including physical presence at KI; and the KI leadership provides no evidence of how it has attempted to minimise this discrepancy.

Another point raised by the KI is with regards to the set-up time required to recruit eminent researchers such as Professor Lane. According to KI leadership, a period of 6 months post announcement of the award is not sufficient time for the program leader to start as often they will need to accommodate existing commitments.

*Researcher perspective:* Professor Lane articulates that a primary reason for his move has been his keenness on the European attitude to the scientific process, his fondness of Sweden as a country and the open atmosphere and particularly the openness towards collaboration of the research community. He also notes that moving to KI allows him to have a more dynamic group and an easier recruitment of high-calibre scientists.

#### ***2.4.5.3 Current phase of the research environment***

*HEI perspective:* Through Professor Lane's recruitment, KI has expanded and strengthened its reputation in this field. Yet, there is fairly limited scrutiny of his activity level. In essence, KI has recruited high-calibre researchers through this scheme and expect them to do excellent science. Indeed, Lane has been able to secure additional funding and he has established a large group with a good gender balance.

*Researcher perspective:* As he was already an adjunct Professor (Department of Microbiology, Tumor and Cell Biology (MTC)) prior to this award, Lane's integration into the department has been very smooth. In essence, his SRC grant activities have built on his existing areas of collaborations as well as initiated new projects.

In terms of dissemination activity, Lane's focus has been on academic output with no public impact or outreach engagements. This priority may be a result of his limited presence in Sweden.

#### ***2.4.5.4 Future phase: Remaining part of the grant period, and beyond***

*HEI perspective:* Lane's activity is 50% even if he is not physically at KI to that level. From their perspective he has fully met their expectation to date. He has established a centre with state-of-the-art equipment and created a strong environment. He has also attracted 3 senior scientists who are the focus of his succession planning.

KI leadership does not express specific plans for the programme beyond the SRC grant period, nor are there plans for a transfer of PI leadership for the remaining grant period. (Lane has reached retirement age).

*Researcher perspective:* Professor Lane considers the 3 senior scientists as legacy to his endeavours at KI once the SRC funding is ended.

### **2.4.6 Department of Medical Epidemiology and Biostatistics**

#### ***2.4.6.1 Overall comments and recommendations***

Professor Patrick Sullivan is a world-leading researcher with an outstanding track record in the study of psychiatric disorders. He was actively and successfully collaborating with people in the Department of Medical Epidemiology and Biostatistics (MEB) at KI prior to his recruitment. The SRC funding scheme enabled KI to attract Sullivan to establish a lab in MEB and to spend 50% of his time at KI. It is a real testament to KI that they were able to secure 50% of his time despite a personal financial loss. The researcher has fulfilled the high expectations of the Institute. He has spent 50% of his time at KI as promised. Furthermore, he has successfully integrated into the KI research community and has galvanised the research community in Sweden as a whole and generated new connections to Nordic and global research communities. He has attracted a number of large and prestigious international grants and has added to KI visibility in the wider research community through his high-profile publications and lectures.

Sullivan has extensive collaborations with PIs in the department, KI, Sweden and global research communities. He acts as a magnet in attracting scholars from other research disciplines to work on psychiatric disorders. The GAPS initiative that he set up (which includes over 25 PIs in Sweden) and his leadership of Horizon 2020 grant applications are all testament to his leadership skills and his willingness and ability to collaborate locally, nationally and internationally. His ability to connect industry to academia is also an asset to the KI. Sullivan's output and dissemination has been impressive with many publications in high impact journals. This is a good example of an added value recruitment: Sullivan's research has flourished, and the KI has benefited from having him as an international leader acting as its ambassador to champion the excellent research environment that KI and Sweden can offer.

### **Recommendations**

As Sullivan has built extensive connections with industry, the potential is considerable of translating the activities, knowledge and discoveries generated from this SRC grant into the clinic to benefit patients in the next phase of the grant and beyond. To facilitate this ambition, KI leadership should work with Sullivan and the host department to develop a legacy plan.

Due to lengthy contract negotiations at the start up phase, the HEI reported to SRC that Sullivan was on leave of absence for 100%. Therefore the grant was reduced accordingly. However, Sullivan reported that he has been working at KI at 50% during that time. It is therefore important for SRC and KI to find a way to solve the situation.

KI is strongly encouraged to work with the SRC and Sullivan to explore opportunities to recover the loss. In-kind funding should be explored.

#### ***2.4.6.2 Start-up phase of the research environment***

*HEI perspective:* Professor Patrick Sullivan is a world-leading researcher with an outstanding track record in the field of psychiatric disorders. He has been actively collaborating with people in the Department of Medical Epidemiology and Biostatistics (MEB) at KI since 2001 and had produced a number of high-profile papers before his recruitment to KI in 2013/2014. Therefore, Sullivan understands the importance of this collaboration to psychiatric disorder research. MEB in particular should be applauded for its key role in the initiation and facilitation of this recruitment. As a world leader in his research field, Sullivan is able to connect KI, Swedish and Nordic PIs to the global psychiatric research communities. This recruitment facilitates KI and Sweden in playing an important role in combating psychiatric disorders, a growing pathological problem with a large burden on society.

*Researcher perspective:* In the past few years, Sullivan has coordinated and led major, international grant applications, including: EU Horizon 2020 (COSYN); NIH; and the Lundbeck Foundation. He helped to set up a coordinated research initiative – the Genome Aggregation Project in Sweden (GAPS) – to better position KI and Swedish scientists in the global arena of genomics and psychiatric disorder research. Building on his reputation and his extensive links with industry, he also helped to establish close links between KI-GAPS and the pharmaceutical industry. So far, his group consists of around 10 people, including 3 project managers and 7 postdoctoral fellows, with a well-balanced gender ratio. He has made a clear division between his KI lab and University of North Carolina (UNC) lab. Specifically, the KI lab is computational whereas his UNC lab involves animal models and is wet-lab based. Although he has not yet supervised any PhD students, he has been able to attract talented young researchers and supervise them successfully. This is evidenced by the fact that a number of his postdocs have now

become independent PIs. All these successes off-set the fact that Sullivan has not yet trained any PhD students at KI.

Sullivan did have some administrative challenges at the beginning. The co-funding issue is a grey area, as this was not required when the application was submitted in 2013. Sullivan did receive some administrative support, and he appreciates the IT infrastructure that has already been set up at MEB. The department notes that he has been provided with a research secretary. Unfortunately, Sullivan was not provided with any support for housing, which was described as a problem. This is of particular note since he was being actively recruited by other leading institutions, such as Stanford University, at the time of his recruitment to the KI, and other institutions were offering substantial start up research packages and a highly competitive salary. Finally, due to some administrative error, the funding was cut by 10%. KI is strongly encouraged to work with the SRC and Sullivan to explore opportunities to recover the loss.

#### ***2.4.6.3 Current phase of the research environment***

*HEI perspective:* Sullivan has fulfilled the high expectations when the recruitment was made. He has spent 50% of his time at KI, as promised. He has galvanised the research community in Sweden as a whole and has attracted large and prestigious international grants.

Overall, this is a good example of an added-value recruitment. Sullivan's research has flourished from this recruitment, and the KI has benefited from having Sullivan as an international leader to act as its ambassador to champion and illuminate the excellent research environment that KI and Sweden can offer.

*Researcher perspective:* Sullivan has extensive collaborations with PIs in the department, KI, Sweden and global research communities. He has recruited a few postdocs to work with other groups to expand the multidisciplinary research team. The GAPS initiative that he set up (which includes over 25 PIs in Sweden) and his leadership of Horizon 2020 grant applications are all testament to his leadership skills and his willingness and ability to collaborate locally, nationally and internationally. His ability to connect industry to academia is also an asset to the KI.

#### ***2.4.6.4 Future phase: Remaining part of the grant period, and beyond***

*HEI perspective:* Professor Sullivan's recruitment to KI has fulfilled all expectations. Sullivan has made an excellent start in the first grant phase. Based on the extensive connections Sullivan has established with industry, it is feasible to expect further collaboration and concrete outcomes. The next phase of the funding will test the extent to which the activities, knowledge and discoveries can be translated into the clinic to benefit patients.

*Researcher perspective:* Several postdocs from Sullivan's group were successful to get next-level positions at leading universities, a testimony to the success of the program and also a strong indication of the impact the program will have beyond the lifetime of the SRC grant.

## 2.5 Implementation of the grant at Royal Institute of Technology

The award at Royal Institute of Technology (KTH) was made to Professor Valery Zwiller, a physicist in the field of Quantum Physics, a very strategic area of research, with major investments made all over the world, and strategic programs developed in Europe. Professor Zwiller came from Delft University of Technology (TU Delft), where he was an Associate Professor. The implementation of the grant was a bit cumbersome given that Zwiller had already accepted an appointment in Denmark. Professor Zwiller came to the KTH with what should be considered as an advantage: he brought with him some of his own equipment from TU Delft.

Zwiller is now 100% FTE at KTH and has an established laboratory. While the scientific output is at a high level, there seems to be disagreements between him and his department, as well as a lack of coherence with the KTH management level, as far as their involvement in the Quantum Science and Technology European strategy goes.

### **Recommendation**

Professor Zwiller and the KTH leadership (Department/Faculty and KTH leadership) should liaise immediately to (1) solve existing (day-to-day) problems and (2) systematically define the expectations on both sides for the continuation of the SRC grant.

Moreover, given the current disconnect between KTH leadership and Professor Zwiller, specific discussions should take place to define the long-term expectations, including beyond the period of the grant. An understanding should also be achieved with regard to the strategic position of KTH vs the European Quantum Flagship initiative. The results of these discussions should be noted in a written document specifying the commitment on both sides.

### **2.5.1 Quantum Nano Photonics (QNP)**

#### ***2.5.1.1 Overall comments and recommendations***

Professor Zwiller is a rising star in his field, and he has been very active both before coming to Stockholm and after. He has successfully built a laboratory and set up a suite of complicated instruments that are all now functional. He is a well-published scientist and has also developed some industrial links. His visibility within his community seems to be quite good. However, his group's long-term plans are uncertain, both from the KTH side and the programme leader's side. There seems to be a mismatch between the expectation of the program (sustainable increase of academic excellence and visibility, as claimed by the SRC) and the results. This mismatch might raise a fundamental question about the general aim of the

programme, where on the one hand, a researcher is looking at furthering his own career, and on the other hand, the KTH is looking at building an integrated and sustainable research environment. In other words, the program has succeeded in bringing a very good researcher to KTH, but perhaps not a fully integrated faculty member.

### **Recommendation**

Given the disconnect existing between KTH leadership and Zwiller, the two parties should immediately liaise to define the long-term expectations (including beyond the SRC grant period), and that an understanding be achieved with regard to the strategic value of the quantum initiative at KTH vs. the European initiative. The results of these discussions should be noted in a written document specifying the commitment on both sides.

#### ***2.5.1.2 .Start-up phase of the research environment***

*HEI perspective:* The current KTH leadership team expresses confidence that former problems of Professor Zwiller's integration have been overcome. In terms of Zwiller's recruitment, it is not clear whether KTH ran a real "search process" before making a decision on submitting a SRC proposal with Zwiller as PI.

*Researcher perspective:* Zwiller was very eager to move to Stockholm for several reasons, one of them being that he would be promoted to Full Professor and establish an independent research group (Professor Zwiller was not an independent researcher at TU Delft). The SRC grant offered him an opportunity to form his own scientific vision. On the other hand, Zwiller himself did not carry his own due diligence regarding his position, and once coming to the KTH, he was very surprised about the way his salary is being paid. Zwiller also describes it challenging to be integrated within the department when first arriving and notes that he did not feel supported by KTH leadership.

#### ***2.5.1.3 Current phase of the research environment***

*HEI perspective:* KTH made a claim that Quantum Science and Technology (QST) is a strategic area for the university, and that they hope that, given the current phase of the research environment, a major investment in QST will increase the visibility of KTH in this field, especially given the European Flagship Quantum Project. However, KTH leadership expresses concern about the future funding of Zwiller's group, since they make it clear that KTH will not have the resources to support such an expensive environment.

*Researcher perspective:* Zwiller is happy with the fact that his lab has all the tools he needs to perform his research, and that the research is productive and coherent. He has hired PhDs and postdocs but he claims that he is facing serious problems with regards to hiring additional more senior people (a problem that seems recurrent

to the Swedish University system). Zwiller is concerned about a lack of collaboration and cooperation at the KTH level, and what he sees as a lack of responsiveness from the upper levels of KTH leadership. Professor Zwiller is full time (100%) in Stockholm.

#### **2.5.1.4 Future phase: Remaining part of the grant period, and beyond**

*HEI perspective:* KTH expresses its concerns about the possibility of supporting an environment of Zwiller's nature beyond the grant period, and it doesn't seem that any discussion has taken place between the KTH leadership and Zwiller on this topic.

*Researcher perspective:* It is not clear at all that Zwiller will stay at KTH once the SRC grant period terminates. This means that the legacy of the investment made is at risk, and the group might disintegrate.

## **2.6 Implementation of the grants at Linköping University**

The grants to Linköping University (LiU) in the 2013 call were in the areas of (i) Science and Technology Studies and (ii) Translational Psychiatric Research. These two areas of investment offer contrasting approaches, both of which have proved successful in their own ways. In the former area, an outstanding scholar was placed in a thriving environment and focused on theory formation and capacity-building in a group of early career researchers and graduate students. In the latter area, another outstanding scholar was appointed to create a discrete research centre located within the Medical School and with strong external links to a local hospital. In this case the grant enabled infrastructure investment and on-going experimentation alongside capacity building. In both cases the 50% degree of activity was met. Departmental/School support was strong in both cases, with stronger links between the University's senior leadership in the latter case than in the former.

### **Recommendations**

See recommendations for LiU regarding M. Heilig and S. Woolgar in the sections below.

### **2.6.1 Center for Social and Affective Neuroscience (CSAN)**

#### **2.6.1.1 Overall comments and recommendations**

Recruitment of Professor Heilig was based on a strategic ambition of the university and the region to make the area one of the leading arenas of neurobiology. Heilig is a world-leading researcher within psychiatric diseases and addictive disorders, and his recruitment has been a key step in achieving this ambition. Heilig had previously been a visiting professor at the LiU and had good collaborations with researchers there. He had previously worked at Swedish HEIs and has been familiar with the

Swedish system. The big draw for him for this position has been the ability to work as a clinical researcher spending part of his time at the university hospital. Professor Heilig and his team have fully integrated within the HEI. He is now based at the HEI 100% FTE and is very visible to his team and other staff within the university.

His recruitment has been a true success both in terms of meeting the aim of this programme as well as facilitating the ambition of the LiU. Through establishment of the Centre for Social and Affective Neuroscience (CSAN, with Professor Heilig as its director), LiU has considerably strengthened an already existing neurobiology research environment and furthermore created a new line of translational psychiatric research to LiU's medical faculty.

### **Recommendation**

LiU leadership appreciates that CSAN and CMIV established by Prof Heilig are strategically important for LiU. However CSAN is a costly major operation and its future sustainability will be challenging. It is therefore important for LiU to work with Professor Heilig to develop a concrete plan to preserve the legacy and to enhance LiU's international competitiveness in this area of research.

#### ***2.6.1.2 Start-up phase of the research environment***

*HEI perspective:* The start-up phase was slow due to issues with setting up the animal facilities which are key to Heilig's research. However, by the time of this evaluation, the centre (CSAN) has been established and is fully functional. The centre is equipped with cutting-edge research technology in the field and professor Heilig has been the driving force behind the building of the new animal facility. He has also attracted high-quality researchers who have further strengthened this strategic neurobiology area at LiU.

*Researcher perspective:* As a Swedish citizen, Heilig quickly familiarised himself with the local university environments and systems. During the start-up phase, his main frustration was lack of progress with establishing the new animal facility. Professor Heilig had brought in a number of researchers with him from the National Institute of Health, USA, and the fact that it took almost 4 years to set up the facility was a significant hindrance to their productivity. However, by the mid-term evaluation he had been able to establish a highly productive translational research infrastructure that spans molecular neurobiology in animal models, through human experimental medicine to brain imaging. This infrastructure has allowed several interrelated research lines to produce high quality outputs with publications in prestigious journals including *Science* and *PNAS*.

### ***2.6.1.3 Current phase of the research environment***

*HEI perspective:* Heilig is fully integrated within the department/faculty and also contributes to a number of strategic initiatives. As director of CSAN, he has been very active in recruiting and mentoring junior scientists. Through LiU's strategic neurobiology area, he co-organises and participates in monthly CSAN seminars and annual retreats for all LiU neuroscientists. He teaches within the neuro-theme of the medical school curriculum and coordinates the psychiatry element of the theme. He currently supervises 5 graduate students, all of whom are physicians in training to become psychiatrists. As director of CSAN, he is key in bringing together the neurobiology with the technical faculty at LiU through collaborations with the Center for Medical Image Science and Visualization (CMIV) and technical researchers.

*Researcher perspective:* Heilig is a full-time professor at LiU with 70% of his salary being university-funded and 30% hospital funded. Professor Heilig has contributed to an impressive degree of visibility for LiU and for CSAN through his high-impact translational and human experimental medicine research. In addition, he has published a number of popular science books and has also received a number of prestigious grants and awards such as Söderbergska priset 2018, Grand Addiction Award 2017, Nordic Drugs Award 2017, The Tabakoff Award from the International Society on Biomedical Research on Alcohol 2018, the Bowles Award from the University of North Carolina and, more recently, Knut and Alice Wallenberg Clinical Scholar 2018. Professor Heilig and his research has also been highlighted in several news, media and tv outlets. Heilig has established numerous collaborations in Sweden (for example with KI) and abroad. In addition, his research team started new collaborations with the private sector, for example, BrainSway Technologies, Israel. He is on the scientific advisory board of several companies, on the advisory board of Swedish Medical Products Agency (Läkemedelsverket) and scientific advisor to the National Board of Health and Welfare (Socialstyrelsen).

### ***2.6.1.4 Future phase: Remaining part of the grant period and beyond***

*HEI perspective:* The Centre has now an established translational infrastructure as well as a strong team of researchers and is fully operational and generating results. This allows a set of ambitious ongoing studies, which will continue. The recruited researchers themselves have succeeded in acquiring external funding. LiU is committed to continue supporting the further development of the research environment at CSAN. The present plan is to continue with the joint support for professor Heilig, according to the budget plan presented in 2014. The scale and scope of the Centre beyond the SRC grant depends on external funding being secured and the demand put on HEI in terms of co-funding other areas of research which have successfully secured external grants.

*Researcher perspective:* In terms of current team members, professor Heilig has reached a steady state with a strong team in place. How to sustain the current activity in the future is the major challenge as this is a costly operation.

## 2.6.2 Thematic studies

### 2.6.2.1 Overall comments and recommendations

Stephen Woolgar is a sociologist with an outstanding international reputation for his original and innovative contributions to Science and Technology Studies (STS). It is quite a coup for LiU to have attracted him and he is clearly committed to LiU and to Sweden. He was, however, appointed for only 7 years, according to the application, consequently his contract is due to finish at the end of 2020.

The host department, Thematic Studies, is highly regarded in the STS field. Consequently Woolgar and his group, with its focus on creative, post Actor Network Theory (ANT) approaches to STS, fitted well with its intellectual agenda. Nonetheless, although Woolgar met what was required of him, the lasting added value of his appointment to LiU is difficult to discern. With Woolgar having focused on appointing early-career researchers, there is currently no obvious successor to take on the leadership of the existing group and carry forward the exciting theoretical advances made, and there is no financial plan to support such a high level of activity. Although group members are well-integrated into the department and a new chair position in the closely related area of Theoretical Exchange is being advertised, the legacy element for group members appears to be strategically underplayed.

#### Recommendations

Since Woolgar is retiring at the end of 2020, recommendations should be considered in that light.

When responding to similar calls in future, LiU should be clear about the added value of an appointment for the University both in terms of how an appointment connects with University strategy plans and in terms of the wider benefits reaped by the university by attracting the expertise applied for. The expectations made to the appointment should also be spelled out in an SRC application.

### 2.6.2.2 Start-up phase of the research environment

*HEI perspective:* Considerations about recruiting Woolgar were made at the department level. Woolgar was recruited for only 7 years, according to the application. The Head of Department (HoD) assume that this was because of his age, now close to retirement. A key issue for everyone was that Woolgar knew the environment having been a visiting professor there. The HoD notes that it would be difficult to recruit someone of this standing to an environment they did not know. Woolgar was 50% FTE in Sweden for the first two years and is now 100% at LiU.

*Researcher perspective:* Woolgar was attracted by the energy, funding scale and the unique opportunity to develop new lines of post-ANT research, helped by recruiting

excellent young researchers. He has been able to recruit strong postdoc and PhD students, but decided not to recruit mid-career staff as none of those who applied appeared to fit with his visions for the group. Importantly, his group is a development from an existing group in the department, so start-up was relatively smooth. In addition, three senior researchers, who were already established at the university, have part-time involvements with his group. His strategy was that of seeing what emerged from the 'melting pot' of the intellectual environment he established. He appears to have been given a free rein with little leadership expectation that he will provide milestones and indicate a legacy strategy. Though it is interesting to note that the Head of Department was of the view that investment in an area rather than one person might have been a good way forward.

### ***2.6.2.3 Current phase of the research environment***

*HEI perspective:* The department (TEMA) is pleased with the visibility of Woolgar and his group. But the department also acknowledges that its profile in inter-disciplinary work on science and technology studies (STS) was already strong. The reliance on external funding for the department made this initiative attractive.

Woolgar is very active internationally giving keynotes; and he has invited significant people in the field to give seminars etc. at LiU, all of which has enhanced the visibility of TEMA. Woolgar is seen as engaged with the department and has also built good links across Sweden including chairing a SRC panel. However, the LiU leadership acknowledges that they could have made better use of his experience and expertise within the university.

*Researcher perspective:* Woolgar's commitment to Sweden and LiU is clear. He is now 100% FTE at TEMA, and foresees continued involvement with the research group despite his contract being hugely reduced from January 2021. A coherent and innovative intellectual environment has been created and there has been some success in gaining grants for workshops and postdoctoral positions. An edited book, arising from a conference at LiU is now in press and seen as a major outcome (its intellectual strength is not in doubt). However, there has been no coherent strategy for gaining research funding. The researcher observed that the Swedish funding system is not well geared towards supporting inter-disciplinary work. Yet, application for ERC funding could have been a possibility.

Woolgar has been active within Sweden making links with other universities, and there have been some excellent theory-based collaboration within the group and with visitors. These efforts have led to the development of a new and excitingly provocative line in post-ANT work to be made public in forthcoming publications. However, there is little evidence of sustained research collaborations with the wider national and international research community in this field.

Highly qualified international PhD and postdoctoral scholars have been appointed and some are now finding good appointments elsewhere. Woolgar is of the view that the legacy of his efforts will be dispersed, rather than augmenting a critical mass at TEMA. He particularly points to difficulties arising from the Swedish system of not

being able to appoint postdocs until it is clear that they have received a PhD. This is very different from the UK, for example, where postdoc positions are offered contingent on applicants gaining their doctorates. Also to be considered is the decision to not appoint more senior researchers to the group, who might have been in the position to apply for tenured appointments within TEMA.

#### ***2.6.2.4 Future phase: Remaining part of the grant period, and beyond***

*HEI perspective:* LiU has recently advertised for a chair in Theoretical Exchange for TEMA with the expectation that this appointment will play a significant role in taking forward Woolgar's legacy within TEMA. However, given that Woolgar sees himself as 'the fulcrum' around which his group revolves, the group dynamics will be different. The view of the LiU leadership is that TEMA was strong before Woolgar joined them and will continue to be strong when he leaves. The benefits of his appointment rest largely with the funding he was able to bring to TEMA through the current initiative and the outstanding theoretical work of his group.

*Researcher perspective:* Junior researchers have been given roles within the group with a view to taking forward its legacy. But these researchers have no guarantee of appointment to tenured positions within TEMA. There are good links between members of the research group and the rest of the TEMA through teaching responsibilities and engagement with other departmental activities. However, much depends on their gaining external funding for posts and there is little evidence of a strategic approach to securing such external funding. There is a degree of optimism with regard to the recently advertised chair position, but the three senior researchers with part-time involvement will not be funded for their engagement beyond early 2021. The risk of group disintegration appears imminent despite Woolgar's willingness to stay involved post retirement. The low level of his future (one year) contract makes it unlikely that he will be able to keep pace with previous work.

## 2.7 Implementation of the grant at Lund University and Gothenburg University

There is only one grant at Lund University (LU), and this was a transfer of Paul Russell from Gothenburg University (GU). Given the special circumstances of this grant, LU has provided sufficient conditions to enable Russell's integration at LU in terms of funding and practical issues, such as finding accommodation. There is a joint research group between GU and LU around Russell's work, Lund Gothenburg Responsibility Project (LGRP), which seems to work well. Presence is mainly during term, when there is fine activity. Still, Russell's activity is not at 50% FTE, as stated by the grant proposal. Since there is a long time difference between Canada and Sweden, it is not easy to maintain communication and continuity when Russell is not present. The group around Russell has more dialogue than is customary in the area of philosophy, and this is of added value. However, the current level of high level scientific output within the group's focus seems not to be very significant, as most of Russell's output is still on Hume, a firm pillar of his expertise. There should be some focus on ensuring the progress and output of the group, under Russell's leadership.

It is not clear what the commitment of the HEI (current LU leadership and Department leadership) is to ensure Russell's legacy. There seems to be no long-term plan, and this is reflected in the lack of strategic thinking in the philosophy recruitment underway. Furthermore, there are challenges with gender diversity in the area of philosophy, which are partly due to long-standing traditions, and therefore the departmental leadership needs to consider possible unconscious biases.

### **Recommendations**

The LU leadership should systematically evaluate its scientific implementation of the SRC programme, and to consider its strategic importance for LU.

The LU leadership should consider, with the Head of the Department and PI, to address issues of unconscious bias in the programme, including gender diversity, and in future recruitments.

The LU leadership should consider how to address the issue of physical presence in a way that is feasible to the PI, but also ensuring his genuine leadership when not in Sweden.

The LU leadership should consider how the SRC grant could possibly generate some public debate on the issue of the programme focus on responsibility, a theme which seems highly relevant considering e.g. the corona virus. Systematic involvement of the communications department with the PI and with the philosophy department, would be one way forward.

LU should establish a strategic committee for each grant involving the LU leadership, representative(s) from the department, and the internationally

recruited researcher. This committee should start designing a process for ensuring programme legacy and a critical mass of scholars to carry forward research in the area.

## **2.7.1 Lund Gothenburg Responsibility Project**

### ***2.7.1.1 Overall comments and recommendations***

The international recruitment of Paul Russell, clearly an outstanding researcher, a philosopher specialized in Hume and pragmatic philosophy, focused on individual and collective responsibility, which seems novel and highly relevant, even before the Covid-19 pandemic.

This international recruitment of Paul Russell has been very unusual, but now appears to have good momentum. He was recruited to one environment (GU), but his grant was transferred to LU, due to a lack of scientific fit. Once these major nesting hurdles were overcome, Russell has been successful in developing the inter-university ‘Lund-Gothenburg Responsibility Project’ (LGRP). Currently, it seems the LGRP works well, but there are some challenges not only with sustainability, but also to some extent with research output and theme focus of LGPR. The latter is noted, well knowing that the area of philosophy traditionally focuses on a few high-quality outputs, and acknowledging that research output has been relatively high in 2019, and that there are many forthcoming publications. The current environment has some challenges with gender and diversity. Diversity could be considered more pro-actively, and could be more ambitious in outreach activities, possibly drawing on the resources of the LU communications unit. The legacy of Russell and the future of the LGRP (and pragmatic philosophy) should be addressed by the department, Russell, and the LU leadership.

Although this grant has had a turbulent institutional start, the inter-university initiative LGRP is well established and it now works very well. Junior researchers are very well integrated into the research environment. International publications have increased, especially with Oxford University Press, but also with high-profile journals. The overall size of output is expected to be lower in philosophy than in areas where teamwork is prominent. Yet, it seems major publications on the programme theme of responsibility are still lacking. Also, the applied aspect could be exploited further, as it seems there are some strong scholars in this area. Russell has a 50% FTE position, and he strategically chooses to be present at the most important times of the academic year and, in practice, his physical presence adds up to less than the stipulated 50% FTE. Yet, this is a problem noted in many of the grants. No leadership actions seem in place to address this issue.

### **Recommendations**

More focus on output (through the LGRP) and on applying for external funding could be emphasized for the second part of the grant.

More focus on diversity in recruitments could also be addressed by the PI and by the department.

The outreach to society could be strengthened. The Covid-19 pandemic may provide an unforeseen opportunity here, as ethical issues concerning responsibility become more central to policy-makers than perhaps ever before.

The effort of applying for further funding could be boosted in second part of the SRC grant period. Obvious venues here could be the Nordic Council and Nordforsk.

#### ***2.7.1.2 Start-up phase of the research environment***

*HEI perspective:* The start-up in Gothenburg and then the transfer to Lund was somewhat complicated. But now it seems smooth and the host department at LU has been good in accommodating the grant, which was somewhat delicate.

*Researcher perspective:* Now the base is firmly in Lund, and there are good knowledge exchanges and intellectual activities gathering researchers from both universities. A further hurdle was that Russell did not have extensive experience in setting up and running centres, including all the strategic, logistical and administrative tasks involved. In his own letter of intent, he highlights his ambitions to run the centre, but also mentions that most time will be dedicated to conduct his independent high-quality research. Thus, there seems a slight challenge from the outset with harmonising Russell's expectations about research time with the overall SRC intentions of allocating such grants to build up top-class research environments. Nevertheless, a research environment was successfully created, and seems to thrive after facing initial hurdles, now with a supporting coordinator (administrative).

#### ***2.7.1.3 Current phase of the research environment***

*HEI perspective:* The environment seems to work well. The PI is active at LU, when present. LU claimed presence to be 30% FTE in 2018, while in 2017 nothing was reported. In 2015 and 2016, GU claimed 50% FTE. Here, Russell was present on a more continuous basis, but still less than 50%. According to Russell, he is engaged online, even when not present physically. This claim should be considered in light of the considerable time difference is between Vancouver, Canada, and Lund, Sweden.

There is an issue with gender diversity. The junior female staff seems promising, although there seem no systematic leadership strategies in place for career mentoring including qualifying for a permanent position.

Besides these challenges, it seems the environment at LU (and the LGPR) is cohesive and intellectually dynamic, and seem relatively well integrated into the department of philosophy at LU.

*Reseracher perspective:* Despite hurdles and start-up costs, the project seems to work well. The PI underestimated the work required for setting up the grant, but seems satisfied now. The project coordinator ensures activity and continuity when Russell is not present. Since the project moved to LU, Russell has been present at important moments during term, that is, at the beginning of the term, and in the spring (prior to summer holidays). Russell has helped organise a bi-annual philosophy conference.

Junior staff members also express as positive, a high degree of presence and cooperation unusual to their field. Russell is currently main supervisor of one PhD student at LU, and one at another university.

In the original GU application, the stated ambition was to have a gender committee to ensure gender balance. This ambition seems not to have been transferred to LU, at least as an institutionalised entity. Yet, the purpose still remains to be gender balanced. Thus far, the senior researchers are male, while there is more balance in the junior staff and visiting staff. If the ambition is to have a permanent recruitment that is female, diversity strategies need to be implemented. These could include inviting senior women philosophers on external recruitment committees, since their presence would widen the scientific scope and they may be more familiar with and attuned to the research areas of rising women scholars. Yet, it is positive that some efforts are made in this regard.

Russell has spent a considerable amount of time setting up the centre and ensuring presence at Lund and Gothenburg, which seems slightly demanding, especially considering his overall short periods of physical presence. The staff seems satisfied which is very positive.

In addition to the LGRP dialogues between GU and LU, Russell has made connections with research communities in Copenhagen, Aarhus and Helsinki. There is also some collaboration with universities in Leuven, London and Oxford. Yet, the significance of these links for the LGRP is not clear. Initially, there was a generous visiting professors programme, where several of Russell's contacts from the Canada came. In the second phase, the hope is to have research visitors from Europe, and to strengthen links with new research environments in Europe.

It is positive that researchers within the LGRP have been more active getting their publications out with the leading philosophy publisher Oxford University Press than prior to joining the LGRP. Russell seems to have been an important mentor in getting published with this prestigious publisher. Yet, it is not clear what major collaborative or other works are coming out of the project.

#### ***2.7.1.4 Future phase: Remaining part of the grant period, and beyond***

*HEI perspective:* It seems unlikely that the LGRP will continue beyond the SRC grant period.

*Researcher perspective:* The likelihood is that the 10-year period will have left a mark on the pragmatic philosophy environment in Sweden, especially in terms of links with wider international networks. This should, however be ensured in the period up to the end of the grant.

## 2.8 Implementation of the grants at Stockholm University

The recruitment of four professors in physics to Stockholm University has enhanced the international awareness of Stockholm as a leading research center in physics. Three theoretical physicists were recruited and one experimental chemical physicist. These concerted efforts in strengthening both theoretical and experimental physics has increased the visibility of SU and enhanced its standing in physics both in Sweden and among Nordic countries.

### Recommendations

See individual recommendations for SU regarding the recruited researchers K. Freese, A. Nilsson, J. Wettlaufer and F. Wilczek in the sections *Overall comments and recommendations*.

### 2.8.1 Nordita/ Department of Physics (I)

#### 2.8.1.1 Overall comments and recommendations

This grant had a flying start, with an energetic and engaged scholar in the fields of theoretical particle physics, cosmology, and dark matter. Professor Freese and her group have been quite successful in particular initiating research activities on fundamental physics of neutrino properties and cosmic microwave background, which were not existing at SU before. She contributed significantly to the renommé of SU not only through her top level research activities but also through her strong and very visible outreach activities.

Freese has been very successful in attracting talented young researchers to join her research program, and thus built an excellent research group with a good gender balance, which is not common in this domain. The career destinations of her graduate students, integrating top international labs, demonstrate the success of the research program she has established at SU. Her leading position and training of outstanding students has certainly also enhanced the visibility of SU.

However, coming from the US, Professor Freese was not so familiar with the Swedish system. Teaching four and half months in the US, she has nevertheless created a great dynamic within her group, yet it is not certain that she is very well integrated in the wider departmental environment. There is also a challenge in terms of sustainability and legacy, as the recruited assistant professor had to step down.

### **Recommendations**

SU should have a dialogue with Professor Freese, possibly with administrative support, about how the group can operate during the remaining period of the grant.

SU should clarify the sustainability planning within the research environment, including the future local leadership - new recruitment of a leader present 100% at SU is needed.

SU could consider to strengthen synergy between Freese's and Wilzek's groups to insure sustainability and legacy of theoretical physics in the future, beyond the SRC grant.

The main issue to be addressed for this grant is its future legacy, which is not surprising, especially considering that a total of three grants went to the same SU department. Freese should set negotiations in motion on this issue in collaboration with the department and university leaderships.

#### ***2.8.1.2 Start-up phase of the research environment***

*HEI perspective:* The gender balance at SU particular in this research field and especially at the senior level is 1 out of 4. Hiring Professor Freese was in that sense highly beneficial since she fully played a role model in particular building her own group with 44% of female scientists. She is managing a group of excellent young people and the graduate students have been particularly successful. In addition she has played a key role in attracting a female scientist as director of the Oscar Klein Centre.

*Researcher perspective:* Professor Freese had several long-term collaborations with SU prior to starting her SRC grant there. She came in 2014 as director of Nordita, then stepped down to take her position at SU end of 2015. She feels well located within the department, she was delighted to integrate a thriving environment and is happy to with the facilities. From the beginning, she put a lot of emphasis in running (or co-running) very high profile conferences bringing famous researchers at SU, that was a big success.

Professor Freese has been very ambitious in attracting scholars in cosmology, and she is particularly keen on mentoring junior women scholars. From the outset, Freese engaged in mentoring younger scholars. They all have excellent positions now in top laboratories abroad, which also reflects positively upon Professor Freese. She is supervising 5 PhD students, and also has postdocs. The postdocs act as mentors for some of the PhD students, which works very well. In addition Freese had several visitors having a very important even crucial impact on the development of the research activities of the group, broadening the research portfolio and writing

several papers with the young people. Freese have now administrative support, which she was missing in first years. She also is quite critical regarding the recruitment system of assistant professor at SU.

### ***2.8.1.3 Current phase of the research environment***

*HEI perspective:* The researcher is active at SU, when present. Professor Freese was expected to spend 60% of her time at SU, but she is 4 and half months in the US, teaching there for one semester. Nevertheless, she is very good at outreach and runs the group well, even though she is not at SU physically.

When she is not physically present, she engages with her collaborators through skype and email. Freese has a commitment of 60% FTE, that is more than 50%, to ensure her engagement. She was also one semester per year in the US, where she was teaching. One year, she was absent due to personal reasons. Although the environment has developed a lot and she has initiated a lot of activities that were not existing in Stockholm before.

Besides IT support, she got one PhD student funded by the department and she got and will get an assistant professor as well.

Professor Freese has opened many doors for her group and the PhD students had offers from exceptional places. Note that the two PhD students who graduated produced the “absolute best PhD thesis” that have been seen in the division.

Generally, the expectations have been met and K. Freese developed new research topics and made strong recruitments.

*Researcher perspective:* Regarding the time spent at SU, Professor Freese claims that in any case all her research activity is turned to her group at SU, including when she is in the US or attending conferences with her group. When she is not physically present, she engages with her collaborators through skype and email.

While her junior colleagues find her extremely engaged and helpful, there is still a challenge with presence but the Postdocs mentor the PhD students and appreciate doing so. Because even when she is based in Stockholm, she networks a lot by going to conferences and travelling. These networks, it should be noted, are extremely beneficial for her up-and-coming scholars in terms of future placements. The Postdocs and PhD students appreciate very much Professor Freese’s management and find the breadth of the group quite impressive. K. Freese’s group developed several types of collaborations at the national and international level including visiting scientists as already mentioned. The academic output is at a very high level and it is worth mentioning that Postdocs and PhD are co-authors of the scientific papers. It clearly indicates Professor Freese’s high engagement. Also, comparing SU academic output in the area prior to the SRC grant and during the grant, it has definitely put SU on the map. Also, SU now collaborates with many more universities than before in this area, in Europe and the US. Non-academic output

includes outreach (i.e. interviews in international press outlets), which is excellent for an area that is normally not on ordinary citizens' horizons.

Professor Freese made the area of cosmo-particle physics broader and deeper, including weakly interacting dark matter, primordial black holes, inflation, neutrinos, learning about supersymmetry at the LHC at CERN, and the cosmic microwave background (CMB). In particular the group suggested novel mechanism for the detection of dark matter: paleodetectors and made the most accurate determination of the sum of the neutrino masses. With her group, she also coordinated a one-week successful event on cosmology, cosmic microwave background and inflation, with over 200 delegates.

#### ***2.8.1.4 Future phase: Remaining part of the grant period and beyond***

*HEI perspective:* Professor Freese and her group have been very successful and she has play an important role in securing the future of the Oscar Klein Center for cosmoparticle physics after the Linnaeus grant. Nevertheless she is running out of funds with this SRC grant and extra funding should be raised. Discussions to recruit a second assistant professor (in replacement of the first one who had to stop) have been initiated.

*Researcher perspective:* Professor Freese plans to continue and get additional funding (for instance with Nordita). She would like to grow in term of breadth.

### **2.8.2 X-ray Science of Liquids and Surfaces, XSoLaS**

The recruitment of Anders Nilsson has delivered results in terms of high-level research, integration into the Swedish research environment, and additional funding, far beyond the initial expectations. Yet, this grant has been implemented into an environment receiving several very large grants, and it seems that this leads to challenges of the future for the funded research environment.

#### ***2.8.2.1 Overall comments and recommendations***

Professor Nilsson is clearly an outstanding researcher with a serious drive toward success and achievement. While he was at Stanford University, he had all he needed, including the best facility in term of x-Ray radiation, while the acquisition of equipment in Sweden has been complex and costly. It is clearly an excellent recruitment, and the group is developing very well. He is also 100% of his time in Sweden, which has enabled him to engage in tasks beyond the SRC grant, at SU, at the Swedish research council and in Swedish society.

### **Recommendation**

The overall recommendation is to have a dialogue to agree on the future of the research environment, even if on a smaller scale, in order to harness the considerable research development and balance expectations of the programme leader, the junior staff, the department, and SU.

SU leadership including department leadership should already now engage in a dialogue with Nilsson so as to reach an agreement about future expectations and legacy plans. It would be appropriate to find a long-term solution that is sustainable for the programme leader and SU. Otherwise, it is hard to see how the large investments made will sustain beyond the SRC funding.

#### ***2.8.2.2 Start-up phase of the research environment***

*HEI perspective:* SU was successful in obtaining 4 SRC grants, yet all were in the physical sciences, which did not make the initiation process easy. SU is aware of the difficulties (mostly at the department level) but SU leadership and Nilsson differ slightly in their views of the process.

*Researcher perspective:* The SRC grant was a good opportunity for professor Nilsson to create a scientifically coherent program in Stockholm, and he indeed successfully built a series of new instruments. However, during the start-up phase, it also became clear the Max IV machine would not be ready within a short-time period (and is still not ready), and so he decided to use the facilities in Stanford, as well as in Germany. Recruitments were very successful, but not well gender-balanced. Being Swedish made Nilsson's integration easier.

#### ***2.8.2.3 Current phase of the research environment***

*HEI perspective:* Professor Nilsson's group is fully functional, and it organizes a number of activities within the department. As the research council allocated a (slightly) smaller sum than what was applied for, Nilsson applied immediately for an ERC advanced grant, which he obtained. He also successfully applied for a grant from a foundation. This initial activity meant that he also took on a mentoring role for his junior colleagues to apply for grants. One of the (now) tenured staff had applied to the ERC and had top marks (although the ERC application was not granted). On the same basis, a grant was obtained from the Swedish Research Council. Nilsson's high-level mentoring facilitates the future scholars in being dynamic, successful and independent, and this is noteworthy. Nilsson is engaged in teaching (this is not required considering the small number of students), and outreach in national Swedish media, as well as collaboration with industry, and collaboration with other Swedish HEI institutes.

*Researcher perspective:* Professor Nilsson describes a lack of communication with SU leadership, and he experiences a lack of leadership commitment by the

department leadership to his group. He states that he brought to the University very large amounts of money in terms of overhead (from additional grants) but all he received was one PhD student and the office rent. Thus, it seems there are currently some challenges and expectation regarding management issues that acutely need to be addressed.

#### ***2.8.2.4 Future phase: Remaining part of the grant period and beyond***

*HEI perspective:* According to SU leadership, the environment will survive once the SRC grant terminates, but there seem to exist other dynamics at department level.

*Researcher perspective:* There were no plans by the department – despite Nilsson’s request to address this issue - of how professor Nilsson's group will remain active in the future. To Nilsson it is not clear what the principles are for permanent allocations (e.g. taking into consideration issues such as external funding and overhead generated, SU strategy, departmental priorities, competing environments).

For Professor Nilsson there is uncertainty for the future, including for some of the junior people he hired to his group, who he had hoped could obtain a permanent position at the department. For example, an excellent (as per Nilsson’s view) female junior scientist who, at the time of the interview, was in the process of being hired in Germany, but not in Stockholm. The amount of overhead generated for the department seems at odds with positions allocated to Nilsson's groups.

### **2.8.3 Nordita/ Department of Physics (II)**

#### ***2.8.3.1 Overall comments and recommendations***

The recruitment of professor Wettlaufer to NORDITA and SU was a brilliant idea for several reasons. He has definitely strengthened the field of soft condensed matter physics in Sweden and thanks to his unusually broad interests in physics and mathematics he has played an essential role in developing interdisciplinary research. The hiring of professor Wettlaufer was also crucial for the stability of NORDITA.

Professor Wettlaufer had two chaired professorships at the University of Oxford and Yale University, respectively. Therefore, the SRC grant played a crucial role in relocating his main research activities to Sweden.

Wettlaufer was initially very familiar with the Swedish research system and had a clear intention to make Stockholm his home in case the SRC grant would allow him to build a strong research environment there. He has fully achieved his initial purpose and was integrated into the NORDITA/SU activities from the very beginning.

### **Recommendation**

SU/Nordita should harness Wettlaufer's experience in public engagement to expand the HEIs' efforts in a more systematic fashion. It is a very successful program on almost all parameters one could think of.

#### ***2.8.3.2 Start-up phase of the research environment***

*HEI perspective:* Wettlaufer group is mainly associated with NORDITA, which co-finances some of Wettlaufer's proposals for workshops and conferences. The other indirect support comes from the NORDITA fellow program, which selects postdocs on the basis of their independent research programs. Among these selected postdocs, some are working in Wettlaufer's research area. There is an automatic co-funding by SU since NORDITA is exempt from central university overhead, which is about 20%. Therefore, the requirement of co-funding by at least 30% is basically satisfied, although Wettlaufer did not ask originally for extra co-funding (2013 call).

*Researcher perspective:* SU and NORDITA were rather helpful in original finding housing and administrative support, although there were some administrative obstacles contrary to the researcher expectations. However, at present all problems are resolved in a satisfactory way. The group obtained the infrastructure required. Currently, the offices of the group members are located in 3 different buildings which creates certain problems for productive scientific interactions and common activities, but it is planned that by the end of 2020 the group will move to a new building with its own coherent office space. SU, including NORDITA, provides general support including appropriate premises, administrative support and IT-support. In this sense, Wettlaufer's group is no exception.

#### ***2.8.3.3 Current phase of the research environment***

*HEI perspective:* Professor Wettlaufer is very active both at NORDITA and SU at a level that exceeds original expectations. He created a fully functioning research group working in a new field, which was originally under-represented in Sweden. This group has substantially strengthened the research in Theoretical Physics at SU and in Sweden overall. Wettlaufer participates in monthly faculty meeting and is very active in organizing regular conferences and workshops at NORDITA. In the fall of 2015 Wettlaufer (together with Nilsson) were commissioned by the Dean of the Faculty and the Head of the Physics Department of SU to advice on the strategic planning for future research activities and hiring at the department and reported on this in January 2016. Wettlaufer has hired excellent junior researches and created a coherent and fully-functioning group with quite an impressive outcome concerning publications in leading scientific journals. Thus, the activity level has exceeded the aim of the SRC application.

Wettlaufer is a member of the Swedish academy of Science and actively participates in its work, in particular, using his expertise in advising on Nobel Prizes in physics.

From 2015 to 2017 Wettlaufer was at least 50% FTE at NORDITA/SU. In 2018 he spent 80% of his time in Sweden. His commitment is to move 100% of his research activities to Sweden.

*Researcher perspective:* One of the main criteria for the recruitment of the members of the group and creating the proper research environment is the broad interests of applicants. At present, Wettlaufer's group is mostly allocated at NORDITA and consists of 1 senior researcher, 4 researchers, 7 junior researchers and 2 PhD students (all supported by the SRC grant). Wettlaufer is the main supervisor for the two PhD students and indirectly participates in supervising other students from SU with whom the members of his group are working. The group has regular meetings, seminars; and group members express that they have regular interactions with Wettlaufer nearly every week at a personal level. The members of the group regularly participate in the other seminars and colloquia organized not only at NORDITA but also at SU. In spite of Wettlaufer's unusually broad scientific interests and his rather large number of research topics and themes, the research program looks very coherent and consistent. There are many collaborations and co-authorships created by Wettlaufer's research environment. It is also worth mentioning that SU has recruited a tenure-track assistant professor in Wettlaufer's field of research, who also forms part of Wettlaufer's research environment.

#### **2.8.3.4 Future phase: Remaining part of the grant period and beyond**

*HEI perspective:* It is fair to conclude that Wettlaufer's research environment is fully established, his group is fully running and one can expect that through the remaining SRC grant period it will further develop and will become even stronger. Keeping in mind Wettlaufer's intention to relocate 100% of his main research activities to Sweden and the possibility of hiring a junior faculty member in the field of soft condensed matter physics would optimise the likelihood of having this important field of physics develop further in Sweden also beyond the SRC funding period. Wettlaufer's full-time presence in Sweden will further attract more young talented scientists from around the world to Sweden.

*Researcher perspective:* There are many research collaborations and exchanges on national and international level, including common research projects, organization of workshops, inviting leading scientists to Stockholm. Moreover, using his close links with Yale University and Oxford University Wettlaufer attracts talented students from the USA and UK to Sweden. Wettlaufer has played one of the key roles in applying for a large Wallenberg research grant "Physics for Computing, Computing for Physics", which was recently awarded to NORDITA and he is likely to receive an ERC advanced grant should he apply for one, for example after the SRC funding period ends. This gives a solid ground to expect the future sustainability of professor Wettlaufer's research environment.

## 2.8.4 Quantum Frontiers / Department of Physics

### 2.8.4.1 Overall comments and recommendations

Motivations for the recruitment of the Nobel Laureate Frank Wilczek, Professor from the Massachusetts Institute of Technology (MIT, USA), to the Department of Physics at SU, was to inspire and fertilize research in theoretical physics in the broadest possible sense. SU being already the strongest centre of research in particle astrophysics and cosmology in Europe, with the arrival of professor Wilczek has now risen to undisputed world rank.

Professor Wilczek is among the leading theoretical physicists in the world, an extremely productive and active scientist with an unusually broad perspective and expertise in various fields of theoretical physics. Therefore, it is not surprising that, for instance, such leading institutions as Cambridge University and Oxford University were making serious efforts to appoint him at least on part-time arrangements. However, thanks to the SRC grant and Wilczek's interest in the research environment at SU (including the existing Oscar Klein Centre and NORDITA), SU was successful in convincing professor Wilczek to relocate the major part of his key research activities to Sweden.

#### Recommendations

The research environment should start to focus on legacy planning, including future leadership.

Legacy planning also needs to take place at university level, so that the developments arising from Wilczek's work can be reflected in university strategic planning.

### 2.8.4.2 Start-up phase of the research environment

*HEI perspective:* Wilczek got full support from SU at the university level, in particular the promised co-funding of about 32%. Together with Wilczek's third-party grants it is quite sufficient for building a very successful, fully functioning group in full agreement with the grant application. University and departmental leadership were very supportive in resolving administrative problems and helping with contacts to Swedish authorities. Although there were serious problems at the beginning in relation to administrative support, they have been successfully resolved.

*Researcher perspective:* The situation with offices has been a serious problem, which is only now about to be resolved. Wilczek has had no compact coherent office space for his group, which has been growing in size. The group has had three different locations: at NORDITA, in the SU condensed-matter group and in the Oscar Klein Centre. Wilczek's office is located rather far away from the offices of

the other group members. It is crucial for the group to be together because it leads to spontaneous discussions in which new unexpected ideas arise. However, with the completion of a new building in 2020 Wilczek's group will get enough co-located offices.

#### **2.8.4.3 Current phase of the research environment**

*HEI perspective:* Professor Wilczek is active at SU and NORDITA, exceeding the promised level in his initial SRC application. The newly created research environment is fully consistent with original plans and expectations, both SU and NORDITA are happy to have him as a group leader and, in fact, according to the SU Vice-Chancellor the reality has exceeded the expectations. In particular, Wilczek has attracted new funding and made strong recruitments. Since 2017, he is physically present in Stockholm for at least 4-5 months and participates in numerous Skype calls with the members of the group when he is not in Sweden. Therefore, one can certainly say that the condition of 50% FTE presence is fulfilled.

Professor Wilczek is very active in outreach events. He delivered numerous talks at various universities in Sweden (e.g. Uppsala, Gothenburg and Lund) and around the world and has many interviews popularizing science.

Wilczek is an elected member of the Swedish Academy of Science and actively participates in its work. He is also a member of the Scientific Advisory Board of the Knut and Alice Wallenberg Foundation. In addition, he is very actively involved in organizing Oscar Klein Lectures and Lise Meitner Lectures.

*Researcher perspective:* Wilczek's group currently consists of 3 junior faculty, who are directly supported by his SRC grant with firm commitment from SU to take care of these positions after the grant period is over. They are in the fields of microphysical cosmology and quantum phenomenology. There are 6 postdocs in the group and there is a plan to hire a further cohort of 3 postdocs funded by Wilczek's major ERC grant. In addition, there are two joint postdoc positions in cooperation with NORDITA and T.D. Lee Institute (Shanghai). The successful Wallenberg application with NORDITA and SU will also further strengthen the group and will lead to even closer collaboration between NORDITA and SU. The group is fully integrated into the research environments of SU and NORDITA. There is a fruitful collaboration between the members of Wilczek's group and for instance members of the Oscar Klein Centre. There are common discussions, seminars and regular working lunches. When Wilczek is in Sweden he nearly always participates in these common activities. There is a regular weekly group seminar in which Wilczek also participates via Skype if he is not in Stockholm.

The academic output, such as scientific publications by Wilczek and the other members of his group, is very significant, with a high productivity level and with publications in leading scientific journals. The topics of research are at the forefront of the main international activity in theoretical physics. Since his relocation to Sweden, Wilczek published more than 30 papers, many of them in collaboration with Swedish scientists (he had more than 10 collaborators from Sweden).

#### ***2.8.4.4 Future phase: Remaining part of the grant period and beyond***

*HEI perspective:* Professor Wilczek has instigated two new research fields in Sweden: condensed matter and particle physics and cosmology. Hiring 3 new junior faculty members through his SRC grant he has guaranteed the continuation of research in these new promising fields after the SRC grant ends in 2024. The host department is also looking to expand in these areas. Wilczek has also initiated annual “Quantum Connections” summer schools and workshops by inviting leading scientists from around the world. These schools and workshops get excellent reviews by participants and have become internationally well known. It is hoped that these will continue.

*Researcher perspective:* Basically, the research environment was established in accordance with the original plans, it is coherent and fully functioning. It was an excellent idea to hire highly qualified junior faculty as this makes it likely that the research environment will continue to successfully develop through the remaining SRC grant period and moreover will sustain the environment after the grant period ends. Professor Wilczek and his group members are actively and successfully applying for additional funding. In particular, Wilczek obtained a major ERC advanced grant. Along with the other members of SU/NORDITA he also got a large Wallenberg grant, which will rise to a qualitatively new level the theoretical research in quantum science at both institutions. Nonetheless, Professor Wilczek will be a hard act to follow when he retires and it will soon be time for some sustained conversations about how these new developments fit with SU-level strategies.

## 2.9 Implementation of the grants at Uppsala University

The grants to Uppsala University (UU) were in the areas of (i) Vascular Biology (Dejana) and (ii) Cultural Anthropology (Kulick).

The intention to recruit Elisabetta Dejana to Uppsala University was to enhance the research community and create an internationally leading environment through her expertise and international standing. The University aimed at further strengthening the international visibility of their already prominent Vascular Biology Program at the Department of Immunology, Genetics and Pathology (IGP) at UU.

With the recruitment of Kulick, the University saw an opportunity to invigorate and enhance existing research initiatives at UU across a range of disciplines: not only in anthropology, but also in literature, rhetoric, media, film and communications studies, philosophy, history of ideas, ethnology, musicology, political science, and higher education studies that tie into the theme of vulnerability as a generative position or site of reciprocal involvement. The Engaging Vulnerability (EV) program, which was established in conjunction with the recruitment, has become a gravitational force at Uppsala University that draws both junior and senior researchers to develop work in this area, both nationally and internationally.

### Recommendations

UU should revisit its grounds for academic diversity (gender and otherwise) and systematically act to harmonise these grounds across leadership levels as levers of scientific excellence.

UU should specify types of co-funding including in-kind and up-front funding.

UU should appoint a programme contact point at the Chancellor's office facilitating direct communication between top leadership and the programme leader.

### 2.9.1 Vascular biology / Dept of Immunology, Genetics and Pathology

#### 2.9.1.1 Overall comments and recommendations

Professor Dejana is an internationally renowned scholar in the area of vascular biology. She has been an excellent appointment to this scheme and equally an excellent appointment for Uppsala university (UU). In many ways she epitomises the goal of this SRC programme. The intention to recruit professor Dejana to UU was to enhance what was already a strong environment and create an internationally leading environment in vascular biology. This appears to have been achieved. Additionally, her appointment was to cross-feed life sciences generally at UU and

this also appears to have been achieved. The ambition of UU was also to broaden the international network of the research in this field as well as having a female role model both of which have been fully accomplished. UU ran an institution-wide process to select the candidates and this incorporated both departmental and faculty steps.

### **Recommendation**

The UU leadership should start legacy planning, so that the developments arising from Dejana's work can be related to, and reflected in, future strategy developments.

#### ***2.9.1.2 Start-up phase of the research environment***

*HEI perspective:* The UU leadership team was slightly nervous at the beginning as this was a 50% FTE appointment and there was a worry about whether professor Dejana would be present to that level at UU. However, time demonstrated that this is not an issue and Professor Dejana spends her 50% in blocks of time at UU. There has been co-funding and support both at Vice Chancellor and Dean levels, and Professor Dejana's accommodation in Sweden is paid through a grant from the university. Additionally, there is administrative and infrastructure support in terms of HR, budget management etc. There has also been some support in terms of co-funding of equipment.

Overall, the UU has supported her fully during the start-up phase, but the refurbishment of lab facilities and recruitment of key researchers took longer than anticipated.

*Researcher perspective:* Professor Dejana was initially worried about her integration within the department and the UU. However, she describes the atmosphere as very open and collaborative and she has, indeed, built very strong collaborations.

#### ***2.9.1.3 Current phase of the research environment***

*HEI perspective:* Professor Dejana's activities are very consistent with the initial application and according to the University's leadership even go beyond what was articulated in the application. The recruited staff is fully integrated into the environment. Several junior researchers emphasize Dejana's mentorship and her facilitation of their research development and career opportunities.

She spends blocks of time in Sweden and Italy (3 weeks in Sweden and 3 weeks in Italy) and is accessible online when not in Sweden. There is also a good flow of researchers between the two teams. Her connections and work in Italy have introduced new opportunities to UU.

Dejana's activities are mainly monitored through the Head of Department. She gives seminars and participates in different seminar series for junior researchers (postdocs,

PhD students) and established researchers at the department and at UU. She acts as a mentor for several junior researchers and PIs and is engaged in collaborations with a range of researchers at UU, including, but not limited to, the vascular biology program at the Department of Immunology, Genetics and Pathology (IGP).

*Researcher perspective:* Once the initial phase of laboratory set-up and recruitment was completed, the productivity of the team under Dejana's auspices has been excellent. This has resulted in numerous high-quality publications with UU as affiliation, and there are many more in various stages of preparation and peer review. She has won a number of very prestigious awards, which has reflected very positively on UU. Among the most recent awards is the INSERM International Prize in December 2018, and in April 2019 she was awarded the Medal Award by The Council of The European Vascular Biology Organisation. Through collaborations and exchange of researchers organised by Dejana, UU becomes directly and indirectly engaged in these networks which increases its interactions with high-quality organizations globally.

#### ***2.9.1.4 Future phase: Remaining part of the grant period and beyond***

*HEI perspective:* The environment is well established, it is collegiate and collaborative, fully functional with a high level of activity and productivity. The research environment will continue throughout the remaining grant period and with its recognition continue to attract many leading researchers in the field. The department is funding a new professorship in lymphatic biology, an area closely related to professor Dejana's area. This financial commitment supports the consolidation of the UU's internationally leading research environment in vascular biology.

*Researcher perspective:* Professor Dejana is very conscious of succession and planning for the future, and she supports the co-director of her team as a future leader of the group. She articulates her future area of investigation with clarity. There is no concrete legacy plan in place but with the recruitment of additional high-quality researchers there appears to be sufficient critical mass for the continuation of the environment.

## **2.9.2 Engaging Vulnerability**

### ***2.9.2.1 Overall comments and recommendations***

Overall, this programme is a success. It initiates a new, interdisciplinary theme of vulnerability at UU, and it does not build on long-standing existing research at UU. At such, it is a bold choice, which was based on UU's wish to strengthen scientific collaboration across the social sciences and humanities. The programme has, indeed, managed to do so. It has galvanized scientific innovation at UU, particularly through joint PhD training, just as it has added value for UU in terms of international collaboration and output. As full professor with 100% FTE, Don Kulick demonstrates active leadership, mentoring and teaching in addition to innovative public engagement activities. Co-funding is generous, and the group

interacts well in terms of interdisciplinary development and engagement. In terms of group composition, UU leadership and programme leader express little recognition of the positive correlation between scientific excellence and gender diversity. Yet, some tensions remain with regard to defining the SRC grant as a personal grant or as a lever of long-term development of a sustained and coherent research environment. At this programme stage, there is little existence of a correlated strategy-formation for the future, including negotiations of concrete legacy measures after the SRC funding period expires.

### **Recommendations**

UU would do well to systematically evaluate its administrative and scientific implementation of the programme, including reflection on learning point provided by Professor Kulick.

Professor Kulick would do well to develop a strategy for long-term coherence with regard to his research environment in order to further strengthen added value.

UU could harness more systematically Professor Kulicks's considerable experience in public engagement in order to strengthen UU's public visibility and accountability.

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Professor Kulick would do well to develop a strategy for long-term coherence with regard to the research environment in order to further strengthen added value.

UU could harness more systematically Professor Kulick's considerable experience in public engagement in order to strengthen UU's public visibility and accountability.

#### ***2.9.2.2 Start-up phase of the research environment***

As noted, the programme initiates a new, interdisciplinary theme, which has successfully catalysed scientific innovation, yet it slows down quick implementation, as would be expected.

*HEI perspective:* UU wanted to innovate its interdisciplinary research and strengthen its international research relations and visibility. Its commitment is further indicated by additional co-funding provided by the vice-chancellor's funding

scheme 2015-2017. In addition, the Faculty of Arts and individual departments have added further co-funding, e.g. two PhD grants.

*Researcher perspective:* The size of the grant and the freedom it offers operated as main drivers of applying. Professor Kulick notes an initial opposition at departmental level and a sense of siloed research environments in Swedish anthropology research. He also notes some struggle to secure physical environment for the project and lack of departmental backing in this.

Overall, the innovation of interdisciplinary research across social sciences and humanities has been successful. Kulick's prior professor position at UU and his position since 2015 as full professor of anthropology eased his way into UU including administrative issues conducted in Swedish. Similarly, an early appointment of an efficient research coordinator helped integration.

Integrating PhD positions into an interdisciplinary programme that crosses administrative as well as disciplinary boundaries has helped alleviate initial opposition. Yet, this integration also points to structural and administrative divergences that UU should help alleviate.

The issues raised over space and harmonisation of research training across departmental boundaries may indicate a lack of experience at UU with interdisciplinary research formation of this scale and scope.

No specific measures are in place to remedy some imbalance in terms of gender, and leadership and researcher express little recognition of the positive correlation between scientific excellence and gender diversity.

UU co-funding has been sufficient. The budgetary surplus caused by a slow start is to be expected given the fact that the project initiates a new activity and project coordination of an unusual scale and scope for the social sciences and humanities.

### ***2.9.2.3 Current phase of the research environment***

*HEI perspective:* The programme operates successfully in terms of interdisciplinary development and engagement.

*Researcher perspective:* Professor Kulick notes overall success in terms of scientific activity levels, international collaboration and interaction, and output. Junior faculty notes some administrative difficulties in planning teaching activities. The programme is up and running documenting high activity levels. Since 2016, Kulick is full professor with 100% FTE, and he demonstrates active leadership and mentoring. At UU, he has initiated seminar series and weekly writing workshops with PhD students in their final year. Junior faculty notes his availability and accessibility. All of this provides added value for UU as does professor Kulick's very active teaching engagements.

The written and oral material give no firm grounds on which to assess the added value of the programme for the Swedish research community more widely. The programme widens international networks through hosting of conferences, joint research visits and, 2018-2019, a very successful research fellows programme. International output seems to prioritise co-authored and co-edited volumes, a choice that may be a result of disciplinary traditions.

Tensions remain with regard to professor Kulick's position as personal grant holder, focusing on his own research (including extensive field research), and as programme facilitator, focusing on long-term development of a coherent research environment. Likewise, currently the programme theme invites almost all SSH disciplines as being relevant. While such inclusiveness is valid during a start-up phase of a novel, interdisciplinary programme, such hyper-inclusiveness should be revisited and possibly reconfigured now, since it may jeopardise long-term coherence and limit added value for UU and the Swedish research community.

Kulick is very active in innovative public engagement activities. UU seems to harness his important experience here in an unsystematic fashion, thus limiting the added value of the programme.

#### ***2.9.2.4 Future phase: Remaining part of the grant period and beyond***

*HEI perspective:* Leadership expresses interest in sustaining programme activities beyond the SRC grant period.

*Researcher perspective:* Professor Kulick notes ongoing discussions on when and how to secure continuation of the project, e.g. through an ERC grant submission. He notes some concern over the lack of concrete UU leadership plans with regards to legacy and sustainability.

The UU organisational structure impedes direct contact between upper levels of leadership (Chancellor, Vice Rector) and SRC programme leaders. This structure serves to weaken a correlation of strategy-formation for the future, including negotiations of concrete legacy measures after the SRC funding period expires. No concrete plans for these measures are in place.

Professor Kulick's lack of current activity with regard to securing external funding such as an ERC advanced grant application indicates possible challenges of long-term planning for a sustainable research environment.

### 3. Comments and conclusions from the Swedish Research Council

#### 3.1 Overall comments and conclusions on the implementation of the grant

In the light of what has been stated in the panels' evaluation report, the Swedish Research Council provides the following initial comments and suggestions on how to address the recommendations from the panel from the SRC perspective.

In summary, the panel assesses that the initiative has so far been successful regarding the implementation of the grant and that the overall objectives of the grant have been met. In the vast majority of the grants, the recruited researchers have really moved to Sweden, established a long-term research environment and recruited successful researchers to the environment.

The advantages of International Recruitment compared to other forms of support for excellence research are mainly that: (1) the grants enable international recruitment to the universities, which provides renewal and inspiration; (2) the recruited researchers often act as “magnets” for younger researchers to come to Sweden and establish themselves here, which has further increased the international profile of the environments. Similar conclusions of international visibility and generating interests with younger researchers were drawn in the final evaluation of the Linneus grants research environments.<sup>1</sup>

In cases where the researcher still has activities at his or her previous university, they have also succeeded in merging and integrating the two environments. For example, through joint workshops and / or shorter stays / exchanges between the different environments.

In many of the interviews conducted, both researchers and the HEIs leadership have emphasized that it would be desirable to have a more adapted payout rate, which better corresponds to the expenditure development for the establishment of a research environment. The recruited researchers have reported that they have plans for how to use the remaining funds which will be followed up.

The Swedish Research Council will follow up those grants where the recruited researcher were reported to have a low attendance on site at the Swedish university. Furthermore, the Swedish Research Council will review all the panel's individual evaluations and conduct / initiate a dialogue with the HEIs and the recruited researchers.

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<sup>1</sup>

[https://www.vr.se/download/18.6c61a64c170f610eefc1fe/1585238643204/The%20Final%20Evaluation%20of%20the%20Linnaeus%20Grant\\_VR2020.pdf](https://www.vr.se/download/18.6c61a64c170f610eefc1fe/1585238643204/The%20Final%20Evaluation%20of%20the%20Linnaeus%20Grant_VR2020.pdf)

The panel provide several suggestions of improvements in the event of a future call of international recruitment of international leading researchers, for example an earlier career level of the recruited researcher; the importance of leadership qualities in order to create and lead a larger research environment; how often a grant should be announced with the suggestion to announce the grant preferable bi-annual rather than annual and fewer grants at each call; clarified and specific rules for co-funding and the importance of the legacy of the grants. It can be noted that the unclear definition of co-funding was also commented in the final evaluation of the Linneus research environments. The recommendations from the panel are highly valuable and relevant for improving this type of grant as well as for other grants. The Swedish Research Council will carefully consider all comments from the panel in the internal work regarding future calls.

Another important aspect that the HEIs pointed out was that it takes time to recruit an international researcher from outside Sweden, which means that a long time is needed to prepare an application of this kind. The time between the first information about the call and the actual publication of the call was relative short for the first call, which in turn gave the HEI a relative short time to prepare for the recruitments. If a call were to be made again, it should give the HEI ample time to prepare.

The panel also recommends that the communication between SRC and the HEI leadership should be more on a more regular level and SRC will continue to monitor the grant during the remaining grant period.

Several important comments regarding the implementation of the grants are directed to the different HEIs with a couple of overall comments as well as specific comments. The overall comments concern the legacy of the grants as well as the reporting of co-funding and the recruited researcher's time spent at the HEI. The Swedish Research Council will go through all the individual evaluations and return to HEIs and recruited researchers.

Moreover, the grants will be monitored for the remaining funding period and a final evaluation of the grant is planned to be performed 2025/2026 with focus on publication patterns and scientific quality the scientific production of the research environments.

## Appendix 1. The expert panel

Members of the international expert panel for the mid-term evaluation of the implementation of the grants for international recruitment of leading researchers:

<b>Name</b>	<b>Affiliation</b>	<b>Country</b>	<b>Area</b>
Kirsten Drotner (chair)	University of Southern Denmark	Denmark	Humanities & social sciences
Anne Edwards	Oxford	UK	Humanities & social sciences
Caroline de la Porte	Copenhagen Business School	Denmark	Humanities & social sciences
Xin Lu	LICR Oxford branch	UK	Medicine & health
Kjetil Taskén	University of Oslo	Norway	Medicine & health
Tara Dean	University of Brighton	UK	Medicine & health
Daniel Zajfman	Weizmann Institute	Israel	Natural & Engineering sciences
Dominique Vernhet	Sorbonne Université, Paris	France	Natural & Engineering sciences
Viatcheslav Mukhanov	Ludwig Maximilian Universität- München	Germany	Natural & Engineering sciences

## Appendix 2. Guidelines for pre-evaluation

Guidelines to the panel for the pre-evaluation of the of the implementation of the grants for international recruitment of leading researchers

This document contains the information necessary for conducting the pre-evaluation assessment for the implementation of the grant for International recruitment for leading researcher. The preevaluation is crucial for the upcoming hearings in March-April 2020 and will facilitate the rest of the evaluation process. All panel members are asked to read the summaries of each of the 19 grants. The summaries contain interviews and self-evaluations from the Swedish higher education institutions (HEI) and the recruited researchers. All panel members will also be invited into the web-tool Box where all documents are found. A document for making individual notes that relates to the different aspects as described below) is available and should be filled out and up-loaded in Box no later than 2020-03-18.

### Introduction

This is a mid-term evaluation of the implementation of grant for recruiting international leading researchers. The aim of the grant is to support leading international researchers to move their research to Sweden and to enable the establishment of a strong research environment as well as to stimulate more long-term goals for research. The grant enabled Swedish HEI to offer long-term and sufficient funding for recruitment of leading researchers from abroad and in areas within the university's own strategic initiatives. The grant was applied by the vice-chancellor at the HEI and therefore it is the HEIs implementation of the grant that is to be assessed. Mid-term entails the period starting 2014-2015.

Assessing individual research environments built around recruited international researchers

The purpose of this evaluation and the task of the panel is to assess to what extent the researcher has moved their research to the Swedish HEI that applied for the funding, if it has enabled the establishment of a strong research environment around the recruited researchers, and how it has been integrated according to the aims of the application, and if the terms and conditions posed in the calls are followed. As this is a mid-term evaluation, an additional purpose is to give recommendations to the Swedish Research Council regarding the individual research environment built around the recruited researcher, but also to purpose and construction of the grant scheme as such. The recommendations should be progressive and focussing on the remaining grant period (ie. leading up to 2024-2025). The panel should also assess whether conditions are provided to secure continuous research activities at the Swedish HEI during the remaining grant period. Alternatively, *if* the researcher has

not hitherto sufficiently established their research at the Swedish HEI, it should be considered whether there are reasonable plans for the establishment during the coming years. In addition, the panel is asked to provide overall reflections to the Swedish Research Council on the funding scheme, in particular:

- if the panel recommends any adjustments for the remaining grant period
- the panel's view on how the grant has been implemented, and the effects on the Swedish HEI
- if this type of grant would be favorable to future calls, and in that case how it should be designed regarding the level of funding, duration, and level of career experience of the recruited researcher?

### **The pre-evaluation assignments**

The pre-evaluation is organised around three parts; the starting phase, the establishment phase, and the remaining phase of the funding period. All three parts are divided into sub-themes and have guiding questions to be considered when assessing the environments.

The research environments built up around the international researchers recruited by this grant should be individually assessed. Thus, no research environments should be compared to any other, but be assessed in relation to the original application, the purpose of the grant, and several aspects as listed below. The information and data provided have been specifically collected for the evaluation. The documents provided for the pre-assessment are the following:

- Interviews with vice-chancellors, deans, head of departments, recruited researcher, senior researchers and PhD students and self-evaluations of vice-chancellor and recruited researchers compiled together in one document for each environment – The applications

These documents are found in a folder with the name of the recruited researcher.

In addition to the documents above, you also find background documents presenting an overview of the Swedish research funding system, the call documents from 2013 and 2014, bibliometric data of the researchers' collaborations and financial report.

To help the panel assess the implementation of the grant so far, and the planned activities within the research environment for the remaining part of the grant period, the following aspects are to be considered and discussed, divided into starting phase and current phase. Please note that some of the guiding questions should be commented upon. The primary function of the guiding questions to each aspect below is to enable the pre-evaluation for the final qualitative assessments, although not all questions may be relevant for all environments:

### *Starting phase*

<p><b>Guiding questions</b></p>
<p><b>Recruitment of researcher</b>          Could, for example, include:</p> <ul style="list-style-type: none"> <li>- Challenges when relocating research activity?</li> <li>- Challenges for the researcher to integrate in department activities? (Could include lab space, seminars, workshops, not set up or organized by the research environment itself)</li> </ul>
<p><b>Composition of and recruitment in research group</b>  <u>Should</u> include:</p> <ul style="list-style-type: none"> <li>- Gender balance when recruiting researchers in the environment Could, for example, include:</li> <li>- Has the environment recruited PhD students, senior researchers and/or PIs?</li> <li>- Are there other relevant key positions recruited in the environment?</li> <li>- Integration of recruited PhDs and senior researchers in the environment and the HEI. Consider for instance participation in labs, seminars, co-authorship.</li> <li>- Are the research topics and central themes of the research group coherent?</li> </ul>
<p><b>Support from HEI</b>  <u>Should</u> include:</p> <ul style="list-style-type: none"> <li>- Has the level of co-funding been sufficient? (Consider the different requirements of cofunding in the two calls, and as stated in the application) Could, for example, include:</li> <li>- Did the HEI offer help with relocating research activity, finding housing, and contact with the Swedish authorities etc.?</li> <li>- Has the environment obtained prerequisites from the HEI to set up and establish the environment? (Such as infrastructure, office space, administrative support)</li> </ul>

### *Current phase*

<p><b>Activity level</b>  <u>Should</u> include:</p> <ul style="list-style-type: none"> <li>- Is the researcher active at the Swedish HEI at a level consistent with the initial application and terms and conditions? (In the conditions of the call it was stated that the researcher should be 50 per cent of full time equivalent at Swedish HEI) Could, for example, include:</li> <li>- How is activity level followed up from the HEI, and researcher?</li> <li>- In what types of activities does the recruited researcher and research group engage? (Besides research, such as organizing seminars, workshop, courses)</li> <li>- Is the recruited researcher, and other researchers in the group, actively applying for additional funding?</li> </ul>
<p><b>Collaborations</b>          Could, for example, include:</p> <ul style="list-style-type: none"> <li>- Does the research environment have collaborations with other academic and/or nonacademic actors (both national and/or international)? What types of collaborations, such as research collaborations, research visits and exchanges?</li> </ul>

**Output and dissemination**

Could, for example, include:

- Is the academic output (i.e. research articles, books, academic conferences) of the research environment, including both researcher and other recruited researchers, in line with what could reasonably be expected, given factors such as activity level, past output of recruited researcher, and other researchers in the research group?
- Is the environment collaborative within the group? (Consider for instance co-authorship)
- Is the output of the research group coherent with regards to overarching research questions and themes?
- Is the non-academic output in line with what could be expected?

**Added value**

Could, for example, include:

- Has the recruitment raised the visibility and awareness of the HEI? (Both academic and nonacademic visibility and awareness)
- Other forms of impact that the environment has on the HEI and HEIs activities? (Consider motivation for recruitment as stated in application)
- Integration of the environment at the HEI
- Has the recruitment led to other added values of non-academic character, societal relevance, and similar?
- Are there synergies with the recruited researcher's other affiliated HEIs?

**Expectations**

Could, for example, include:

- Is the status of the research environment consistent with expectations of researcher, HEI, and aim of application? (Including HEI, researcher, and other researchers in research group)

***Future phase – Remaining part of the grant period, and beyond*****Future sustainability of research environment**

Should include:

- Based on the qualitative assessment of relevant aspects of *Start phase* and *Current phase*, is it reasonable to assume that the research environment is established, coherent, functional and will continue throughout the remainder of the grant period?

Could, for example, include:

- Considering *future* plans for the environment (both HEI and researcher), is it reasonable to assume that the research environment will continue throughout the remaining grant period, or if it is not established, will it do so? (Consider vice-chancellor, faculty, senior researchers and PhD candidates in the environment in addition to the recruited researcher)
- Is there a plan for managing the environment after the funding period ends?

## Appendix 3. Abbreviations

CEDI	Center for eating disorders (KI)
CMIV	Center for Medical Image Science and Visualization (LiU)
CNIO	National Centre for Cancer Research, Madrid, Spain
CSAN	Centre for Social and Affective Neuroscience, LiU
ERC	European Research Council
Formas	A Swedish Research Council for Sustainable Development.
FTE	Full Time Equivalent
GU	University of Gothenbutg
HEI	Higher Education Institution
HERM	Center for Hematology and Regenerative Medicine (KI)
ICT	Information and Communication Technology
INSERM	Inserm is a public scientific and technological institute which operates under the joint authority of the French Ministries of Health and Research
KI	Karolinska Institutet
KTH	Kungliga Tekniska Högskolan / Royal college of technology
LGRP	Lund-Gothenburg Responsibility Project (LU, GU)
LiU	Linköping university
LU	Lund University
MSEK	Million Swedish crona
Nordita	Nordic Institute for Theoretical Physics
OECD	The Organisation for Economic Co-operation and Development
OUP	Oxford University Press
PhD	Doctor of Philosophy
PI	Principal Investigator
SciLifeLab	Science for Life Laboratory
SRC	Swedish Research Council / Vetenskapsrådet
SSH	Social Sciences and Humanities
SU	Stockholm university
UNC	University of North Carolina
UNDP	United Nations Development Programme
UU	Uppsala University
WIMM	Weatherall Institute of Molecular Medicine at Oxford University, UK

## Appendix 4. List of the funded 19 grants

<b>HEI</b>	<b>Research environment /Department</b>	<b>PI Recruited from</b>
Karolinska insitutet	Department of Microbiology, Tumor and Cell Biology	Ludwig Institute for Cancer Research, Oxford, UK
Karolinska insitutet	Division of Genome Biology	Spanish National Cancer Research Center
Karolinska insitutet	Center for Hematology and Regenerative Medicine	University of Oxford, UK
Linköping university	Thematic studies	University of Oxford, UK
Royal college of technology	Quantum Nano Photonics	University of technology Delft, Netherlands
Stockholm university	Quantum Frontiers / Department of Physics	Massachusetts Institute of Technology, USA
Stockholm university	Nordita/ Department of Physics	University of Michigan, Ann Arbor, USA
University of Gothenburg	Unit for metabolic physiology	University of Oxford, UK
Uppsala university	Engaging vulnerability	University of Chicago, USA

In March 2013, the Swedish Research Council was commissioned by the Government to announce funding for eminent researchers in all research areas: international recruitment of eminent researchers (Grants for international recruitment of leading researchers), recruitment of prominent younger researchers (Consolidator grant programme) and support for the most prominent researchers (Distinguished professor programme). These three grants form an initiative aimed at creating research environments around some of the most prominent researchers at different career levels, as well as stimulating more long-term goals for research.

This report is the result of the third reporting round completed to follow up the grants, and is the half-time evaluation of the implementation of the 19 grants for international recruitment of leading researchers. The evaluation was conducted during 2019 and 2020 at all HEIs that received such grants.

The report includes overall comments from the international evaluation panel regarding: how the projects have been implemented up until now; how the projects will be run during the remainder of the grant period, as well as after the grant period ends; reported co-funding; and the recruited researcher's commitment to the HEI in question.

Swedish Research Council  
Västra Järnvägsgatan 3  
Box 1035, 101 38 Stockholm, Sweden  
Tel +46 (0)8-546 44 000  
vetenskapsradet@vr.se  
vr.se