

APPLICATION FORM
SKÅNE CENTRE of EXCELLENCE - in HEALTH

APPLICANTS ELIGIBLE FOR SKÅNE CENTRE of EXCELLENCE - in HEALTH AWARD

The award SKÅNE CENTRE of EXCELLENCE - in HEALTH can be applied for by well defined professional environments/ units in the health care sector within Region Skåne or enterprise/organisations with health care agreements with Region Skåne. Applicants must have a professional and organisational delimitation.

The primary contact person for the unit applying, in addition to possessing the necessary management skills to apply on behalf of the unit, must be employed at a hospital or unit with health care agreement with Region Skåne. The application must be signed by the management of the hospital/corresponding.

For further information, please read the application guide on www.skane.se/ExcellenceInHealth.

APPLICANT

Name of unit (maximum 250 characters)

Division 2, of the Skåne University Hospital (SUS), Lund-Malmö, with (1) Department of Gynaecology/Obstetrics (OB/GYN) and (2) the Reproductive Medicine Centre (RMC) at Department of Endocrinology and Reproduction.

Head of unit and principal applicant (maximum 250 characters)

Anders Dybjer, Head of Division 2, SUS

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URL (maximum 500 characters)

<http://www.skane.se/sv/Webbplatser-Internt/Sus-intern/a-o/Division-2/>

If multiple units cooperate in a centre of excellence, refer to superscript for their respective contact details.

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GENERAL DESCRIPTION

Clinical activities (maximum 3 000 characters)

We aim to establish a Centre of Excellence (CoE) within the area of *reproduction and perinatal science*, based on core clinical activity in two units belonging to **Division 2** at SUS and in collaboration with other clinical and research units.

The **OB/GYN** Department is a leading clinical entity the field of fetal surveillance, with both a national and international recognition for high levels of clinical performance and development of new technologies, most importantly of the *ultrasound* and *Doppler ultrasound* technologies. Over the years this technology has been developed by in both gynaecology and obstetrics, now recognized as leading within its field. The obstetric unit of **OB/GYN** is highly recognized world-wide for developments of fetal surveillance in labour, with new technologies such as fetal ECG ST-analysis, fetal temperature monitoring, and pulse oximetry developed and/or tested at the unit. Another strong research area is dedicated to describe, understand and treat *preeclampsia*, a condition of great health consequences on a global scale.

Robotic gynaecological surgery has been a rapidly developing clinical field in recent years, of benefit to many patients.

Of special importance is the *clinical screening program* offered to all pregnant women in the catchment area by use of OGTT for diagnosis of impaired glucose metabolism and *diabetes in pregnancy*, a screening modality not generally offered in other regions.

The Reproductive Medicine Centre (**RMC**) in Malmö is one of the largest Swedish reproductive centres and has a unique clinical profile, not only performing all types of assisted reproduction, but as probably the only European centre integrating female and male aspects of reproductive function in one administrative unit. An ongoing collaboration with reproductive units in the area of Copenhagen, ReproHigh, was recently awarded "*The Øresund Award in Health*", and this adds to increasing the clinical standards of RMC.

The **RMC** unit is also leading in diagnosis and treatment of *male infertility* on a national level, and with international recognition being one of only two Swedish and 23 European Andrological Centres accredited by the European Academy of Andrology. In combination with in-vitro-fertilization (IVF) services by RMC this has provided excellent results for infertile couples with a high percentage of live-born children.

The collaboration within Division 2 is significantly strengthened by establishing in 2012 "*The Center of Excellence for Reproduction and Perinatal Sciences*" (**CERPS**) - a network of clinicians belonging to several departments within SUS, as well as members of research groups at Lund University (LU). The aim is to promote patient care and research in Reproduction and Perinatal Sciences. This is linked both to **OB/GYN** department and **RMC**, as well as to other SUS and LU departments. **CERPS** is supported by

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the Strategic Research Area (SRA) Epidemiology for Health (EpiHealth) at LU, engaged in reproductive epidemiology.

Scientific activities (maximum 3 000 characters)

The scientific activities of researchers linked to **OB/GYN**, **RMC** and **CERPS** include a number of areas related to Reproduction, Gynaecology, Obstetrics and Perinatal Science. The main research areas, in most cases based on translational approach, include (the names of principal investigators in brackets) examples of the following topics:

1. Research on *male and female reproductive function* with focus on infertility, gene-environment interaction, personalised medicine, molecular and clinical studies of androgen action; pathogenesis of cancer in male reproductive system and effect of cancer, and cancer therapy on reproductive function (A Giwercman, Y Giwercman)
2. Research on new diagnostics and therapy for *pre-eclampsia* (S Hansson)
3. Diagnosis, management and follow-up of *pregnancies with intrauterine growth restriction* (K Marsal, J Brodzki)
4. Research in *fetal and utero-placental circulation* (K Marsal, S Gudmundsson)
5. The screening program for *diabetes in pregnancy* has been evaluated and scientific reports published (A Frid, M Landin-Olsson)
6. Research in reproductive epidemiology on *long-term outcomes of children born pre-term or small-for-gestational age* (K Källén), and *psychological consequences for families* (E Psouni)
7. *Fetal Life Conditions: Acid-Base Balance and Impact of Acidosis and Adverse Events on Developmental Problems and Disease occurring later in Life. Fetal Temperature in Labour: Impact of Obstetric Interventions and Inflammatory Response* (P Olofsson, T Lavesson)
8. *Maternal Circulation and Stress in Normal and Complicated Pregnancies*. Studies on Arterial Stiffness, Stress Response, Uterine Blood Flow and Pharmacological and Dietary Interventional Effects. (P Olofsson, S Rabow, E von Wowern)
9. *Fetal Environment and NeuroDevelopment Disorders* in Epidemiological Research (FENDER). (A Rignell-Hydbom, K Källén)
10. Research in *gynecological ultrasound* and its clinical applications (L Valentin)

Within this network a number of excellent publications were presented in 2010-2014, some in journals with a very high impact factor (JAMA, Plos One, BMJ, Clinical Cancer Research, Obstetrics and Gynecology).

The scientific standards have been recognized also by the Swedish Research Council (VR) with grants, as well from international and EU funds (S Hansson - VR, L Valentin - VR, EXPRESS-study - VR, EVERREST-study - EU; A Giwercman and YL Giwercman - CLEAR - EU). S Hansson has received substantial support from VR also for research in the developing world on preeclampsia.

Several members of the **OB/GYN** and **RMC** Departments have received national and international awards for their scientific achievements, e.g. "Athenapriset" 2011 (S Hansson), "Ian Donald Gold Medal in ultrasound" 2000 (ISUOG); "Drs. Haackerts Gold Medal in Prenatal Medicine" (Germany 2001), "Geoffrey Thornburn Professorship" (Australia 2012) - (both to K Marsal); and "German Urological Society Price in Andrology (A Giwercman, 2010).

Educational activities (maximum 3 000 characters)

The staff of the **OB/GYN** Department and **RMC**, with leading members taking active part also in **CERPS**, are actively involved in training of medical students both as considers under-graduate courses mandatory for all students (Semester 9), but also organizing so called "Electives" for tutoring of students writing their own scientific papers (Semester 5 and 11). Teaching activities are also directed

towards other students and shifting staff categories. Of special relevance is practical teaching for gynaecological physical examination and clinical skills to manage surveillance of pregnancy and labour.

Foreign students and PhD research students are regularly invited to follow the teaching for shorter or longer periods. Specialists in obstetrics and gynaecology very often visit the ultrasound department to learn expert handling of gynaecological ultrasound.

In addition to the under-graduate courses given at the **OB/GYN** Department, SUS, several staff members participate as teachers on the faculties of international and national courses (L Valentin, S Hansson, S Gudmundsson, and K Marsal).

Two national textbooks that appeared in several revised editions have been edited and co-authored by staff members of the **OB/GYN** Department: Marsal & Grennert: *Obstetrisk Öppenvård*. Liber, Stockholm, 2011; and Hagberg, Marsal & Westgren: *Obstetrik*. Studentlitteratur AB, 2014.

A textbook of Gynecological ultrasound (*Gynaecological ultrasound in clinical practice*, RCOG Press) has been co-edited by Lil Valentin (second edition underway).

Recently, an expert group chaired by S Hansson published national guidelines on preeclampsia treatment (SFOG ARG rapport #72).

"Clinical Andrology Eau/Esau Course Guidelines" by A Giwercman (Editor), W Weidner (Editor), H Tournaye (Editor), L Bjorndahl (Editor) book, Informa.

Describe, in abstract format, the activities and functions of the applying unit from a clinical, scientific, and educational perspective.

History of the unit (maximum 3 000 characters)

The merged Malmö-Lund **OB/GYN** Department at SUS started its activities on 2011-10-01, following a restructuring of clinical departments and linking health care in Lund and Malmö. This brought several former separate and independent departments/clinics in the two cities together in a new structure with joint departments for *Gynaecology/Obstetrics*, and a collaboration with *Reproductive Medicine*.

Since 2003, the **OB/GYN** Department is a **WHO Collaborating Centre (CC)** for Development of Quality Indicators to improve Perinatal Health Systems as one of three WHO CCs in the field of reproductive medicine in Sweden (K Marsal).

The **RMC** is an independent unit, but closely linked to the **OB/GYN** Department for helping infertile couples. It was established in March 2007.

The **CERPS** network was formed in 2012 to support and link activities in reproductive medicine and reproductive epidemiology at SUS and Lund University (LU). This network was started by A Giwercman (**RMC**) and PM Nilsson (**SRA EpiHealth**, LU, and Dept. Internal Medicine at SUS Malmö) in close collaboration with K Källén (reproductive epidemiology), K Marsal (fetal ultrasound imaging), and E Psouni (developmental psychology). It now includes approximately 40 members. These members represent not only clinical activities for reproductive health and early life medicine, but also other areas of relevance, i.e. child psychiatry and psychology, environmental medicine, and medical ethics. **CERPS** is organizing seminars, retreats and international symposia. A special cross-border research program is under development with a focus on *"The small child"*, describing the epidemiology, causes, clinical aspects and health outcomes of children born small-for-gestational age (SGA). This research program includes a wide range of clinical and epidemiological research questions linked to the SGA status, including research on placental function, fetal growth imaging, follow-up studies of cohorts from 50-years ago, and collaborative projects in developmental psychology.

CERPS thus includes a large number of clinicians and researchers interested in reproduction and early life medicine. It is built on an infrastructure with a steering committee (see web-site) and organizes several activities such as seminars, retreats, international symposia and a research program.

In 2012 the topic of the Day of Research at SUS was *"Frisk som foster - frisk som vuxen"* (Healthy fetus - Healthy adult), when **CERPS** members played an important role to organize the programme and act as lecturers. In this program, as well as at our international Berzelius symposium in 2014, aspects of reproductive epidemiology were presented, based on follow-up analyses of the Medical Birth Register

of Sweden and other local registers, for example including medical aspects of premature babies.

Give a condensed history of the unit.

Present organisation (maximum 3 000 characters)

The **GYN/OBST** Department is presently organized based on a joint organization within SUS, in both Lund and Malmö. The organization contains the following clinical units: (a) Fetal-maternal medicine, (b) Obstetrics in patient care, (c) Benign gynaecology, and (d) Tumour surgery.

In addition, S Hansson is organising translational research on preeclampsia, and is head of the perinatal laboratory at BMC-C14, Lund.

The **RMC** has previously been an independent clinic but due to re-organization of SUS since January 2014, it has merged to a joint "Verksamhetsområde" (VO) with the Department of Endocrinology. This joint VO is a part of Division 2, SUS.

Reproductive Medical Center, SUS Malmö: <http://www.skane.se/sv/Webbplatser/Skanes-universitetssjukhus/Organisation-A-O/Reproduktionsmedicinskt-centrum/>

The **CERPS** network is organized with a steering committee and a network of clinicians and researchers, as described at the web site:

CERPS web site: http://www.med.lu.se/epidemiology_for_health_epihealth/cerps

Describe the present organisation of the unit.

Affiliations and collaborations (maximum 3 000 characters)

The most important partner is the *Faculty of Medicine* (LU), with a shared leadership structure also within SUS **Division 2**. Departments belonging to the Faculty of relevance for Division 2 include the Departments of Clinical Sciences (IKVL, IKVM) and Health Sciences (HS).

As the *WHO Collaborating Centre*, a wide international collaboration within the WHO Europe is established and the **OB/GYN** Department provides consultations and advisory functions to several countries, especially in the former Eastern Europe.

The group of L Valentin collaborates with more than 30 ultrasound centres throughout the world and there is close co-operation with the *Katolieke Universiteit, Leuven, Belgium*.

In addition, important collaborations exist with other hospitals and clinics within the *Southern Health Care Region of Sweden*, with more than 1.5 million inhabitants, and with *Danish clinics* (reproductive medicine) and *universities* (Copenhagen, Aarhus, Odense). The geographical proximity and fruitful scientific collaborations have been of pivotal importance.

In perinatal medicine and obstetric and gynecological ultrasound a close scientific collaboration is established with many universities and research institutes around the world (e.g. NIH Bethesda, RIKEN Japan, Universities in London, Manchester, Barcelona, Hamburg, Prague, Berlin, etc.).

The **OB/GYN** Department has participated in several EU-studies - at present it is a part of a consortium running the EVEREST-study (intrauterine treatment of intrauterine growth restriction), awarded an EU-grant of 5.9 million EUR.

In Sweden, the existence of *quality registers* has been of great importance for bench-marking and quality development. Since 1995, the **OB/GYN** Department is responsible for the regional quality register Perinatal Revision South (PRS) and organizes two meetings per year for all departments of obstetrics and neonatal units in the Southern Swedish Health Care region. Both quality development of care and the research based on analyses of trends and risk factors, have been facilitated by use of this register. K Källén is part-time employed to run analyses with the Medical Birth Register and the Teratology Register, both at the National Board on Health and Welfare, Stockholm, Sweden.

Since 2004, Lund **OB/GYN** Department is the administrative center (PI: K Marsal, epidemiologist K Källén, data manager G Pajic) for the on-going national prospective study on extremely preterm infants in Sweden (EXPRESS). The results of the study are internationally well appreciated and were presented

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in a number of scientific papers (2 in JAMA).

RMC is partner in several EU-sponsored consortia and plays a leading role in the INTERREG IVA sponsored collaboration within Reproductive Medicine, between the Region Skåne and the Capital Region of Denmark (ReproSund and ReproHigh).

Describe partners and affiliations with other clinical units, hospitals, and universities.

Main outcome (maximum 3 000 characters)

The OB/GYN Department and RMC have together provided a number of excellent clinical outcomes and academic results, as the five listed below:

1. *Research on male and female reproductive function* with focus on infertility, gene-environment interaction, molecular and clinical studies of androgen action; pathogenesis of cancer in male reproductive system and effect of cancer and cancer therapy on reproductive function. RMC was established in 2007 and is now the only Swedish Reproductive Centre combining expertise and research in male as well as female reproduction. It was in 2009 ranked as the most prominent Swedish centre in the area of reproductive research. Development of formalised collaboration with units in the Capital Region of Denmark and signing of a formal agreement between the region and Region Skåne has added to the clinical excellence and the level of research (A Giwercman, Y Giwercman).
2. *Research on preeclampsia* - identification of risk patients, prevention and treatment with new potential drugs. This project has achieved significant national and international funding, and is also subject to translational research with special laboratory facilities (S Hansson)
3. *Fetal surveillance in risk pregnancies* (Doppler velocimetry), screening for intrauterine growth restriction (fetal ultrasound biometry), management of extremely preterm growth restricted fetuses, fetal monitoring during labour (fetal CTG, fetal ECG, fetal scalp blood pH and lactate) (K Marsal, J Brodzki, S Gudmundsson, P Olofsson, A Herbst). The screening program for *diabetes in pregnancy* has been evaluated and scientific reports published (A Frid, M Landin-Olsson).
4. *Fetal surveillance during labour*. This project has developed new and interesting methods, as well as investigations of arterial function (P Olofsson).
5. *Gynaecological ultrasound*. This project has achieved international recognition for excellence and wide clinical applications, is supported by the Swedish Research Council, and has resulted in the development of simple ultrasound methods for discrimination between benign and malignant adnexal masses that are now being introduced worldwide, including the United States (L Valentin).

The WHO Collaborative Center is a leading unit for perinatal epidemiology as well as for quality assurance and development of obstetric care (K Marsal).

The outcomes from CERPS include:

1. Organization of regular network seminars, retreats and lectures
2. Contributions to the Faculty of Medicine's Research Day ("Forskningens Dag") at SUS in 2012
3. Organization of an international Berzelius Symposium (Nr. 89) on "Life Cycles", 23-24 April 2014
4. Planning for a full cross-faculty borders research program on "The small baby" to be launched in 2014-2015, bridging faculty borders.

State the main positive results that have emanated from the unit. (List three to five major clinical outcomes and results from R&D projects.)

National and international recognition (maximum 3 000 characters)

The pioneering efforts to develop *fetal ultrasound* technologies at the **OB/GYN** Department has led to national and international recognition and awards (K Marsal). This is reflected in the nomination of the Clinic as a **WHO Collaborative Centre** since 2003 (K Marsal).

Research on *preeclampsia* (S Hansson) and *pregnancy complications* (P Olofsson) and *gynaecological ultrasound* (L Valentin) has also led to excellent results and publications, attracting substantial research funding (VR, EU).

The organization of *undergraduate medical education* at LU, under leadership from staff at the Clinic (Director M Stjernquist) has been recognized on a national level.

The figures of perinatal outcome have attracted attention internationally and in recent years delegations from Denmark, China and Ireland have visited the **OB/GYN** Department to study organizational and logistical issues.

The **RMC** at SUS in Malmö, under leadership of A Giwercman, was recognized with the "*Öresund Award*" in 2013 for its high-standard clinical work and research with a focus reproductive medicine, as well as the link established with corresponding clinical units for reproductive medicine in Copenhagen (Rigshospitalet). In 2009 Reproductive Biomedicine gave RMC's research group the highest ranking among Swedish groups in this area of science.

(https://webmail.lu.se/owa/WebReadyView.aspx?t=att&id=RgAAAAB%2fYehMwLHhSabPJaxob9acBwAYL8LsNdrLRJ7liObLYKrRAB%2bF7j01AAAYL8LsNdrLRJ7liObLYKrRAJ8VDgZHAAAJ&attid0=EACVCFVqSSj4TrT2eeOqcPj3&attcnt=1&pspid=1401875955667_869391497)

CERPS members from the **OB/GYN** Department and **RMC** were active in organizing an international Berzelius symposium (Nr. 89) on 23-24th April 2014 named "*Life Cycles; Human Reproduction, Growth and Development*" when many aspects of infertility, demographic changes and early life were discussed at the well-attended sessions, see link below. This symposium was preceded by a similar international symposium on "*Reproductive epidemiology*" in 2012 organized by SRA EpiHealth, with participation of clinicians and researchers from the same clinical units. **CERPS** is planning for repeated international symposia on a bi-annual basis, bringing clinicians and researchers together with a common interest in reproductive health and early life medicine, but also from other related areas.

Of special relevance is the epidemiological findings that early life programming (SGA, pre-term, post-natal catch-up growth) is of importance also for the adult risk to develop cardiovascular disease and type 2 diabetes (Barker Hypothesis). This therefore links early life medicine with reproductive epidemiology to dissect pathways of disease etiology of importance for preventive measures linked to preventive maternal, fetal and child health care. A pioneer to show associations between fetal growth patterns via ultrasound examination and blood pressure in adolescence in young men at conscript testing was G Gennser at the **OB/GYN** Department in Malmö (BMJ 1988;296:1498-500)

Describe whether the unit's clinical results, R&D, or educational achievements have attracted national or international attention, and whether any awards, praise or credit has been given to the work.

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SCOPE AND QUALITY OF CLINICAL ACTIVITIES

Clinical activities (maximum 4 000 characters)

The wide field of *human reproduction* and its medical aspects forms the basis for this CoE application, involving two departments within **Division 2** at the Skåne University Hospital (SUS).

The Department of Obstetrics and Gynaecology (**OB/GYN**) at SUS (Head: Andreas Herbst) organises a wide spectrum of *tertiary clinical care* and related activities. These include: (a) specialist antenatal care, including expert obstetric ultrasonography and Doppler blood flow measurements, (b) in-hospital perinatal care of high risk pregnancy, (c) gynaecological outpatient clinic and in-hospital care, (d) gynaecological surgery, and (e) gynaecological oncological care. In addition, the Department is involved in outreach activities for providing contraceptives for young women and supporting Youth Polyclinics for Reproductive Health, and thereby serves as a referral unit for complicated clinical problems.

Since 2003, the **OB/GYN** Department is a WHO Collaborating Centre (CC) for Development of Quality Indicators to improve Perinatal Health Systems as one of three WHO CCs in the field of reproductive medicine in Sweden.

The Reproduction Medical Centre (**RMC**) unit, attached to the Department of Endocrinology but in collaboration with **OB/GYN**, covers a wide range of reproductive disorders including infertility. **RMC** is a unique unit, both in national and international perspective, since the medical excellence as well as research activities equally focus on male and female aspects of reproductive function. Apart from outpatient clinic and access to most advanced methods of assisted reproduction, the unit performs semen analysis and cryopreservation of gametes (sperms/eggs) and ovaries for both Swedish and Danish patients.

Describe the clinical activities associated with the unit. Include activities covering diagnosis, treatment and care of patients, and if applicable, activities related to prevention, rehabilitation and control.

Employees (maximum 1 000 characters)

At the **OB/GYN** Department there are working a total of 650 employees; including 80 physicians, 200 midwives, 60 nurses, 200 assistant nurses, and 60 medical secretaries.

At the **RMC** there is an additional number of 37 employees; including 8 physicians, 9 nurses/midwives, and 11 laboratory technicians/embryologists.

The **CERPS** network contains 40 researchers, many of them employed at **OB/GYN** and **RMC**.

State the number of employees working at the unit. Stratify according to profession.

Patient volume (maximum 1 000 characters)

Recent diagnostic category numbers (2013) at the **OB/GYN** Department are based on 100 000 outpatient (women) visits per year, 12500 in-patients (women) treated per year, including 9000 births, and 5000 surgical operations per year.

In addition, at the **RMC** there are 13 000 outpatients visit per year, including *in vitro* fertilisation (IVF) treatments, based on data from 2013.

State the patient volume within the focus area. Age, gender and number of inpatients/outpatients.

External patient volume (maximum 500 characters)

In total 300 patients are treated at **OB/GYN** after referral from hospitals outside the Skåne Region. Most of these patients suffer from pregnancy complications or gynaecological cancers.

About 15% of all the 2 000 out-patient visits per year referred to RMC live outside the Skåne Region. Oocyte donation is also available for Danish infertile couples and couples from Baltic countries. Sperm DNA integrity analyses (in Sweden only done at RMC) have been performed for outside patients.

State the number of patients from outside Skåne county and from abroad.

Patient categories (maximum 1 000 characters)

At the **OB/GYN** Department the following numbers were recorded (2013), including all ICD-codes in **GYN/OB** and related cancers, as the leading Department in the Region within its field:

In-hospital care: 12,500 patients/year:

Gynecology 2650
- Gyn cancer 450
- Benign tumours 250

Obstetrics 9800
- Deliveries 9000
- Care during pregnancy 800

Ambulatory care: 100,000 visits/year:

Gynaecology 45 000 visits
- Gyn cancer 1200
- Benign tumours 250

Obstetrics 40,000 visits, mainly to specialist maternity care,

At RMC (2013) these were the five main diagnostic categories: (a) Female infertility and (b) male infertility; (c) androgen deficiency; (d) transsexualism; and (e) polycystic ovary syndrome. The number of visits and ICD diagnostic codes (with numbers) were:

- a. N97X; z31X: 10 000
- b. N469: 3000
- c. E291/E230: 250
- d. F640: 209
- e. E282: 154

Number of patients diagnosed and treated within each category. Enter number as well as ICD10 code and name of disease.

Performance of special functions (maximum 2 000 characters)

The **OB/GYN** Department is the single referral centre in Southern Sweden for *medical care of complicated pregnancies* including all pre-term births (<28 weeks), abnormally invasive placenta, cervical insufficiency, as well as severe preeclampsia, blood coagulation disorders, severe intrauterine growth restriction, all known fetal malformations, and for gynaecologic cancer. The Department has been a world-leading pioneer in antenatal fetal surveillance, fetal monitoring in labour, and induction of labour with prostaglandins. Obstetric and gynaecological ultrasound and Doppler blood flow measurements in pregnancy are used since 40 years, and still has recognition as world top status in the field. In addition, the *gynaecological cancer* unit is of international top standard.

More recently, the gynaecological cancer unit is a leading teaching and development centre for

gynaecological robotic surgery.

RMC is the only centre for *male infertility* diagnosis and treatment in the Region, and a leading centre also on a national and international level. Sperm Chromatin Structure Assay, a recently developed analysis for assessment of sperm DNA integrity is not performed at other Swedish laboratories. Therefore, the analysis has been performed as service for patients from other parts of Sweden as well as for Danish patients.

Describe whether the unit has a unique clinical function that is not found elsewhere in the region, country or world.

Clinical performance (maximum 2 000 characters)

The annual reports from the **OB/GYN** Department shows favourable outcome data (visible in the *SFOG Registers* at <https://www.sfog.se/start/kvalitetsregister/>) and the *Perinatal Revision South [PRS] Register*), keeping in mind that a referral centre will also provide health care for more difficult clinical cases with a worse prognosis.

According to the national *EXPRESS study*, the Southern Region of Sweden (for which SUS is the clinical centre providing care for birth in the extremely preterm period) was one of two regions in Sweden with the lowest mortality among infants born extremely preterm (*Acta Paediatr* 2014;103:27-37).

The RMC has a high success rate for infertile couples, amounting to 25-30 per cent of all couples with a live-born child in the end. This figure is above the average for assisted reproduction treatment performed in Sweden.

RMC results are shown at the link: <http://www.skane.se/sv/Webbplatser/Skanes-universitetssjukhus/Organisation-A-O/Reproduktionsmedicinskt-centrum/>

Describe clinical outcome parameters and the results for treated patients. Verify clinical excellence by providing performance data and comparisons with internationally recognised institutions.

Clinical quality registers (maximum 2 000 characters)

There are several patient data quality registers and tissue biobanks emanating from the **OB/GYN** Department:

- *Malmö Maternity Unit Serum Biobank*: the serum bank was founded in 1969 and contains frozen maternal and umbilical cord sera from approximately 70,000 deliveries.
- *Malmö Umbilical Cord Blood Gases Register*: cord blood gases have routinely been determined at the Malmö Maternity Unit since 1981, and among the 103,188 deliveries 1981-2012, blood gas data are available from 89,703 (87%).
- *Umbilical Cord Blood Register*: the register contains 80,770 cord blood analyses from the Malmö and Lund maternity units 2001-2010. The analytes available are blood gases, lactate, glucose, electrolytes, different haemoglobin subtypes, bilirubin, etc.
- *Malmö Obstetric Database*: this register started in 1990 and contains more than 400 detailed parameters on pregnancy, delivery and neonatal period from each delivery.
- *Perinatal Laboratory Biobank*: it contains 850 placenta samples and maternal plasma samples from complicated pregnancies. In addition we have several international cohorts of maternal plasma from complicated pregnancies with over 3000 samples.
- *Perinatal Revision South Register*: a data-base containing detailed information from pregnancy, delivery and the neonatal period from all eight hospitals in the South Swedish Region (population 1.8 millions). The register was founded in 1995 and now contains data on more than 420,000 deliveries.

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- *Doppler Blood Flow Laboratory Register*: the register contains maternal and fetal Doppler blood flow data from approximately 80,000 examinations performed on high-risk pregnancy cases in Malmö-Lund.

Provide data from clinical quality registers if available, or ranking of relevant outcome data from national and international providers. Enter values for the past three years.

Patient satisfaction (maximum 2 000 characters)

At **OB/GYN** the information about clinical activities is shown at the web site:

<http://www.skane.se/sv/Webbplatser/Skanes-universitetssjukhus/Organisation-A-O/Kvinnokliniken/>

RMC was only at one occasion (2010) included in the NPE ("Nationell Patient-enkät") patient satisfaction survey. At that occasion, our score was above the national average for public out-patient units.

Enter survey results for the past three years.

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SCOPE AND QUALITY OF RESEARCH AND DEVELOPMENT

Scientific field (maximum 4 000 characters)

The OB/GYN Department has a long tradition of R&D within some specific research areas, including:

1. Research on *male and female reproductive function* with focus on infertility, gene-environment interaction, molecular and clinical studies of androgen action; pathogenesis of cancer in male reproductive system and effect of cancer and cancer therapy on reproductive function (A Giwercman, Y Giwercman).
2. Research on *pre-eclampsia* for identification of risk patients, prevention and treatment (S Hansson).
3. *Fetal surveillance in risk pregnancies* (Doppler velocimetry), screening for intrauterine growth restriction (fetal ultrasound biometry), management of extremely preterm growth restricted fetuses, fetal monitoring during labour (fetal CTG, fetal ECG, fetal scalp blood pH and lactate) (K Marsal, J Brodzki, S Gudmundsson, P Olofsson, A Herbst).
3. *Thrombo-embolic disorders in pregnancy*, as well as *ultrasound imaging of the fetus* leading to early diagnosis and fetal interventions (K Marsal, J Brodzki).
4. The *screening program for diabetes in pregnancy* has been evaluated and scientific reports published (A Frid, M Landin-Olsson).
5. *Fetal Life Conditions: Acid-Base Balance and Impact of Acidosis and Adverse Events on Developmental Problems and Disease occurring later in Life* (P Olofsson, N Wiberg, P Mokarami, M Zaigham). *Fetal Temperature in Labour: Impact of Obstetric Interventions and Inflammatory Response* (P Olofsson, T Lavesson).
6. *Maternal Circulation and Stress in Normal and Complicated Pregnancies*. Studies on Arterial Stiffness, Stress Response, Uterine Blood Flow and Pharmacological and Dietary Interventional Effects. (P Olofsson, S Rabow, E von Wowern).
7. *Fetal Environment and NeuroDevelopment Disorders in Epidemiological Research (FENDER)*. (A Rignell-Hydbom, K Källén, L Rylander, P Olofsson, et al.).
8. *Gynecological ultrasound* (L Valentin).

Give a general description of the R&D focus areas.

Results (maximum 4 000 characters)

The OB/GYN Department is a leading clinical entity in the field of fetal surveillance, with both a national and international recognition for high levels of clinical performance and development of new technologies, most importantly of the *ultrasound* and *Doppler ultrasound* technologies, both in obstetrics and gynaecology. Over the years this technology has been developed by a number of clinicians/researchers and is now recognized as leading within its field. The obstetric unit of OB/GYN is highly recognized world-wide for developments for fetal surveillance in labour, with new technologies such as fetal ECG ST-analysis, fetal temperature monitoring, and pulse oximetry developed and/or tested at the unit. Moreover, standards for umbilical cord blood gas monitoring and interpretation have been much developed at the unit, and integrated into clinical practice.

Gynaecological ultrasound is being developed within the IOTA and IETA collaborations, of which L Valentin is one of the founders and also member in their steering committees. Thanks to this research it is possible today to make a virtually conclusive diagnosis of benignity or malignancy in an adnexal mass and to predict the specific histological diagnosis in many cases. The IOTA methods are being introduced into clinical practice all over the world, results have been published in high quality journals, and the IOTA is supported by the Swedish Research Council.

Robotic gynaecological surgery has been a rapidly developing clinical field in recent years, of benefit to many patients.

RMC is a relatively newly established unit (2010) and despite that, is already considered - nationally and internationally - as one of the leading reproductive research environments. Thanks to the close link between the clinical unit and the laboratory researchers we have access to a unique patient material and also have options for performing translational research. We have been part of three EU funded consortia and are currently in a process of stage 2 application within the framework of Horizon EU programme 2014. Establishment of collaboration with

other units in the Öresund Area (ReproHigh) and with other scientists within the Lund University (CERPS) will additionally add to our scientific performance. Furthermore, there is a growing interest from the industry to enter in “triple helix” collaboration with RMC and its partners.

Your description of achievements and results.

Quality and international recognition (maximum 2 000 characters)

The **OB/GYN** Department in Lund is involved with the WHO Collaborative Centre, but has also established collaboration within the **OB/GYN** research area with the Red House Hospital Fudan University, Shanghai, People’s Republic of China. As a part of the contract between the Lund and Fudan Universities, there is a 3-month auscultation rotation within perinatology in the Lund/Malmö area for 2-3 Chinese midwives on an annual basis. The exchange serves also for scientific training, and is coordinated by Professor G Lingman.

L Valentin is one of the founders of and member of the steering committee of two international networks dedicated to research in gynaecological ultrasound, “The International Ovarian Tumour Analysis collaboration” and “The International Endometrial Tumour Analysis collaboration”. This has resulted in several publications in journals with high impact factor. The IETA collaboration is new and data is currently being collected.

The **RMC** at SUS in Malmö, under leadership of A Giwercman, is internationally known and was recognized with the “Öresund Award” in 2013 for its high-standard clinical work and research with a focus reproductive medicine, as well as the link established with corresponding clinical units for reproductive medicine in Copenhagen (Rigshospitalet). In 2009 Reproductive Biomedicine gave RMC’s research group the highest ranking among Swedish groups in this area of science.

(https://webmail.lu.se/owa/WebReadyView.aspx?t=att&id=RgAAAAB%2fYEhMwLHhSabPJaxob9acBwAYL8LsNdrLRJ7IiObLYKrRAB%2bF7j01AAAYL8LsNdrLRJ7IiObLYKrRAJ8VDgZHAAAJ&attid0=EACVCFVqSSj4TrT2eeOqcPj3&attcnt=1&pspid=1401875955667_869391497).

A bench marking of research within the area of Reproductive Medicine, performed in 2013 by Boston Consulting on behalf of the Medicon Valley Alliance, has shown that the Öresund Region, including **RMC**, has a score above the mean average for 11 internationally leading academic centres including Boston, Cambridge, London, Stockholm and Uppsala.

Describe factors showing the quality and international recognition of the scientific results.

Future plans (maximum 4 000 characters)

OB/GYN is involved in extensive regional, national but also international research activities, as funded by the EU. These are (a) an Erasmus Mundus project - in Fetal medicine (K Salvesen), Treatment of IUGR (K Marsal, J Brodzski), and for Gynaecological care in the ProfNAJT project (G Lingman). The latter deals with platelet stimulation in obstetric conditions in collaboration with the Department of Transfusion Medicine, SUS. All three EU projects are multi-center projects with a total budget of more than 60 million SEK for the three projects.

One very important and promising **OB/GYN** project (financed by VR) is one aiming at a better understanding and treatment of pre-eclampsia (PE) to be further developed (S Hansson). PE occurs in 5000 pregnant women in Sweden on an annual basis, but is also a serious global problem affecting 8.5 million pregnant women. It is the leading cause of death during pregnancy, and also a cause of premature births. PE occurs in the background of 15% of all pre-term deliveries, and is often combined with intrauterine growth retardation (IUGR). Experimental research, based on gene- and protein analyses, has shown an increased amount of free haemoglobin (Hb) in the placenta at PE. This factor is harmful for the placental circulation, as well as for the maternal renal circulation, causing proteinuria and hypertension. Therapy based on infusion of recombinant A1M has proved successful to lower the free Hb levels, blood pressure and proteinuria in a pregnant sheep model. The strategy now is to isolate hemopoietic stem cells from the placenta and umbilical cord blood to study the regulation of free Hb at PE. A new animal model (transgenic mice, STOX1) will be tested for positive effects of A1M therapy. Based on translational research, the A1M product is planned to be ready in 2016 (S Hansson). Phase 1 studies are planned for 2018. If

successful, this product has a far-reaching potential on a global scale for treatment of PE, thereby saving life and preventing complications (pre-term, IUGR).

The IOTA phase 5 (supported by VR) started in 2012 and will continue to recruit patients at least until 2017. In this international multicentre project at least 5000 patients with an adnexal mass with benign *ultrasound morphology* will be followed up with ultrasound for at least 5 years. This will elucidate the natural history of incidentally detected adnexal masses and will result in international guidelines on management.

The research performed at RMC is pretty much in line with the focus for Centre of Excellence, namely exploring the trans-generational effects of different types of environmental and lifestyle related exposures in relation to the health of the offspring in childhood and in adulthood. Thus, large projects regarding the impact of cancer and cancer treatment in males as well as that of sperm DNA damage seen in subfertile men on pregnancy outcome and health of the children, are about being initiated. Thanks to the ReproHigh collaboration we will be able to get access to large clinical materials which, combined to the access to Danish and Swedish health registries, will give us a possibility to provide unique information regarding the safety of assisted reproduction techniques and the impact of paternal factors on the health of the children. Thanks also to the access to a broad panel of experts, through the CERPS network, we will be able to address a number of important end points related to somatic and psychological health of these children.

Research groups from RMC are also partners within a ReproHealth consortium which recently has passed to stage 2 of Horizon EU- funding application with focus on trans-generational effects of maternal and paternal exposure in relation to reproductive function of the children. From a structural point of view, we have plans of strengthening our R&D efforts through a "triple helix" collaboration between the universities, industrial companies and regions in the Öresund Area.

Your condensed description of future plans for R&D work at the unit.

Publications (maximum 3 000 characters)

OB/GYN

1. Wester-Rosenlöf L, Casslén V, Axelsson J, Edström-Hägerwall A, Gram M, Holmqvist M, Johansson ME, Larsson I, Ley D, Marsal K, Mörgelin M, Rippe B, Rutardottir S, Shohani B, Akerström B, Hansson SR. A1M/ α 1-microglobulin protects from heme-induced placental and renal damage in a pregnant sheep model of preeclampsia. *PLoS One*. 2014;9:e86353.
2. Antonia Testa, Jeroen Kaijser, Laure Wynants, Daniela Fischerova, Caroline Van Holsbeke, Dorella Franchi, Luca Savelli, Elisabeth Epstein, Artur Czekierdowski, Stefano Guerriero, Robert Fruscio, Francesco Leone, Ignace Vergote, Tom Bourne, Lil Valentin, Ben Van Calster, Dirk Timmerman Strategies to diagnose ovarian cancer: new evidence from phase 3 of the multicentre international IOTA study. *Br J Cancer* (Accepted 15th May 2014).
3. Ode A, Källén K, Gustafsson P, Rylander L, Jönsson BA, Olofsson P, Ivarsson SA, Lindh CH, Rignell-Hydbom A. Fetal exposure to perfluorinated compounds and attention deficit hyperactivity disorder in childhood. *PLoS One*. 2014;9:e95891.
4. Serenius F, Källén K, Blennow M, Ewald U, Fellman V, Holmström G, Lindberg E, Lundqvist P, Maršál K, Norman M, Olhager E, Stigson L, Stjernqvist K, Vollmer B, Strömberg B; EXPRESS Group. Neurodevelopmental outcome in extremely preterm infants at 2.5 years after active perinatal care in Sweden. *JAMA*. 2013;309:1810-20.
5. Thuring A, Brännström KJ, Ewerlöf M, Hernandez-Andrade E, Ley D, Lingman G, Liuba K, Maršál K, Jansson T. Operator auditory perception and spectral quantification of umbilical artery Doppler ultrasound signals. *PLoS One*. 2013;8:e64033.

RMC

6. Pikwer M, Giwerzman A, Bergström U, Nilsson JÅ, Jacobsson LT, Turesson C. Association between

testosterone levels and risk of future rheumatoid arthritis in men: a population-based case-control study. *Ann Rheum Dis*. 2014;73:573-9.

7. Pye SR, Huhtaniemi IT, Finn JD, Lee DM, O'Neill TW, Tajar A, Bartfai G, Boonen S, Casanueva FF, Forti G, Giwercman A, *et al*; EMAS Study Group. Late-onset hypogonadism and mortality in aging men. *J Clin Endocrinol Metab*. 2014;99:1357-66.

8. Bungum L, Franssohn F, Bungum M, Humaidan P, Giwercman A. The circadian variation in Anti-Müllerian hormone in patients with polycystic ovary syndrome differs significantly from normally ovulating women. *PLoS One*. 2013;8:e68223

9. Axelsson J, Rylander L, Rignell-Hydbom A, Silfver KA, Stenqvist A, Giwercman A. The Impact of Paternal and Maternal Smoking on Semen Quality of Adolescent Men. *PLoS One*. 2013;8:e66766

10. Bobjer J, Katrinaki M, Tsatsanis C, Lundberg-Giwercman Y, Giwercman A. Negative association between testosterone concentration and inflammatory markers in young men: a nested cross-sectional study. *PLoS One*. 2013;8:e61466.

List ten main publications that have emanated from the unit in the past two years.

Production of academic degrees (maximum 2 000 characters)

8 Professors: G Lingman and K Salvesen (IKVL); A Giwercman, S Gudmundsson, S Hansson, P Olofsson, M Stjernquist and L Valentin (IKVM).

9 Associate Professors: C Borgfelt, A Herbst, P Kannisto, Y Lundberg-Giwercman, P Malcus, S Osser, J Persson (IKVL), P Sladkevicius, D Wide-Swensson,

16 PhD (GY/OB) and 5 PhD (RMC) were completed in 2010-2014.

12 PhD projects (OB/GYN) are ongoing (name of tutors):

P Olofsson: 3

S Gudmundsson: 1

G Lingman: 1

M Stjernquist: 1

J Persson: 1

L Valentin: 1

S Hansson: 5 (1 Erasmus), in addition co-mentor in Copenhagen, Uppsala and Manchester

K Salvesen: 1 (Erasmus)

10 PhD projects are ongoing at RMC

YL Giwercman: 4

A Giwercman: 6

Enter number of Professors, Associate Professors, DMC's and PhD's emanating from the unit.

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SCOPE AND QUALITY OF EDUCATION

Specialist education (maximum 3 000 characters)

The **OB/GYN** Department provides specialist training in **OB/GYN**, as well as sub-speciality training in gynaecological oncology and cancer surgery, including robot surgery. We participate in a programme of the Erasmus Mundus Joint Doctorate in Fetal Medicine. Lund collaborates with Barcelona and Leuven Universities within an EU programme involving 40 PhD students over five years. This programme started in 2013 when the Lund University contributed two PhD candidate students in 2013 and one in 2014. In addition, the Department will be hosting 11 PhD student candidates from Barcelona and Leuven for clinical and research training over 2-3 months in 2014. A Midwifery school accepts 30 students annually.

Of considerable importance is that one member of the academic staff of the Department (S Hansson) is also vice-dean of the Faculty of Medicine, LU, with a special responsibility for organizing and supporting the PhD research student program within the whole Faculty.

Describe whether any specialist education or training is hosted within the unit. Enter descriptions, the total number of programmes, year, and category.

Undergraduate students (maximum 3 000 characters)

The **OB/GYN** Department provides teaching (lectures, seminars, clinical tutoring) for undergraduate student categories: nurses, midwives, and physicians. The medical students amount to 60/year in Lund and 60/year in Malmö. The teaching also includes tutoring of medical student's papers (semester 5, 10), as well as so called "Selectives" (optional courses). We have organised the teaching based on problem-based learning and development of diagnostic and treatment skills. A very important aspect is the training of the gynaecological physical examination, as well as assisting deliveries, the latter included in the curriculum for both midwifery students and medical students.

Since 16 years, the Department in Lund offers an annual course in **OB/GYN** in English for international undergraduate students (Erasmus).

Of considerable importance is that one staff from the Department (M Stjernquist) is also the programme Director of all clinical education for medical students during Semester 8-11. This gives an influence to coordinate different teaching activities and integration of **OB/GYN** also as part of a wider clinical spectrum.

Reproductive Medicine is not a part of curriculum for medical students. However, lectures on infertility (2 hours, semester 9) and pathobiology of reproductive disorders (4 hours; semester 5) are given by the **RMC** staff as a part of other courses. Furthermore, in order to introduce Reproductive Medicine in training of medical students, Selective courses in Reproductive Medicine are given on Semester 10/11 (5 weeks full time; since 2008 - 8 courses; on average 10 students/course) as well as on Semester 5 (5 weeks; since 2009 - 10 courses; on average 8 students/course).

Describe whether the unit has undergraduate students. Enter the total number, year, category, and a description.

Clinical students in exchange programmes (maximum 3 000 characters)

The specialist training in **OB/GYN** in southern Sweden includes minimum 6 months of clinical obstetrics at a Regional University Hospital (3 residents per year). We organise exchange clinical training programmes in gynaecological cancer surgery with Denmark, Norway, Germany, Italy and other countries. A special exchange programme in gynaecological cancer surgery also exists with the Essen Mitte Clinic, Germany. In addition, we provide specialist training for our local SUS residents at the Clinic, in all 2-3 specialist on an annual basis (Malmö + Lund).

One important Swedish-Danish network for reproductive medicine links SUS and hospitals in Copenhagen within the ReproHigh network (see web links below). As part of this collaboration an exchange programme for clinical training has been implemented.

ReproHigh network: <http://www.reposund.eu/>

Reproductive Medical Centre (RMC), SUS Malmö: <http://www.skane.se/sv/Webbplatser/Skanes-universitetssjukhus/Organisation-A-O/Reproduktionsmedicinskt-centrum/>

Furthermore, as one of two Swedish Andrological Centres, accredited by the European Academy of Andrology, RMC provides clinical training for physicians from other Swedish Reproductive Centres.

Describe whether the unit has exchange programmes for clinical training. Enter the total number of programmes, year, category, and a description.

Graduate and PhD students in exchange programmes (maximum 3 000 characters)

At **OB/GYN** there are about four PhD dissertations per year, and currently a number of PhD students are engaged in the clinical work, in parallel to their scientific work.

A list of 16 recent PhD project theses (2010-2014) is provided here:

1. P Romerius. *Reproductive function in male childhood cancer survivors* (2010)
2. O Vikhareva Osser. *Ultrasound Studies of Caesarean Hysterotomy Scars* (2010)
3. E Anderberg. *General oral glucose tolerance test during pregnancy, an opportunity for improved pregnancy outcome and improved future health* (2010)
4. H Nenonen. *Functional characterization of the CAG polymorphism in the androgen receptor in vitro and in vivo* (2011)
5. Y Ruhayel. *Male subfertility and prostate cancer risk; epidemiological and genetic studies* (2012)
6. C Björk. *Genetic, environmental and lifestyle effects on androgen receptor function* (2012)
7. L Jakubkiene. *Three-dimensional ultrasound studies of normal and abnormal ovaries* (2012)
8. G Lindell. *Ultrasound prediction of large fetuses. Epidemiological observations* (2012)
9. M Andrada Hamer. *Female urinary incontinence* (2013)
10. P Reynirson. *Robot-assisted laparoscopic surgery for cervical cancer* (2013)
11. L Bungum. *Endocrine markers of ovarian function: Clinical and biological aspects with focus on Anti-Müllerian hormone* (2013)
12. P Mokamari. *Pitfalls in interpreting umbilical cord blood gases and lactate at birth* (2013)
13. L Darlin. *Cervical cancer - studies on prevention and treatment* (2013)
14. Andrea Stuart. *Maternal diabetes during pregnancy - obstetrical considerations and long term effects* (2013)
15. Z Kolkova. *G protein-coupled estrogen receptor 1 (GPER) in the female reproductive tract: from physiology to cancer* (2014)
16. M Carlsson Fagerberg. *Birth after cesarean section* (2014)

In addition, a number of ongoing PhD projects (12 at **OB/GYN** and 10 at **RMC**) are integrated in the everyday clinical work.

Describe whether graduate and PhD students are engaged in the unit's work. Enter the total number, year, category, starting year, title or description of projects, and list the theses produced.

Postdocs in exchange programmes (maximum 3 000 characters)

At the **GYN/OB** Department a number of post-docs are active.

In Lund: Jana Brodzki, Claudia Bruss, Karl Kristensen, Karina Ljuba; and in Malmö: Olga Vikhareva Osser, Ligita Jokubkiene, Carina Bjartling, and Riffat Cheema.

The post-docs at **RMC** in Malmö are: Leon Brokken, Mona Bungum and Emir Henic.

Enter the total number of postdocs, year, starting year, title or description of projects, and number of resulting publications.

Internationally recognised courses (maximum 4 000 characters)

The **OB/GYN** Department gives annually a national course in basic OB/GYN ultrasound for residents, a national advanced postgraduate course in OB/GYN ultrasound, a national course in fetal echocardiography, an international course in obstetric Doppler ultrasound, and an international course in gynaecological ultrasound (ISUOG course). Furthermore, the Department offers a postgraduate annual course in fetal monitoring in labour and a clinical course in gynaecological robotic surgery.

S Hansson is a member of international steering committee for preeclampsia research (Co-Lab) and founder of international conference on "the dual-placental perfusion system", an FDA approved model for ex-vivo studies on placental function.

In summary, during 2013 the **OB/GYN** Department organised in total four national and one international course (ISUOG course) in ultrasound and its clinical applications in OB/GYN (in Malmö). Over the last five years the number of courses provided has been extensive.

Describe whether the unit offers any nationally or internationally recognised courses. Enter the year, number of attendees, name of the course, and a description of the content.

Communication (maximum 4 000 characters)

These are the major ways for presentation and dissemination of clinical and scientific results to:

- *The Scientific community and its organisations* (via scientific papers in international medical journals, scientific presentations at national and international medical conferences)
- *The Clinical community and its organisations* (via SFOG)
- *Media* (via interviews, newspapers, TV, radio, internet)
- *Contacts with Patients' Associations* (lectures, seminars, publications)
- *The Business sector* (Medicon Valley contacts)
- *The National Board of Health and Welfare* (Medical Birth Register, Teratology Register)
- *Two spin-of companies* related to preeclampsia research (S Hansson), Pre-elumina Diagnostics AB and A1M Pharma AB (on the Swedish stock market since 2013)

The RMC lead ReproHigh collaboration has received a lot of attention and recognition from the media in Sweden and Denmark. Below some links to media coverage in 2013-2014:

2014

[Better treatments for infertility through Swedish-Danish collaboration - Näringsliv, sid. 11, 1-2014](#)

2013

[Høj ersättningen för kvinnor som donerar ägg till barnlösa par! - Radio P1 Morgon, 7/1-2014](#)

[Dansk-svenskt projekt för ofrivilligt barnlösa prisas - TV4, 3/12-2013](#)

[Samarbete mot barnlöshet i Öresundsregionen - Metro, 3/12-2013](#)

[Projekt för ofrivillig barnlöshet prisas - Sydnytt, 2/12-2013](#)

Samarbete mot barnlöshet ger pris - Radio P4 Malmöhus, 2/12-2013

Nytt hälso- och sjukvårdspris till danskt-svenskt projekt för barnlösa - Region Skåne, 2/12-2013

Danskt-svenskt projekt för barnlösa tilldelas nytt pris - Lunds universitet, 2/12-2013

Ny helse- og sygeplejepris til Interreg-projekt - Interreg, 2/12-2013

Inga köer till donerade ägg - Sydsvenskan 6/10-2013

Fart och fräckt på Folkemødet - Sydsvenskan 15/6-2013

Test din sæd til Folkemødet - TV2/Bornholm 15/6-2013

Danske kvinder rejser efter svenske æg - Berlingske 14/6-2013

Barnlösa får hjälp - Sydsvenskan 12/6-2013

Skånsk barnlöshet på Folkemødet - Nytt från Öresund 12/6-2013

Test din sædkvalitet på Folkemødet - P4 Bornholm 11/6-2013

Dansk-svensk samarbejde hjælper barnløse - Öresundskomiteen 16/5-2013

Nytt dansk-svenskt samarbejde hjælper barnløse - Helsingborgs Dagblad 16/5-2013

Samarbete över Öresund för barnlösa - SVT 15/5-2013

Svensk-danskt samarbejde ska ge fler barn - Radio P4 Malmöhus 15/5-2013

Samarbete över Öresund för barnlösa - NorraSkåne.se 15/5-2013

Dansk-svensk specialistvård till barnlösa - Sydsvenskan 1/3-2013

Skåne och Köpenhamn går samman om hjälp till barnlösa par - Lunds universitet 1/3-2013
Media participation 2007-2013

GYN/OB om preeclampsiforskning

<http://www.ik2.se/skapa.html>

http://tekniska.stofair.se/common/press/ListPublishedPressreleases.asp?NEWS_ID=34742&TYPE=3&index=10

Winner of LUAB and ÖhrlingsPricewaterhouseCoopers Innovation Award 2007

<http://sydsvenskan.se/ekonomi/article241884.ece>

www.luinnovation.lu.se/upload/LUPDF/innovation/Pressmeddelande_Innovationspriset_2007.pdf

Winner of the InnovationsBron's idestipendium 2007

<http://www.innovationsbron.se/Bazment/768.aspx>

Popular science articles in newspapers parents

http://www.barntotal.se/nyheter/gravid/orsaken_till_havandeskapsfoergiftning_kanske_funnen/

http://www.svd.se/nyheter/inrikes/artikel_358264.svd

<http://sydsvenskan.se/kropp/article187851.ece>

<http://www.sr.se/cgi-bin/malmo/nyheter/artikel.asp?artikel=959262>

08_havandeskap.aspx

<http://www.skanskan.se/article/20100203/LUND/702039811>

<http://www.vetenskaphalsa.se/tidig-diagnos-av-havandeskaps-forgiftning/>

http://www.svd.se/nyheter/inrikes/prov-ska-avsloja-gravid-i-riskzon_4528943.svd

<http://www.presswire.se/presscenter/show.asp?obj=1&id=25568&pbid=696>

<http://www.dagensmedicin.se/asikter/ledare2/2011/02/02/staten-maste-fa-oss-att-va/index.xml>

http://www.lakartidningen.se/store/articlepdf/6/6982/LKT0726s2037_2037.pdf

<http://www.informatoren.se/2010/04/mycket-rapporter-om-preelumina-i-dag/>

http://www.svd.se/nyheter/inrikes/jag-forstod-inte-hur-sjuk-jag-var_4528985.svd

h

Describe how the unit's clinical and scientific results are presented and disseminated to stakeholders.

Clinical guidelines (maximum 4 000 characters)

The Swedish Society of Obstetrics and Gynaecology publishes yearly 2-3 "State of the Art" reports (ARG-reports). The members of the **OB/GYN** Department participate in all of them as co-authors and/or co-editors. These groups publish evidence-based guidelines for management of certain clinical topics; for example, the two reports published in 2014 are on "Preeclampsia" and "Obstetrical Ultrasound", with contributions from Malmö-Lund **OB/GYN** doctors.

L Valentin, K Salvesen and K Marsal were co-authors of several international guidelines in **OB/GYN** ultrasound presented by the International Society of Ultrasound in Obstetrics and Gynaecology (ISUOG), The European Federation of Ultrasound in Medicine and Biology (EFSUMB), and World Federation of Ultrasound in Medicine and Biology (WFUMB). The IOTA simple ultrasound rules (L Valentin) are now being gradually introduced into clinical practice worldwide.

A Giwercman is a co-author of the EAU (European Association of Urology) "Guidelines in male infertility" 2013.

State whether the unit is the primary author of, or major participant in developing and maintaining any clinical guidelines. List titles and references.

Conferences and seminars (maximum 3 000 characters)

The **OB/GYN** Department at SUS has been the main organizer of following *international and national congresses* over 10 years:

- 14th World Congress in Obstetric and Gynaecological Ultrasound, 31.8.-4.9.2004, Stockholm, 1300 attendees;
- SFOG-week 2006, Helsingborg 28.8.-1.9 2006, 1000 attendees;
- First world congress on the Dual-Placental Perfusion System, Lund 2008;
- 2nd European Symposium on Robotic Gynaecological Surgery, 9.-11.9. 2010, Lund, 200 attendees;
- 20th World Congress in Obstetric and Gynaecological Ultrasound, 10.-14.10. 2010, Prague, Czech Republic, 2000 attendees;
- SFOG-week 2012, Kristianstad, 28.8.-1.9 2012, 600 attendees;
- The PROS & CONS Conference on Fetal Surveillance in Labor, September 2013, 130 attendees;
- The South Swedish Society of Gynaecologists annual meetings, in November each year, 50-60 attendees;
- The "Sune Genell Lecture", annually in April/May, 60-80 attendees.

RMC has organised:

- The Swedish Andrological Society (2010), 50 attendees;
- The Serono Symposium "Gene-Environment interaction and human reproduction" (2008), 145 attendees;
- The Serono Symposium "Gene-Environment interaction and human reproduction" (2010), 135 attendees;

CERPS organised the Berzelius symposium "Life Cycles" (nr. 89) in collaboration with the Swedish Society of Medicine in Malmö, April 2014, 85 attendees.

BZ89 link: <http://www.sls.se/Utbildning/Berzeliussymposier/Life-Cycles/>

Describe the scope of conferences and seminars that have been arranged within the focus areas of the unit. State the year, name and approximate number of attendees.

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APPLICANT'S SIGNATURE

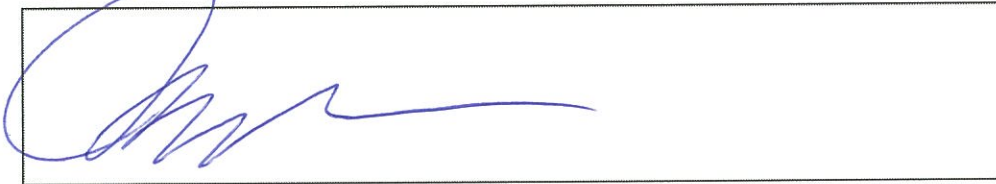
Questions or issues with the form?

Please contact us by e-mail address on excellence-in-health@skane.se or by phone on 040-675 30 62.

Date

9 Jun 2014

Applicant's signature



Print name

Anders Dybjer, Head of Division 2, SUS

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Print application

Please print, sign, scan and send your application form to:
excellence-in-health@skane.se

Please ensure that you receive an email confirmation within three working days.