



**Karolinska
Institutet**



Postgraduate course (summer school) 2387 (1.5 points):

Sex/Gender aspects in biomedical research.

Advancing novel insights towards translational cardiovascular
and regenerative medicine

Sex/Gender in Research as a Mark of Excellence

Karolinska Institutet (KI), Department for Clinical Science, Intervention and
Technology, Section for Obstetrics and Gynecology and ACTREM, Karolinska
University Hospital - Huddinge campus, Stockholm, Sweden.

Endorsed by: Centre for Gender Medicine at KI & Postgraduate program for
Developmental Biology and Cellular Signaling

In Collaboration with



Prof. Sandra Eifert, MD, PhD
Dept. of Cardiac Surgery, Women's Heart Clinic
Heart Center Leipzig, University Leipzig, Germany

Time: 2013-05-27 to 2013-05-31

Venue: 27-31th of May; lecture room **215, ANA 12 (215, ANA 12)**, Alfred Nobels
allé 12, KI, Karolinska University Hospital - Huddinge campus, Stockholm (*for
directions please see the map below*)

Course leaders:

Assoc. Prof. Karolina Kublickiene MD, PhD, E-mail: karolina.kublickiene@ki.se

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Dear Participants

Most welcome to participate in postgraduate course/summer school “Sex/gender aspects in biomedical research”.

This postgraduate course/summer school is designed to provide an overview of “hot topics” in gender medicine. This year we will particularly concentrate on new insights in cardiovascular and regenerative medicine, where sex/gender aspects are increasingly appreciated and acknowledged. The invited lecturers are not only eminent in their field but are also recognized as stimulating speakers.

The program is for both scientific and clinical researchers embarking upon a PhD career at Karolinska Institutet and Karolinska Hospital, and also for those who wish to “catch up” on recent developments. We keep our doors open for knowledge sharing and brainstorming.

Our vision: Sex/Gender in Research as a mark of excellence!

Meet an experts-get inspired! An open scientific and clinical forum for knowledge, discussion and collaborations!

We very much hope you will enjoy the course!

Karolina Kublickiene MD, PhD, Philipp Jungebluth MD, PhD and Sandra Eifert MD, PhD

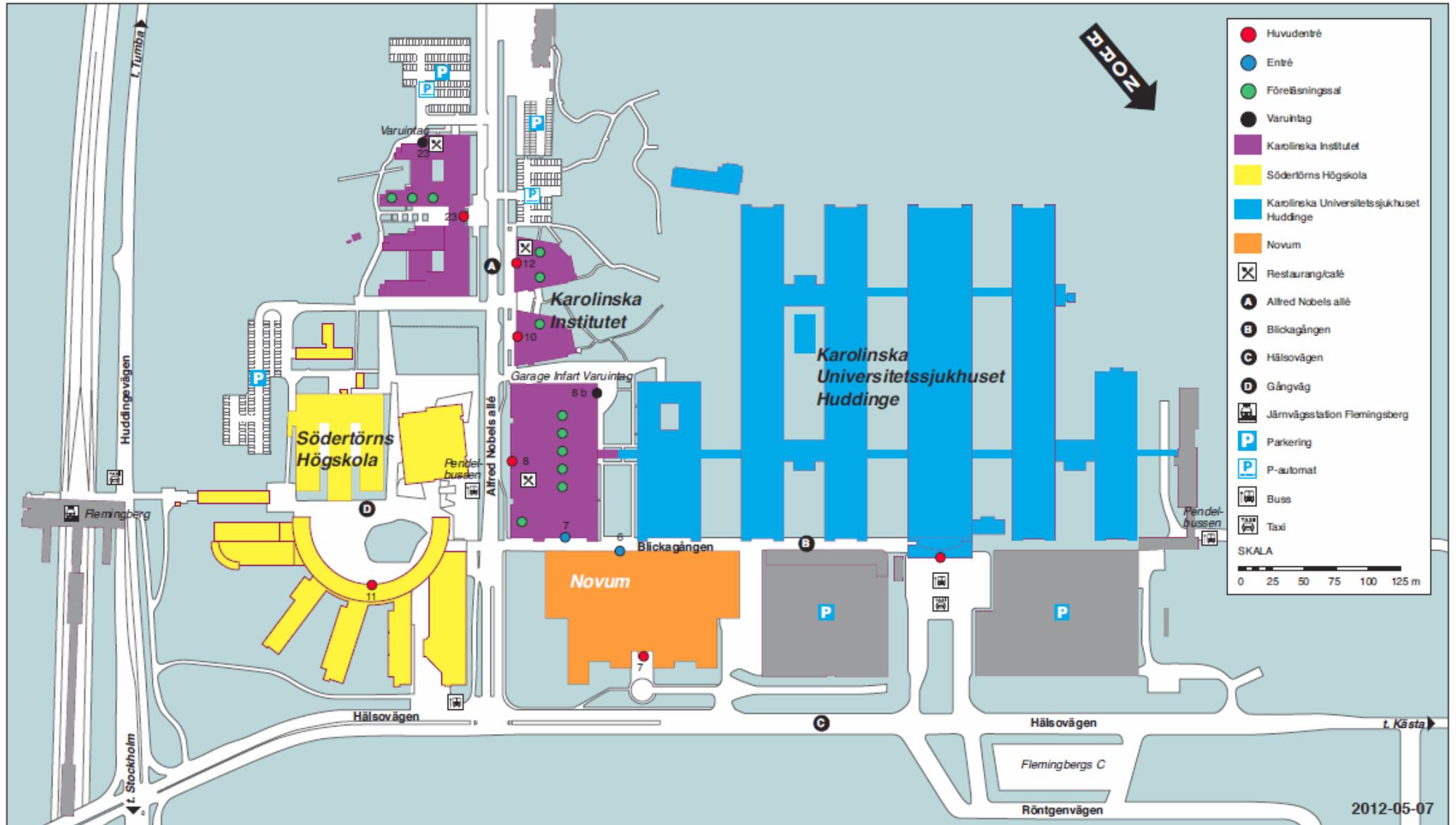
The course aims to introduce Gender medicine as an important scientific field focusing on differences between women and men in both health and disease. Women and men differ significantly in every system of the body and experience health and disease differently. The exploitation of sex variable in scientific investigations will help us to front questions and consequences that are of fundamental importance for the prevention, detection and/or treatment of illness. The course is for both preclinical and clinical researchers embarking upon the PhD career in medicine, and those who wish to “catch up” on recent expansion about the differences between men and women in both health and disease. We will discuss some basic methodologies, theories and cellular biology, which will be considered in the relation to clinically relevant topics important for gender medicine. Several diseases of public health concern have already been identified. Those include cardiovascular diseases, lung diseases, neuropsychiatric disorders, steroid metabolism disorders as well as inflammatory and autoimmune diseases. Moreover pharmacological aspects as well as health economical issues need to be considered in each of those conditions. Finally, further exploration of experimental models that could help to broaden our understanding of the disease process pertinent to the defined sex needs be discussed. The one week course will include mainly lectures in the biomedical field, in which gender and sex aspects will be primarily considered. Discussion forums will be organized, and the project work will be introduced.

We aim that after the course:

1. Students should be able to distinguish between the terms sex and gender.
2. Students should be able to evaluate the suitability of the design and analysis of preclinical and clinical research studies (e.g. their PhD project) to identify and quantify potential of sex and gender differences.
3. Students should be able to illustrate the scientific basis of known sex and gender differences.
4. Students should be able to identify known sex and gender differences with regard to diseases, and differences in response to, or effects of, drugs and other medical interventions in the treatment and management of these conditions.

Sex/Gender in Research as a Mark of Excellence





Campus Huddinge

Program (please note that small changes might occur)

<p>27th of May, Monday</p>	<p><u>8.45-9.15</u> <i>Get together and introduction to the course</i> Assoc. Prof. Karolina Kublickiene, Assist. Prof. Philipp Jungebluth, KI and Prof. Sandra Eifert, Germany <u>9.15-10.00</u> <i>State of the art lecture: Regenerative medicine: does sex matters when you build the new brains?</i> By Prof. Ula Hermansson, KI, SE <u>10.00-10.15</u> Break (around discussion) <u>10.15-11.30</u> <i>State of the art lecture part I-II</i> (15 min break between): <i>Biological Variables in Experimental Design: Sex Matters</i> by Prof. Virginia Miller, Mayo Clinic, USA <u>11.30-12.00</u> <i>Meet an expert-get inspired!</i> <u>12.00-13.00</u> (Lunch) <u>13.00-14.15</u> <i>State of the art lecture part I-II</i> (15 min break between): Developmental origin of health and disease. Sex matters! <i>Preeclampsia: pregnancy specific cardiovascular complications & Hypoxia-induced growth restriction and sex differences in long term outcomes</i> by Prof. Sandra Davidge, University of Alberta, Canada <u>14.15-14.30</u> Break (around discussion) <u>14.30-15.15</u> <i>Vascular health in women at reproductive age and with adverse pregnancy outcomes</i> by Assoc. Prof. Karolina Kublickiene, KI, SE <u>15.15-16.00</u> Work shop (break Included): <i>What doctors don't know about the drugs they prescribe</i> by Ben Goldacre, UK. Followed by group/individual work/focus on own projects (gender lens tool)</p>
<p>28th of May, Tuesday</p>	<p><u>9.00-9.30</u> Group/individual work/focus on own projects (gender lens tool) <u>9.30-10.30</u> <i>Sex/gender aspects in clinical CVD research: focus on drug utilization and “gender button”</i> by Prof. Karin Schenck-Gustafsson, KI, SE <u>10.30-10.45</u> Break (around discussion) <u>10.45-12.00</u> <i>State of the art lecture part I-II</i> (15 min break between): <i>Sex/Gender aspects in obesity-induced immune dysfunctions</i> by Prof. Heike Kielstein from Martin Luther University Halle, Germany <u>12.00-13.00</u> (Lunch) <u>13.00-14.00</u> <i>Facing the challenge of Alzheimer’s Dementia: translational research and gender aspects</i> by Assoc. Prof. Amelia Marutle, KI, SE <u>14.00-14.45</u> <i>Gender aspects of lower urinary tract disorders: beyond the obvious</i> by Piet J.M. Boels PhD, 3Ph_S Biomedical, Stockholm, Sweden <u>14.45-15.00</u> Break (around discussion) <u>15.00-15.45</u> <i>Sex/gender and the Brain: from experimental studies to clinical relevance</i> by Prof. Ivanka Savic-Berglund, KI, Sweden Followed by group/individual work/focus on own projects (gender lens tool)</p>

<p>29th of May, Wednesd ay</p>	<p><u>9.00-9.45</u> Don't stress the male fetus? By Assoc. Prof. Ali Khashan, PhD University College Cork, Ireland <u>9.45-10.00</u> Break (around discussion) <u>10.00-10.45</u> Presence and future of men's health: Testosterone as a key player? by Prof. Stefan Arver KI <u>10.45-11.00</u> Break (around discussion) <u>11.00-12.00</u> Developmental origins of health and disease: focus on obesity, sex matters! by Assoc. Prof. Paul Taylor King's College London, UK <u>12.00-13.00</u> Lunch together, networking, around table discussions (place will be announced later) <u>13.00-13.45</u> Sex-Specific Issues in progression of cardiovascular disease: results from the Kronos Early Estrogen Prevention Study (KEEPS) by Prof. Virginia Miller, Mayo Clinic, USA <u>14.00-15.15</u> <i>State of the art lecture part I-II</i> (break 15 minutes) New players in estrogen research: time to rethink the HRT therapy by Prof. Matthias Barton, Zürich, Switzerland <u>15.15-16.00</u> Targeting endothelial function in men with CVD by Prof. John Pernow, KI Followed by group/individual work/focus on own projects (gender lens tool)</p>
<p>30th of May Thursday</p>	<p><u>9.00-9.45</u> From thalidomide to narcolepsy - a 50 year's drug safety perspective from a Fulbright scholar. Gender matters! by Prof. Ulf Bergman, KI, Sweden <u>9.45-10.00</u> Break (around discussion) <u>10.00-10.40</u> Methodology of gendered clinical and biomedical research by Prof. Sandra Eifert, Leipzig University, Germany <u>10.40-10.50</u> Break (around discussion) <u>10.50-12.15</u> Focus on regenerative medicine (short break included). Experiences with translational studies: animal to human and back again. Sex matters! By Assist. Prof. Philipp Jungebluth, KI, SE National Umbilical Cord Blood Bank: the resource for gender specific treatment by Assoc. Prof. Cecilia Götherström <u>12.15-13.15</u> Healthy lunch together. Menu: surprise! Share the knowledge-get inspired! Soft potatoes at laboratory/lecture bench: sex specific lifestyle interventions by Matthias Lidin KI, Sweden <u>13.15-14.00</u> Gender aspects in heart transplantation by Prof. Sandra Eifert, Leipzig university, Germany 14.00-14.15 Break (around discussion) <u>14.15-15.00</u> Progenitor cardiac cells: from bench site to bed. Sex matters! by Assoc. Prof. Karl-Henrik Grinnemo, KI, Sweden 15.00-15.15 Break (around discussion) <u>15.15-16.00</u> Lessons from congenital diseases towards studies on sex/gender differences by Sebastian Gidlöf, MD, KI, Sweden Followed by group/individual work/focus on own projects (gender lens tool)</p>

31st of May Friday	<p><u>9.15-10.00</u> D-lightening your health: gender matters! by Prof. Pelle Lindqvist, KI, SE</p> <p><u>10.00-10.45</u> Eating disorders and gender aspects by Prof. Per Södersten, KI, SE (pending)</p> <p>10.45-11.00 (sunny break)</p> <p>11.00-12.00 Gender mainstreaming towards communications and networking by Mary-Rose Hoja, Hoja consulting, Stockholm, Sweden</p> <p>12.00-13.00 Lunch</p> <p>13.00-13.45 Summary and future perspectives: Sex/Gender in Research as a Mark of Excellence by Prof. Sandra Eifert, Assoc. Prof. Karolina Kublickiene and Assist. Prof. Philipp Jungebluth, KI</p> <p>Examination, evaluation, feedback and surprise</p> <p>Adjourn</p>
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For more information, please see below

EUROPEAN COMMISSION
 2009 Directorate-General for Research
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 EUR 23857 EN

Toolkit Gender in EU-funded research

An overall introduction to gender and research

INTRODUCTION

Ever since the Treaty of Rome, the European Union has consistently advocated gender equality as one of its core policies. Yet the monitoring and assessment studies of FP5 and FP6 have shown that despite the efforts to promote gender in research, women remain under-represented and the issue of gender is far from being systematically addressed in research projects.

What's more, there are sound reasons for the research community to invest in a gender-sensitive research agenda. Investing in equal opportunities for men and women in research makes for teams that perform better and attracts top-level researchers. Similarly, investing in a gender-sensitive approach to the research content makes for higher quality and validity.

To further promote gender equality in research, the European Commission's Research DG has decided to develop a gender toolkit and training activities. These will provide the research community with practical guidance on how to integrate gender into research.

They will:

- help researchers to understand the "gender and science" issue and make them more sensitive towards the gender dimension of/in science;
- help researchers include the gender dimension throughout a research project;
- indicate how to design a more sensitive project;
- help to eliminate gender bias in research projects;
- enable researchers to write a more competitive proposal;
- show why it is important to create a gender-balanced research team;
- help make research results more relevant for society.
- "Science is supposed to be the paradigm of objective, rational and critical thought. For many people it is still the ideal model of modernity, social progress and even of enlightened civilization itself insofar as it confronts

customary biases and superstitions. So its continued refusal to examine critically its own gender prejudices, where this occurs, damages that reputation these days."

part 1.1

THEORETICAL FRAMEWORK:

DEFINITIONS AND CONCEPTS

Sex

Sex refers to the biologically determined characteristics of men and women in terms of reproductive organs and functions based on chromosomal complement and physiology. As such, sex is globally understood as the classification of living things as male or female.

Gender

Gender refers to the social construction of women and men, of femininity and masculinity, which varies in time and place, and between cultures. The notion of gender appeared in the seventies and was put forward by feminist theorists who challenged the secondary position of women in society. It departs from the notion of sex to signal that biology or anatomy is not a destiny. It is important to distinguish clearly between gender and sex. These terms are often used interchangeably while they are conceptually distinctive.

This term refers to the situation where individuals of both sexes are free to develop their personal abilities and make choices without the limitations imposed by strict gender roles. The different behaviors, aspirations and needs of women and men are considered, valued and favored equally.

Equal opportunities for women and men

Equal opportunity indicates the absence of barriers to economic, political and social participation on the grounds of sex. Such barriers are often indirect, difficult to discern and caused by structural phenomena and social representations that have proved particularly resistant to change. Equal opportunities, which is founded on the rationale that a whole range of actions are necessary to redress deep-seated sex and gender-based inequities, should be distinguished from equal treatment, which merely implies avoiding direct discrimination. In gender-sensitive research, gender is consistently taken into account throughout the research cycle.

Gender-sensitive research

Gender-specific research focuses on gender itself as a subject matter.

Gender-blind research

Gender-blind research does not take gender into account, being based on the often incorrect assumption that possible differences between men and women are not relevant for the research at hand.

Gender bias in research

Gender bias is the often unintentional and implicit differentiation between men and women by placing one gender in a hierarchical position relative to the other in a certain context, as a result of stereotypical images of masculinity and femininity. It influences both the participation of men and women in research (hence the underrepresentation of women) and the validity of research. An example of gender bias in research is research that focuses on the experience and point of view of either men or women, while presenting the results as universally valid.

part 1.2

A LEGAL OBLIGATION

Gender equality draws on a long history of policy development at European Union (EU) level, the origins lying in the EEC Treaty signed in Rome in 1957. Since then the European Union has adopted 13 directives in the field of gender equality, for instance those on equal pay and social security, protection of pregnant women and people on parental leave, and access to goods and services. Following the Amsterdam Treaty of 1999, which established equality between men and women as a specific task of the Community and as a horizontal objective affecting all Community tasks, the European Commission (EC) formalized its commitment to advance gender equality in research in its Communication Women and Science: mobilizing women to enrich European research. The decision on the 7th Framework Programme (FP7) states that “the integration of the gender dimension and gender equality will be addressed in all areas of research”.

GENDER IN RESEARCH

The European Commission pursues a systematic and visible strategy to promote gender equality in science and research. This strategy recognizes that the relationship between women and research is threefold: women’s participation in science and research must be encouraged; research must address women’s needs as well as men’s; there should be research on the gender question itself, to enhance understanding of gender issues in science and research.

part 1.3

Gender in research therefore requires actions relating both to the participation of women in research and to the gender dimension of research: Improving women’s participation in research requires including female researchers in teams at all levels while offering gender sensitive working conditions and culture. In all countries, despite very different education and employment systems, women disappear from the higher rungs of the academic ladder (a phenomenon called the “leaky pipeline”). To support gender equality, actions are necessary in recruitment, working conditions, monitoring and management.

Addressing the gender dimension of research implies that gender is considered as a key analytical and explanatory variable in research. If relevant gender issues are missed or poorly addressed, research results will be partial and potentially biased. Gender can thus be an important factor in research excellence. To support this process, it is also essential to devote research resources to specific gender research.

part 1.4

Encourage equal participation of men and women in research teams at all levels
Create working conditions and culture that allow men and women to have equally fulfilling careers

Address both women's and men's realities.

Consider gender-specific research to fill knowledge gaps

GENDER IN FP7

FP7 seeks to support gender equality by: Actively promoting the role of women in science – a target of 40% women’s participation at all levels has been set; Equally addressing women’s and men’s realities as an integral part of the research to ensure the highest level of scientific quality: “Wherever human beings are involved in the research, for example as consumers, users and patients, or in trials, gender will be an issue and should be considered and addressed”. 5 To effectively implement the commitments on gender equality in FP7, actions are expected at different levels of the programme and on the part of various actors at programme and project levels. Research teams are encouraged to integrate gender and promote equality starting at the proposal stage. Gender aspects can be addressed in a specific work package or as a task within a work package. In terms of promoting gender equality, subscribing to the principles⁶ of the European Charter and Code of Conduct for the Recruitment of Researchers is good practice (e.g. open and impartial selection procedure and fair working conditions and culture).

The FP7 Negotiation Guidance Notes also give concrete examples of actions to be adopted by research teams and universities to support the commitment to gender

equality. At the end of projects, research teams have to report on workforce statistics and project holders have to submit a compulsory deliverable relating to awareness and wider societal implications including gender-related aspects. 5 European Commission (2009), FP7 Negotiation Guidance Notes – Collaborative Projects, Networks of Excellence, Coordination and Support Actions, Research for the benefit of specific groups (in particular SMEs), version 27 January 2009, Brussels: European Commission 6 European Commission (2005), Commission Recommendation 2005/251 of 11 March 2005 OJ L75/67, 22/3/2005 part 1.5

EXCELLENT RESEARCH IS GENDER-SENSITIVE

There are sound reasons for the research community to invest in a gender-sensitive research agenda. These concern both the ‘equal opportunities’ aspect and the ‘gender in research content’ aspect.

Investing in equal opportunities for men and women in research makes for teams that perform better, and attracts top-level researchers.

The best possible team

To achieve excellent research you need to constitute the best possible team. And the best possible team is a mixed team. Research has shown that mixed teams – if well managed – are more efficient than single-sex teams: mixed teams are more creative, contain more diverse points of view and show an improved quality of decision-making. Also, in general, both men and women prefer working in well-managed mixed teams.

The best possible talent

To achieve excellent research you need to get the best talent from the entire potential talent pool. In order to do so, you need to create working conditions and culture that allow men and women to have equally fulfilling careers. This helps to attract and keep the best male and female talents and encourages and motivates women and men who want to combine work and private life in a satisfactory manner. Investing in a gender-sensitive approach to the research content makes for higher quality and validity

The best possible research validity

Gender-sensitive research is qualitatively better and more valid: if research takes into account the differences between men and women in the research population, the results will be more representative. General categories such as ‘people’, ‘patients’ or ‘users’ do not distinguish between men and women. Research based on such categories may well draw partial conclusions based on partial data. For example, research on a new breast cancer treatment should include male patients,

so as to draw a complete picture. Research on economic migrants cannot limit itself to male points of view if it wants to understand the whole migrant population.

The best possible research utility

Gender-sensitive research will reach a broader group of end-users in a more relevant way. Research that does not concern a human research population might still have human end-users. Again this population consists of men and women, with their different needs and aspirations. And these gender differences might very well influence the use of the research outcome. Taking gender into account and asking from the start who will use the results, when and how, can avoid an unintentional gender bias in the outcome.

part 1.6

How to make research gender-sensitive

THE GENDER-SENSITIVE RESEARCH CYCLE

Take gender into account at all stages of the research cycle

Gender-sensitive research takes a twin approach:

it pays attention to the participation of women and men, providing **equal opportunities** for all, and it integrates **gender into the research content** all the way from the initial research idea to the dissemination of results.

part 2.1

PARTICIPATION OF WOMEN AND MEN IN RESEARCH

Academic research on inequalities in the research sector and on the loss of women from the profession has shown that these are a consequence of an accumulation of many differences and biases. Some are small, while others are overt forms of discrimination and resistance. Many are implicit, unconscious, but often very powerful, biases in values, priorities and practices.

Selection and recruitment

There is evidence that men and women are not assessed on the same basis, and neither are their respective achievements. To avoid gender bias, it is important to: ensure open and impartial selection procedures: use mixed selection panels, train panel members on gender bias, advertise open posts widely, explicitly encourage women to apply, accommodate atypical career patterns; use explicit, precise and transparent selection criteria: set standards that are relevant to the pursuit of scientific knowledge, use appropriate indicators of performance that fit the life-cycle productivity of both men and women.

Working conditions and culture

The culture of the workplace influences whether women scientists, and increasingly also men, feel welcome. What is needed is a working culture that fosters equal

working conditions (pay, opportunities for training, access to grants and funding), is aware of different possibilities in terms of geographical mobility, and accommodates private commitments or different career structures. This is also relevant within projects, for instance in scheduling and organising meetings or activities requiring mobility.

Monitoring and management measures

To improve equality it is important to acknowledge that bias and discrimination might indeed exist and to investigate what is going wrong. Reducing gender bias in research calls for the active involvement of all participants in the process, both men and women, at all levels. Actions may include: setting ratios for participation, putting in place monitoring systems, installing feedback mechanisms and appointing a trained gender equality officer.

How to make research gender-sensitive

part 2.2

GENDER IN RESEARCH CONTENT

Research ideas and hypotheses

The relevance of gender for and within the subject matter needs to be analysed and an assessment made of the state of knowledge in this respect. The formulation of hypotheses can draw upon previous research and existing literature. Indeed, the body of knowledge on gender issues has been steadily growing over recent decades, and can serve as interesting reference material to build new hypotheses for future research.

Project design and research methodology

While research methodologies may vary, they all strive to represent (aspects of) reality.

Whenever this reality concerns humans, any scientifically sound methodology should differentiate between the sexes and take into account men's and women's situations equally. Groups such as 'citizens', 'patients', 'consumers', 'victims' or 'children' are therefore too general as categories.

Research implementation

Data collection tools (such as questionnaires and interview checklists) need to be gender-sensitive, use gender-neutral language, and should make it possible to detect the different realities of men and women. This will help to avoid gender bias. For example, answers to be provided by the 'head of household' are not necessarily valid for all household members.

Data analysis:

In most research concerning human subjects, data are routinely disaggregated by sex, which would logically lead to analyses according to sex. However to date this is still not common practice. Systematically taking sex as a central variable and analysing other variables with respect to it (e.g. sex and age, sex and income, sex and mobility, sex and labour) will provide significant and useful insights. Involving gender-balanced end-user groups in the course of the research is also a good way of guaranteeing the highest impact.

Dissemination phase – reporting of data

Collecting and analysing gender-specific data is not enough if they are omitted from the published results. Gender should be included in 'mainstream' publications as it is as much part of daily reality as any other variable studied.

Specific dissemination actions (publications or events) for gender findings can be considered. Institutions and departments that focus on gender should be included in the target groups for dissemination. Publications should use gender-neutral language.

How to make research gender-sensitive

part 2.3

CHECKLIST FOR GENDER IN RESEARCH

Equal opportunities for women and men in research

Is there a gender balance in the project consortium and team, at all levels and in decision-making positions?

Do working conditions allow all members of staff to combine work and family life in a satisfactory manner?

Are there mechanisms in place to manage and monitor gender equality aspects, e.g. workforce statistics, as required by FP7?

Gender in research content

Research ideas phase:

If the research involves humans as research objects, has the relevance of gender to the research topic been analysed?

If the research does not directly involve humans, are the possibly differentiated relations of men and women to the research subject sufficiently clear?

Have you reviewed literature and other sources relating to gender differences in the research field?

Proposal phase:

Does the methodology ensure that (possible) gender differences will be investigated: that sex/gender differentiated data will be collected and analyzed throughout the research cycle and will be part of the final publication?

Does the proposal explicitly and comprehensively explain how gender issues will be handled (e.g. in a specific work package)?

Have possibly differentiated outcomes and impacts of the research on women and men been considered?

Research phase:

Are questionnaires, surveys, focus groups, etc. designed to unravel potentially relevant sex and/or gender differences in your data?

Are the groups involved in the project (e.g. samples, testing groups) gender-balanced?

Is data analysed according to the sex variable? Are other relevant variables analysed with respect to sex?

Dissemination phase:

Do analyses present statistics, tables, figures and descriptions that focus on the relevant gender differences that came up in the course of the project?

Are institutions, departments and journals that focus on gender included among the target groups for dissemination, along with mainstream research magazines?

Have you considered a specific publication or event on gender-related findings?

For participants, try to use**The Gender lens tool****Introduction - Factors**

Gender incorporates both biological and psychosocial aspects of a person's life experience.

The Gender Lens Tool focuses our attention on gender by analysing the following factors:

- Biological differences
- Social differences
- Educational differences
- Economic differences

Biological Factors

- **For example:**
- Does a female's menstrual cycle affect the effectiveness of certain drugs?

- Do pharmacological studies adequately address this possible difference?

Psychosocial Factors - questions to ask might include:**Social Factors:**

- What are the expected and learned behaviours of male and female children?
- How might medical literature explore these differences in the diagnoses and treatments of learning disabilities?
- Does a person's status in society affect their access to certain types of health care for example: MRI, cardiovascular surgery, kidney transplantation?

Cultural Factors:

- Does status as a male or female in a culture influence the individual's access to health care?
- How might certain cultural practices affect the overall health of females in certain areas?

Economic Factors:

- Are their differences in the effect of low economic status on access to health care in males and females?
- Does medical literature account for the relationship between low socioeconomic status and poor overall health?

Political Factors:

- Are there political barriers to medical studies of female health issues?
- How have politics influenced funding of research of prostate cancer, breast cancer, cervical cancer, erectile dysfunction, and other medical conditions?

Educational Factors:

- Are females educated in school or by physicians about the importance of Pap tests? Are male students educated about the importance of prevention ?
- Might females with lower educational backgrounds be unaware of the medical value of certain diagnostic screening tests?

This is just a small sample of how the Gender Lens Tool suggests a framework for asking questions about the impact of sex and gender on health.

Aspects of Disease and the Gender Lens Tool**Incidence/Prevalence**

Do the incidence and prevalence of a condition vary by:

- sex?
- gender?
- culture or society?
- socioeconomic status?

Are screening programs equally available and of equal quality to all people?

Diagnosis/Investigations

Do presenting signs and symptoms vary by gender? By culture?

Does the medical profession address signs and symptoms differently by gender and/or culture?

Does investigation of a condition vary by:

- gender?
- culture?
- socioeconomic status?

Are investigations approached as aggressively in all genders?

Risk Factors

Do risk factors for a condition vary by gender? By culture?

Does the pathogenesis of a condition vary by gender?

Natural History

Does the underlying pathology of a condition vary by gender?

Does the response to a pathogen or trigger vary by gender?

Does the natural history of a condition vary by gender? Cultural group?

Treatment and Response

Do recommendations for treatment vary by:

- gender?
- culture?
- socioeconomic status?

Does response to treatment and outcome data vary by gender? By culture?

Does the acceptance of treatment vary by:

- gender?
- culture?
- socioeconomic status?

Of any clinical scenario ask: Are the risk factors / symptoms / findings / etiology of a particular disease the same for women and men?

2. Are there differences in the appropriate investigation of particular findings between men and women? (e.g. headache, abdominal pain, chest pain, back pain)
3. Is treatment of a disease the same for men and women? (e.g. dosage, treatment during pregnancy or lactation, timing of treatment and menstrual cycle)

4. What are the symptoms, signs, and treatment of a particular disease when the patient is pregnant?
5. How does a relative lack of control over one's home or workplace impact on health, and the treatment of illness for women and for men?
6. Do wealth and health interact differently for men and women?
7. What are the social determinants of a particular disease?

Evidence-based medicine and Research:

When discussing research and evidence-based medicine ask your students:

- Is there gender bias inherent in the hypothesis of a study?
- Is the inclusion or exclusion of women as participants in a study appropriate?
- Does data analysis properly identify results by sex?
- Can findings from studies that exclude particular groups such as women, children, or particular races, be generalized and applied to those groups?

Using the Gender Lens Tool

Use the Gender Lens Tool Chart to guide your exploration of your topic.

STEP 1:

- Start by choosing an area that interests you (eg. asthma, lung cancer, diabetes, heart disease etc) and start to fill in the table.

STEP 2: ARE THERE GENDER DIFFERENCES IN

- You will need to identify whether there are any gender differences in the condition with respect to the items in the right hand column: incidence/prevalence, etc.
- Often the data exists but has never been looked at from a gender perspective - go ahead and "mine" the data!
- In other circumstances, there are no data as to whether gender differences exist in these areas and you may need to do the research yourself!!

STEP 3: WHAT FACTORS MIGHT CONTRIBUTE TO THESE DIFFERENCES?

- Start hypothesizing as to which biological and gender factors might contribute to the differences that you have discovered.
- See if there is any information available in the literature to support your hypotheses. You may be very surprised about the results, or that, in fact, there are significant gaps in our knowledge.

STEP 4: IDENTIFY THE GAPS, ADDRESS THE GAPS

- This is your opportunity to identify the gaps and start to address them. We are all scientists at heart.
- Engage your colleagues, your teachers, your friends. This is how we acquire new knowledge!

The Gender Lens Tool**

1. Are there gender differences in... _____		2. What factors (might) contribute to these differences?					
		Biological	Social	Cultural	Economic	Political	Educational
Incidence/ Prevalence	Y N ?						
Diagnosis/ Investigation	Y N ?						
Risk Factors	Y N ?						
Natural History	Y N ?						
Treatment and Response	Y N ?						

3. Identify the gaps... address the gaps.

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