

Forte Centres of Excellence
Mid-Term Evaluation

September 2014

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Evaluation of three Forte Centres of Excellence, Working Life

Forte has during 2014 evaluated three Forte Centres of Excellence, Working Life:

Stockholm University:	Stockholm Stress Center
University College of Gävle:	The Body at Work – from Problem to Potential
Uppsala University:	Uppsala Center for Labor Studies

The evaluation has resulted in this report. For the evaluation three external reviewers were appointed:

Professor Eira Viikari-Juntura, Finnish Institute of Occupational Health, Helsinki, Finland.
Professor Sarah Vickerstaff, School of Social Policy, Sociology and Social Research, University of Kent, UK.
Professor Joop Hartog, Amsterdam School of Economics, University of Amsterdam, The Netherlands.

We base our evaluation on the centre's self-evaluation reports, assessment of scientific papers and the hearings, September 15-16.

We hereby deliver our report to Forte:

Professor Eira Viikari-Juntura (Chair person)
Professor Sarah Vickerstaff
Professor Joop Hartog

Introduction and general observations

This Mid-Term Review of three Forte Centres of Excellence followed the process of the earlier Mid-Term Review of ten Centres carried out in 2011. Accordingly, the Panel asked each of the Centres for a self-assessment of their publications, key achievements, ways for internal collaboration and development, international collaboration, responses to the recommendations of the earlier review and future plans. The vice-chancellor was given a set of questions regarding the organization and management of the Centre, its interaction and synergy with the other research groups of the University, significance and added value for the University as well as long-term plans of the University for the Centre. Responses to these questions were included in the Mid-Term Report of the Centres.

The Centres were also asked for ten selected publications. External reviewers – one for each set of ten publications – assessed the scientific quality and practical importance of the papers as well as the research competence of the authors. Moreover, the Panel had the original plans of the Centre and the report of the First Evaluation in 2011 as background material.

The hearings were carried out in Stockholm 15-16 September 2014. One to two representatives from the university were interviewed first, followed by a discussion with the representatives of the Centres. Stockholm Stress Center was represented by the Director of the Center and leaders of the research groups, the information officer and two members of the administrative staff and Uppsala Center for Labor Studies by the Director of the Center and three professors. The Body at Work –Centre was represented by the Director, one program leader, two postdoctoral researchers and one PhD student. The variable composition of the participants was to some extent reflected in the discussions, enabling deeper discussions variously into topics such as dissemination of information or the Centre as an attractive research environment for researchers at the beginning of their career.

Based on the reports of the Centres and the university representatives at the hearings, the co-funding from each of the respective universities was adequate and planned to remain at the existing level. Stockholm and Uppsala University contributed their co-funding “in kind” (e.g. salaries of personnel, equipment), and University College of Gävle contributed with direct funds.

All three Centres are based on existing networks or centers. Moreover, since most Centre members have other roles in departments outside of their Centre, the boundary between research in the Centre and wider research activities is not always clear. The added value of having a Forte Centre was discussed both with the representatives of the universities and Centres. The universities saw the existence of the Centres as adding significantly to the positive brand of the university. All Centres considered that the most important added value was to be able to use the long-term funding for strategic investments in areas that were considered relevant but had so far had insufficient resources. Other benefits were increasing and widening internal and external collaboration. Ability to invite visiting national and international scholars was mentioned as well. The associated Research Schools have provided an efficient basis to bring new researchers into the respective subjects and the Centres have been able to build research capacity in their areas.

A major focus of this assessment is the excellence of research. However, quantification of publications or the use of related metrics is somewhat problematic, since traditions of publishing differ in the various research areas. In the biomedical field, co-authorship rules are fairly generous, often resulting in many authors per paper and a large number of publications, whereas in social sciences the number of authors is typically one or two, or the product is a book. Given the variability in our and the external reviewers' criteria of assessment, the Panel's overall conclusion was that the publication activity is high in all Centres. Also the quality of the publications was assessed as high. Excellence of research will be further discussed in the evaluation of each of the specific Centres.

Stockholm University

Stockholm Stress Center (SSC)

Organisation and leadership

The Stockholm Stress Center is founded on the existing Stress Research Institute at the Stockholm University. The organizational structure of SSC was originally a network of six inter-related research groups across the Stockholm University and the Karolinska Institute: The original aim of developing the SSC was to create a “unique virtual interdisciplinary research Center” as a focus for excellent scholarship on work, stress and health. This structure persists but the Occupational Medicine group is being dissolved by the end of 2014 as the corresponding unit at the Karolinska Institute has been discontinued. Whilst the loss of this division is not desirable there is still a very strong programme of collaborative work amongst the other research groups going forward.

The Center is led by Professor Torbjörn Åkerstedt and the management group of SSC, which consists of members of each research group. The gender balance in the management group (6 men, 5 women) is reasonable. The group meets 5-8 times a year with oversight of the work of the groups and fulfils a strategic role in developing, managing and encouraging the research agenda and overall profile of SSC. The first evaluation of the Centre in 2011 drew attention to the fact that SSC had not created an advisory board of international experts and stakeholders and suggested that this should be considered as a means to developing more intervention activities and applications of the Centre’s work. This has been established and met in June 2013 and is composed of eminent academics in the field but without representatives of other stakeholders or research users.

It is clear from the self-evaluation document, which outlines the work of the Centre on a thematic rather than research group basis, that there are very productive linkages between the research groups and that the Centre has been successful in encouraging and developing a multidisciplinary approach to issues of work, stress and health.

Funding

The funding situation of the Centre is clear and transparent. The University of Stockholm is making a considerable contribution to the Centre’s work in direct funds (7 200 kSEK) and contributions in kind (37 300 kSEK). The Karolinska Institute makes a considerable contribution in kind also (13 800 kSEK). The Centre is very successful in attracting external, competitively won, funds although the Finance Plan covering the period 2014-2018 predicts a smaller amount of external contribution to SSC than in the previous period. The Stockholm University is committed to continue support for the Centre.

Development of the Centre

Original plans and actual development

The original plan was to create an interdisciplinary and international Centre of excellence for research on work, stress and health. A further aspect of the original proposal was to develop the applied side of the research through intervention studies and experiments with treatment of stress related disorders. There was also the intention to build capacity in this area of research by the recruitment of younger researchers and the development of PhD programmes.

The first evaluation commended the extensive research programme and it is clear that a high level of excellent activity has been maintained. It also signaled that intervention studies at that time were only briefly envisaged and that the second evaluation should focus on the development of work in this area.

The Centre has an impressive portfolio of work already achieved and plans going forward in seven work packages:

1. *Long-term consequences of stress*
2. *Identification of modern working life stressors*
3. *Psychobiological mechanisms of stress and restitution*
4. *Labor market participation*
5. *Treatment of stress disorders and complaints*
6. *Occupational health interventions*
7. *Methods*

There has been strong engagement with research users such as Government and work organisations and involvement in training programmes for health professionals such as nurses and physiotherapists. There is a programme of work going forward to develop new treatments for stress and mental health issues and to disseminate evidence based treatments in care. There are currently 35 PhD students and the Centre has been heavily involved in the new PhD programme in Public Health at Stockholm University.

Added value and visibility of the Centre

The added value of creating the Centre was the potential for innovative approaches made possible through the cross fertilization of the different disciplines and the six research groups. The added value of the Centre can be characterised under three headings: methodological development; conceptual or theoretical development and the resulting interdisciplinary research activities. The impressive range of research undertaken in the Centre is underpinned by shared methods and methodological development including: the addition and updating of several large databases; the set up and improvement of laboratory methods; the development of questionnaire tools and the use or refinement of cutting-edge statistical methods. Going forward the Centre looks towards further developing our conceptual understanding of amongst other issues: the impact of subjective health in a number of domains and the relationships between stress and sleep. It is clear that this range

and depth of activities would not have occurred without the stimulus that Forte funding provided.

The visibility of the Centre in its subject areas is very good as evidenced by its record of peer reviewed publication (see below) and the strength of its international collaborations. There is also good evidence of sustained involvement in symposia and congresses with key notes and invited lectures. In addition the Centre has high public visibility in the Swedish media and there is outreach to public audiences through publications in Swedish.

Evidence of research excellence

Publications

The volume and quality of publications is admirable and there is a broad spread of publications from researchers at all levels. Many of the publications are in internationally accredited high impact factor journals and the management of the Centre should be commended for having created such a positive publishing culture. The nominated publications for the review cover the full range of the Centre's research areas. The expert reviewer comments that publications are 'in step' with international research in the area of work, stress and health and leading with respect to the use of advanced analytical methods with regard to the public health and experimental methodologies. The reviewer also notes that there is a related bias towards medical or public health journals rather than work psychology or occupational health journals.

In the flagged publications and the publications lists more generally there is perhaps not so much attention towards the practical importance and possible application of the research. This stream of work is being developed under work packages *Treatment of Stress Disorders and Complaints* and *Occupational Health Interventions* and future reviews might look at the strength of outputs in these areas.

International networks and collaboration

The Centre has an impressive international reputation and international publication is "the main vehicle for dissemination". There is plenty of evidence of international research collaborations and involvement in, and organisation of, international conferences and congresses. The Vice-Chancellor comments that the range and strength of international collaborations has strengthened the global image of the University as a whole.

Links to practice and policy

The self-evaluation paper documents a wide range of collaborations with public and private sector organisations and regional agencies and actors; although, as the expert reviewer notes with regard to publications, there appears to be less consideration of 'real world application of findings'.

Capacity Building

Another mission for the Centre was the building of capacity in its research areas and there has been an impressive increase in the number of PhD students and the creation of a Research School. The Centre offers world leading training in the full range of methods employed in its research and can be seen to be playing an important role in helping to develop future generations of researchers in the broad area of work, stress and health.

Future Plans

There is a very strong programme of work going forward under the different work packages. Given the success of existing collaborations across the Centre, within the University and internationally there is every reason to expect that the Centre will continue to be highly productive.

Summary evaluation and recommendations

Overall the SSC is performing at a high level with a creditable international reputation in its core domains. Its academic reputation is excellent and brings credit to the Centre itself and the Stockholm University and the Karolinska Institute more widely. It has a developing profile in terms of its impact on practice and treatment and future reviews may wish to consider how this aspect of its activities has developed. To this end the Centre might also consider bringing practitioners and other potential research users onto its advisory board.

The panel recommends the Board of Forte to support the Centre at its current level of funding.

Uppsala University

Uppsala Center for Labor Studies

Organisation

Uppsala Center for Labor Studies (UCLS) was funded by a Forte grant to Uppsala University and started on January 1, 2010. UCLS is a multidisciplinary undertaking, comprising researchers from economics, political science and labor law. UCLS focuses on three broad research themes:

- Labour market institutions and employment relations
- Unemployment and social protection
- Earnings, education, and inequality

The research themes are in part motivated by an interest in understanding how “the Nordic model” will fare in the process of globalization: does it facilitate or hinder structural change? What is the impact of Sweden’s participation in the European Union and EU labour market regulation?

UCLS is set up as a multidisciplinary research centre under the umbrella of the Faculty of Social Sciences at Uppsala University. The Faculty Board assumes responsibility for the overall strategy and appoints a Governing Board and a Director. The present Director, Bertil Holmlund, will retire by January 1 2015 and is expected to be succeeded by Oskar Nordström Skans. The Director is assisted by two other economists, in a team that meets informally on a day to day basis. The Governing Board has 5 members: the Director General of the National Mediation Centre, a Senior Lecturer and a Professor from the Department of Government, a PhD student, and a member of the Leadership Team. The Advisory Board has 3 members, all foreigner, all internationally reputed economists. The Advisory Board meets annually during the conference where UCLS members present their research. The Centre leaves much room for participant initiatives to start specific research projects, but Leadership and the Board make sure that projects fit overall strategic goals and set priorities.

In 2014, the academic staff of UCLS includes 18 full professors, 2 adjunct professors, 11 docents and 24 assistant professors; there are 20 PhD students. Academic staff typically is only partially financed by UCLS, with some two-thirds at 10%, and the other third mostly at 20%.

The First Evaluation in 2011 notes that the flat organisational style with most decisions taken by individual researchers poses a threat for developing a cohesive research centre and expresses concern for integrating the results of the separate projects. In the present situation, with regular seminars, membership meetings and jointly organised conferences, the Centre functions as a vibrant research community with much interaction. Multidisciplinary is not so much expressed in joint papers but rather in the sharing of information and expertise, the inspiration from interaction and the cooperation in setting up data bases, in particular in a situation where legal details count.

Budget

Over the period 2010 – 2013, the realised Forte grant is just over 19 000 kSEK, the university contributed almost 27 000 kSEK in kind, and other external co-funding amounted to almost 21 000 kSEK.

The Forte grant of 19 275 kSEK has been spent on salaries for research personnel (51 %), on travel, seminars and meetings (16%), on overhead (30 %) and on equipment (3 %). About 40% of the FORTE funding spent on personnel is spent on PhD's. The budget planning for the remaining years shows fairly stable decompositions. Among external funding, a large long-term grant has already been secured. The university has committed itself to continued funding.

Development of the Centre

The research program has 3 components, united under an overarching theme. The summary of selected publications in the Self-Evaluation (SE) presents many new and interesting research results on each of these 3 themes. Although publications cannot always exclusively be assigned to one of these themes, it is evident that theme 1 has contributed a relatively small share. The collection of a large new dataset by the Centre and the portfolio of research plans is expected to change this. Leadership also intends to pull results together, towards the end of grant period, in a publication on the overarching question of the value of the Nordic model.

The Forte grant has allowed to increase the scale of a research group that already had an excellent standing. The creation of the Centre has effectively generated an actively interacting research community, and pulled together economists, political scientists and lawyers on common themes. It has rescued the section of labour law, which would otherwise have not persisted.

Visibility in the international research community is clearly realised in the number and quality of the publications: UCLS researchers have a strong reputation. Academic staff participates in leading international networks, is invited to give seminars and presents at international conferences. UCLS staff is engaged in joint work with scholars from many institutions, in Sweden, Europe and the US. UCLS is host to reputed external scholars and has reputed speakers at its seminars.

With the annual industrial relations seminar, UCLS is also visible in a relevant Swedish institutional and political context. UCLS staff has frequent interactions with civil servants and politicians up to the highest levels. Research results are communicated to society at large through the Swedish magazine *Ekonomisk Debatt*.

Evidence of research excellence

Research excellence is best measured by the quality of the publications. In the period under review, UCLS members have published in the world's very top journals for economists,

leading field journals and many other international journals of high standing. As noted in the SE, several of these papers are well cited. Publications in the top ranked journals are mostly on the second and the third research theme. As the Centre is dominated by economists, most of these top publications are in economists' journals, but not exclusively so: the list also includes an international journal in political science. The research in many cases employs the rich datasets available in Sweden, often exploiting the opportunities for clever research design and thus joining international frontline application and development of advanced empirical methodology. Much work is highly relevant for economic, social and educational policy.

At an international ranking, the Department of Economics at Uppsala (host of UCLS) has rank 2 among Nordic countries and rank 12 in Europe among institutions in labour economics.

Capacity building

With 15 doctoral graduations (among which 10 women) and a present stock of 20 PhD students who get a high quality training and who are nurtured in an excellent research environment, UCLS makes a strong contribution to preparing the next generation.

Future plans and prospects

The SE presents a large portfolio of planned research, covering the three themes, but also continuing joint work with internationally renowned external scholars. Research plans and datasets are ready to generate a more balanced performance across the three themes. There is young, dynamic and ambitious leadership. All is set for excellent performance in the remainder of the grant period.

We leave the concluding observation of the external referee of the key papers simply as a challenge to management. After a very positive evaluation of the papers, he observes: "At the same time I do notice that about 40 percent of the affiliated scholars do not have such a strong record and publish mainly in local or minor journals. By reducing the difference between the 60 percent that published very well and the 40 percent that does not publish as well, the Centre will climb even higher in the rankings of excellence in labour market research".

Summary evaluation and recommendation

Overall, the Centre is performing at an excellent level. Leadership is alert and forward looking, the future looks bright.

The panel recommends the Board of Forte to support the Centre at its current level of funding.

University College of Gävle

The Body at Work – from Problem to Potential

Organisation and leadership

The organizational structure of the “Body at Work” Centre is similar to what has been described in the preliminary evaluation. The most essential change is a restructuring of the research programs from eight to five. The motivation for this was to make the Centre research activities more focused and strengthen the collaboration between the research groups. Four of the five program leaders are male, reflecting the gender distribution of the senior researchers within the Centre. The problem in gender balance has been recognized, but it has not been possible to change the situation due to lack of senior female researchers in the area.

Funding

During the evaluation period of Jan 2010 – June 2014 the Centre has spent a total of 15 850 kSEK of Forte grant, 45 851 kSEK of internal funding from the University College of Gävle and 14 424 kSEK of other external funding. About 60% of Forte funding has been used for salaries, about 30% for overhead and facilities and the rest for equipment, project expenses and conference participation costs. About 20% of the personnel costs of the Centre have been covered by the Forte grant and the most part for visiting scholars. Major other project funders include AFA Insurance and Forte.

Development of the Centre

Original plans and actual development

The original plan of the Centre consisted of eight programs. After the first evaluation of the Centre and based on recommendations of the external scientific advisory board the research questions were reanalyzed and regrouped to be better focused, to better meet scientific and societal needs, to better rest on theoretical or empirical basis and to better secure high quality, productivity and continuity. The result was a regrouping of the Centre into five programs (A to E), approved by the Centre Management Board in November 2012. Consideration has been given to collaboration between the programs in order to make the research agenda more coherent. The result of this major change looks very promising. The relations of the new programs have been pointed out in the report, but they can be seen also in the descriptions of the research areas and in the publications.

Added value and visibility of the Centre

The Forte Centre has been built on an existing Centre (CBF). The CBF becoming a Forte Centre has helped build the Centre as an attractive environment for visiting scholars both nationally and internationally. The long-term funding has enabled strategic planning into areas with identified knowledge gaps. Both the establishment of a new Master of Science program and the doctoral program (described in more detail in “Capacity building”) have resulted in new recruitments of national and international students.

The Centre researchers serve in an expert role towards the employer and employee communities, which serves both as a channel for dissemination of information and adds to visibility. They also have frequent contacts with the occupational health community and national authorities. International visibility is also high, demonstrated by e.g. request for keynote by the director of the Centre at Premus 2013 – the best known international conference in the area.

Visibility in the community may have been affected by unavailability of communication support from the University College, delaying updating of the webpages of the Centre.

Evidence of research excellence

The report of the Centre is very transparent in differentiating between the papers that belong to the program areas of the Centre from the other papers of the Centre researchers. The resulting publication list of the Centre is therefore of high relevance to working life.

The selected ten publications demonstrate an appropriate width of activities, novelty of approaches, up-to-date methodologies and high relevance of the research area for musculoskeletal disorders and musculoskeletal health. It should be emphasized that there are very few centres in Sweden and even globally with a focus on musculoskeletal problems, and none with a similar profile.

All of the selected papers have appeared in high quality journals in the field. It has to be kept in mind that the impact factor of the journal cannot be considered as a primary measure of quality in this area, since within ergonomics, for instance, the impact factors of the most prominent journals range from 1.3 to 1.6. Of the selected ten papers, two have been published in a journal with an impact factor higher than 3, and the majority of the rest in journals with an impact factor around 2. It came out in the discussions with the group that the Centre evaluates carefully the most relevant journals for their publications, and the statistics of the latest 12 months suggest a trend for higher impact and quality of journals for their publications.

The different programs have different resources, and some researchers work for more than one program, as encouraged by the new organizational structuring of the programs. It is therefore not meaningful to make too much comparisons between the programs with regard to their achievements.

The focus of program A, the temporal pattern of physical and mental exposures, is very topical in modern working life and covers problems of heavy monotonous physical tasks to sedentary occupations, where physical loads may be of minor intensity, but visual strain and mental requirements can be high or temporally adversely distributed. Of the selected ten papers, four are products of Program A. These papers vary from an experimental study looking at movement strategies of a mimicked industrial task over to near infrared spectroscopy to look at the hemodynamic responses and muscle activity in pain patients and healthy controls, all the way to looking at sitting and standing/walking times when working with sit-stand desks compared with a conventional desk. A narrative review explored the associations of motor variability in occupational situations with pain, fatigue

and performance, looking for ways to increase motor variability via job accommodations and individual training. Four PhD students are linked with this program, of which three have been registered before 2010. Two of them defended their thesis in 2012-13. The fourth was registered in 2014.

Program B is equipped with less researcher resources. The research area of visual ergonomics is highly relevant and the research approaches in this area have been novel. The scope of this program could be even broader, e.g. to include among the outcomes for visual strain also autonomous nervous outcomes and sleep parameters besides muscular outcomes. One PhD student has been registered in 2009.

Program C focuses on the statistical properties of instruments and strategies of exposure assessment. The essential question has been, which method (e.g., video recording or inclinometry) and which sampling strategy (continuous, random sampling) will best characterize the essence of the exposures of interest. Assessment of cost-effectiveness has been included as a novel aspect. Among the selected papers, this program was represented with 3 papers, demonstrating different approaches to cost-efficient measurement of physical exposures at work. In addition, the research group won the “Best Paper Competition” at Premus in 2013 with a paper from this area. Extensive international collaboration has been established (Punnett, Paquet, Neitzel), and some of the international experts have stayed at the Centre for this collaboration. Three PhD students have worked within this program. The two that had registered before 2010 have defended their thesis in 2012 and 2013. The third registered in 2011. Future plans include utilizing the developed methods and analytical strategies in larger epidemiological studies in collaboration e.g. with the Danish National Resource Centre for Work Environment.

Program D “Work environment and leadership” has suffered from its leader having left the Centre. A new leader has been appointed, also other external funding has been obtained, a new PhD student recruited, and the current perspectives look more promising.

Program E “Diagnosis and rehabilitation of musculoskeletal disorders” includes clinical trials among patients with chronic pain as well as analyses of the mechanisms behind pain. The work of this group is novel and relevant. This program is currently increasing collaboration with program A and has been able to obtain major additional funding for a cohort study on dental students. Two PhD students are linked with this program, one before and the other after 2010.

International networks and collaboration

The Centre has been very successful in recruiting visiting international scholars and has active collaboration with six Swedish universities and 12 foreign universities, including those with the most prominent research groups within the field of the Centre.

Links to practice and policy

All research programs of the Centre have more or less direct relevance for practice. A major task and challenge for the Centre, especially for programs A, C and E that include

development of methods, is to make these methods, e.g. the most cost-effective strategies and methods to measure physical exposures, used on the one hand by other researchers, e.g. epidemiologists, and, on the other hand, by practitioners in the field. As mentioned above, the Centre has strong links to the employer and employee community as well as to the occupational health community.

Capacity building

The earlier establishment of the MSc Program in “Health at Work” and the more recent acquisition of PhD rights in “Occupational Health Sciences” are excellent mechanisms for growing a new generation of researchers. The plan was to recruit four new students per year to the new PhD program. After two calls, six have been recruited, of which four to the Forte Centre (programs A, C, D and E). During the existence of the Forte Centre, a total of 14 PhD students have studied within the Centre, of which 5 have defended their thesis (all registered before 2010).

Other arenas of capacity building include internal seminars and workshops. Of the latter an international workshop on the current status and future challenges in musculoskeletal health promotion was held in 2013, with a position paper in a scientific journal as the planned final product.

Overall, the Centre has had a very active role in the education of researchers, and it has been able to recruit a new generation of younger postdoctoral researchers. The Director of the Centre has had an active role in this. In the present situation, the Centre would need another professor with a strong research background to share the work load in research activities as well as to secure sustainability of the research area.

Future plans and prospects

The Centre plans to continue the activities where it has been successful, e.g. statistical modeling of exposures. It has plans to collaborate with research groups with more epidemiological expertise and availability of larger study populations, where utilization of their competence in exposure assessment and modeling has the potential to result in novel research findings and practical solutions. It will attempt to better integrate physical and mental aspects of work in their studies as well as to better understand associations of activities during and outside work time. This broadening of the scope of research looks promising. Their plan to focus on health promotion is in line with this widened scope of research.

Summary evaluation and recommendations

Overall the Centre performs research of high relevance for working life. Its research approaches are novel and the methods and publications are in general of high quality. The restructuring of the Centre has been very successful and has been done following the recommendations and suggestions of the previous review of the Centre and the international scientific advisory board.

The studies on exposure modelling and cost-effectiveness of assessment of physical load (program A and C) are clearly a hallmark of the Centre. This area is characterized with high publication activity. This seems to be the area with also the most extensive external collaboration. A major goal for the remaining period of the Centre could be to make the developed strategies and methods more widely used by other groups in their studies. Application of the methods in larger epidemiological studies is already planned. Such research collaboration has potential to result in novel findings with a high impact. A further aspect to consider is whether any of the developed strategies or methods – perhaps in a modified form – could be used by companies in the field.

Of other programs, “Diagnosis and rehabilitation of musculoskeletal disorders (Program E)” has high potential, but it has not quite reached the desired level in publication activity and impact. Both clinical trials among persons with chronic pain and pain mechanisms are research areas, where there are journals with high impact and a wide readership, e.g. general medical journals and journals dedicated to pain. A future target would be to attempt at research questions and acquisition of data that would make a strong basis for this goal. The two other programs, “Visual ergonomics” (Program B) and “Work environment and leadership” (Program D) have so far had somewhat more limited publication activity and impact. However, strengthening of these programs is underway with new collaborations and recently obtained additional funding.

The Centre has only one professor, the director of the Centre, who has been successful in leading the Centre to a strengthened internal and external collaboration, high productivity and improved quality of research output. This situation is, however, vulnerable for the Centre, and there is a need to recruit another professor to secure the sustainability of the research of the Centre. We recommend that Centre management and university management get together to realize this, as an appointment will have to fit the university’s personnel policies.

The panel recommends the Board of Forte to support the Centre at its current level of funding.

Questionary

Mid-term evaluation of Forte Centre of Excellence

PART 1

Questions to the Vice-chancellor of the University

- 1) Since the first evaluation of the Forte Centre grants performed after 2 years, has there been any changes in
 - a) the organisation and management of the Forte Centre within the university? If yes, please describe and comment.
 - b) how the Forte Centre interact with other research areas and research groups within your university? Any new synergistic effects?
- 2) How important is the Forte Centre for the national and international collaborations of the university? Does it strengthen the international image or put focus on high quality issues?
- 3) What long-term plans does the university have for the centre?
- 4) What university policies relevant to the gender profile of those involved in the Forte Centre exist - particularly those related to its leadership? How have these policies been implemented?
- 5) Has the grant influenced the strategic priorities of the university? If so, in what way?
- 6) Has the grant had any structural impact on the research system at the university, e.g. has the university taken new initiatives in co-financing programmes, positions or projects at the centre?

PART 2

Questions 7-13 should be answered by the Coordinator of the Forte Centre

7) Research performed and planned

- a) Describe the most important results of the research performed since the start of the Forte Centre period including development of new methods.
- b) Is there a strong international publication profile?
- c) Are there seminars where papers are discussed before sending them in for publication?
- d) Is there a quality assurance system in place? If so, describe the main features of it.
- e) Describe how the results have been disseminated. Describe the impact of the results in the research community.
- f) Describe briefly the development and standing of the research in an international context (state of the art).

- g) Comment on effects of the type of funding (if any). Describe any added value of the grant.
- h) Describe briefly the planned research for the remaining period. Is this in agreement with the original plan? Please comment.
- i) Describe briefly how the research can be developed after grant period. What is your strategy for maintaining a strong research environment after the grant period?
- j) Comment upon the previous evaluation and what has been done in accordance to the evaluators suggestions.
- k) List as *appendix1* max 10 selected publications chosen to represent research of high quality of the Forte Centre since its inception. Mark with an asterisk (*) the publications that are results of new collaborations due to grant (Note: Complete publication lists during this time period are given elsewhere).

8) Collaboration

Have any new collaboration been initiated since the first evaluation? Please list only new collaborations and include both bi-lateral cooperation and agreements to participate in a network, consortium, multi-centre study and other initiatives.

- a) Between the Forte Centre and other parts of your university,
- b) National collaboration with researchers or research groups at other universities in Sweden,
- c) International collaboration,
- d) Collaboration with the public sector, national and regional agencies, actors and industry.

For each of these types of collaboration, describe as far as possible any kind of intervention or implementation together with other actors.

9) External communication/dissemination

- a) What efforts have been made so far to communicate/disseminate information about the activities and results from the research funded by the grant to different target groups? Describe your communication strategy. Please note that that this question does **not** seek to capture details of scientific presentations made to your peers in academia.
- b) Describe how the results have been, and will be, communicated/disseminated to the public, policy makers, research agencies, etc. Please list impact through media e.g. newspapers, textbooks, popular science presentations, or on policies/standards.
- c) Has the centre a particular homepage? If so, provide the link to it.

10) Participating personnel

List the persons actively participating in the Forte Centre during the time period 2010-01-01 to 2014-06-30, and the persons planned to participate in the environment during the period 2014-07-01 to 2018-12-31. Please use the table named *appendix 2 and 3* (see end of this document) as a template for presenting the persons actively participating in the Forte centre.

- a) Describe strategies for recruitment of researchers and research groups. Describe also if you have a strategy for how to settle new groups or dissolve groups, if needed.
- b) Describe and comment on strategies for recruitment of researchers and research groups from a gender perspective. Have the strategies been successful? Describe any planned or needed actions.

11) Organisation and Leadership of the Forte Centre

- a) In accordance with the questions from the previous evaluation describe if there has been any changes in the organisation, leadership and management of the Centre since the previous evaluation. Comment on the effect/s of these changes. Describe also foreseen, planned or needed changes. Please provide an organisation chart to illustrate how the Centre is organised as *appendix 4*.
- b) Describe and comment on the current leadership structure within the Centre from a gender perspective. Describe also planned or needed actions.
- c) Does the centre have a significant identity and frontier role in its academic setting?

12) Budget and financing of the Forte Centre

This information should preferably be presented in one or more tables as *appendix 5*.

- a) An economic report covering the period 2010-01-01 to 2014-06-30, including:
 - Income/received contributions, in cash or in kind, the latter being stated in terms of its value in SEK, divided into
 - the Forte Centre grant
 - co-financing by the university
 - external contributions relevant to the Centre.
 - Costs covered by the grant and university co-financing for
 - personnel, including social-security contributions, list in order of category
 - equipment, more than 1 million SEK
 - equipment, less than 1 million SEK
 - additional for research (running costs)
 - knowledge dissemination – including conference organisation and participation
 - premises
 - university overhead
 - administration and other costs – please specify
- b) A finance plan covering the period (2014-07-01 – 2018-12-31) including income/received contributions and costs.

Appendices

Appendix 1: Ten selected publications chosen to illustrate the research of the Forte centre since its start. For each publication describe how the results relate to the research program of the Forte centre (max 500 characters including spaces). Mark with an asterisk (*) the publications that are results of new collaborations due to the grant. These selected publications are to be sent in together with the self-evaluation report, preferably in electronic form.

Appendix 2. Table for presenting the persons participating in the Forte centre. (see Excel file)

Appendix 3. Table of doctoral students (see Excel file)

Appendix 4. Organisation chart to illustrate how the Forte centre is organised.

Appendix 5 Economic report and finance plan of the Forte centre

Appendix 6 Complete list of publications by researchers at the centre during the timeperiod 2010-2014.