Gendered Innovations in Science, Health & Medicine, and Engineering

Présentation

1er Décembre 2011 - Paris

Groupe Europe – MIssion pour la PArité et la lutte contre les DIscriminations

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Agenda

- Introduction
- Women & Gender in Science in Europe
- Benefits of Gendered Innovations (GI)
- The 2 main rationales of the GI project
- Presentation of the website : genderedinnovations.eu

Gendered Innovations in Science, Health & Medicine, and Engineering

Introduction

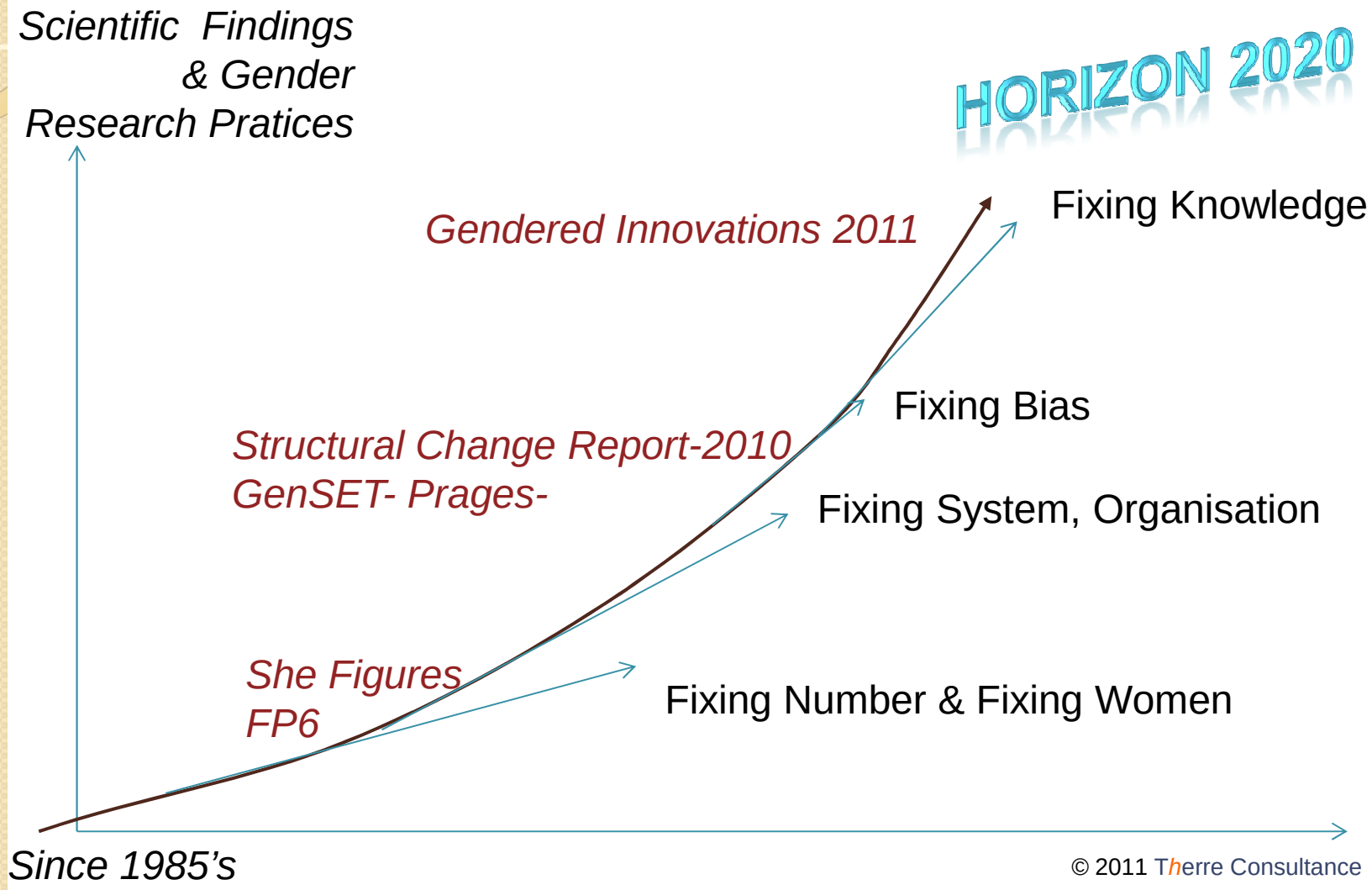
EU/US Gendered Innovations in Science, Medicine, and Engineering Project

Londa Scheibinger

John L. Hinds Professor of History of Science, Stanford University

Director, EU/US Gendered Innovations in Science, Health & Medicine, and Engineering Project

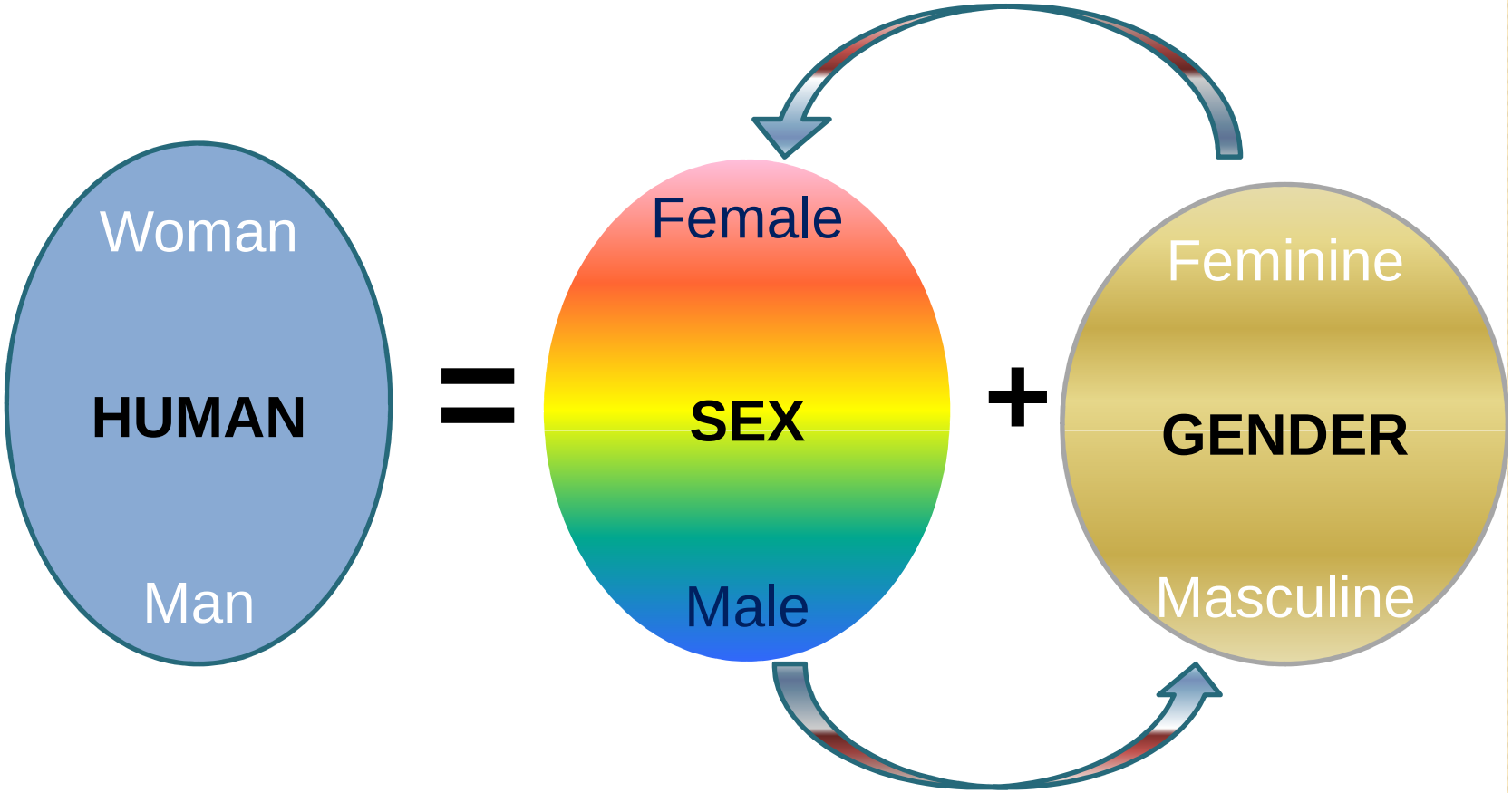
Women & Gender in Science : Approach & Context in Europe



Benefits of **Gendered Innovations' outcomes** :

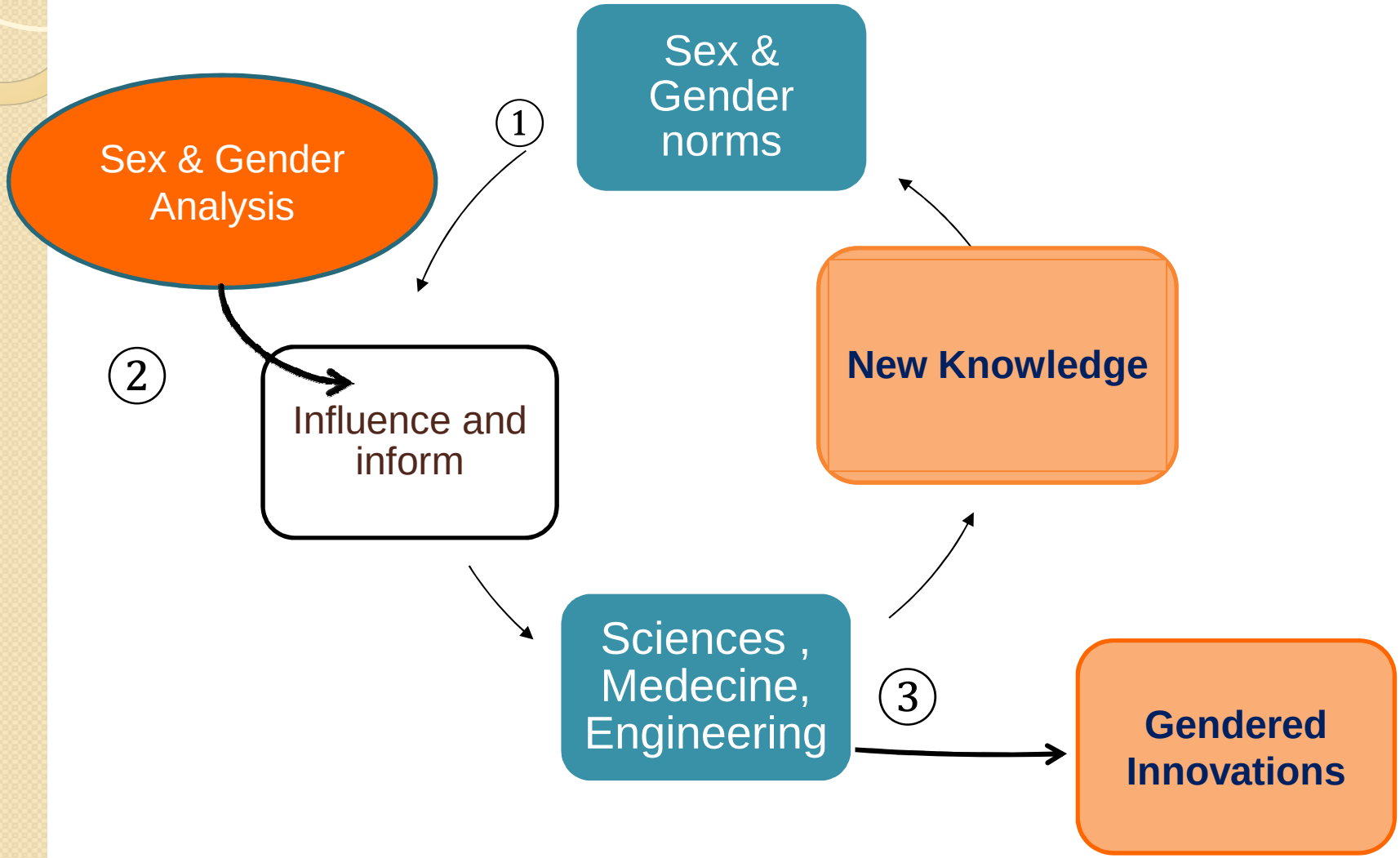
- employ **sex and gender analysis as a *resource*** to create new knowledge and stimulate novel design.
- **add value to research and engineering** by ensuring excellence and quality in outcomes
- add value **to society** by making research and engineering projects more responsive to social needs
- add value **to business** by developing new ideas, patents, and technology

Rationale 1 :
Sex & Gender Analysis



Sex and Gender are Distinct and
Also **Interdependent** Terms

Rationale 2 :
Adding value by Sex & Gender Analyses



GenderedInnovations.eu :

- For Researchers, Engineers and Policy Makers
- Provide a methodology based on systemic Sex & Gender Analyses
- With Case Studies in Medecine, Science and Engineering
- With illustrations, scientific references and checklists

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présente de manière simple et pédagogique:


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Home | Contributors | Contact Us
Search The Site
What is Gendered Innovations?
SEX & GENDER ANALYSIS
Methods
Terms
Checklists
CASE STUDIES
Science
Health & Medicine
Engineering
POLICY
INSTITUTIONAL TRANSFORMATION
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HEALTH & MEDIC
ENGINEERING
les recommandations liées à la prise en compte du genre, formulées par des agences et organismes de recherche, de portées nationales ou internationales, parfois même par des comités éditoriaux de revues scientifiques.
Stem Cells: Analyzing Sex
Osteoporosis Research in Men: Breaking the Gender Paradigm
HIV Microbicides: Formulating Research Questions & Analyzing Academic Disciplines
analysis to create new knowledge.
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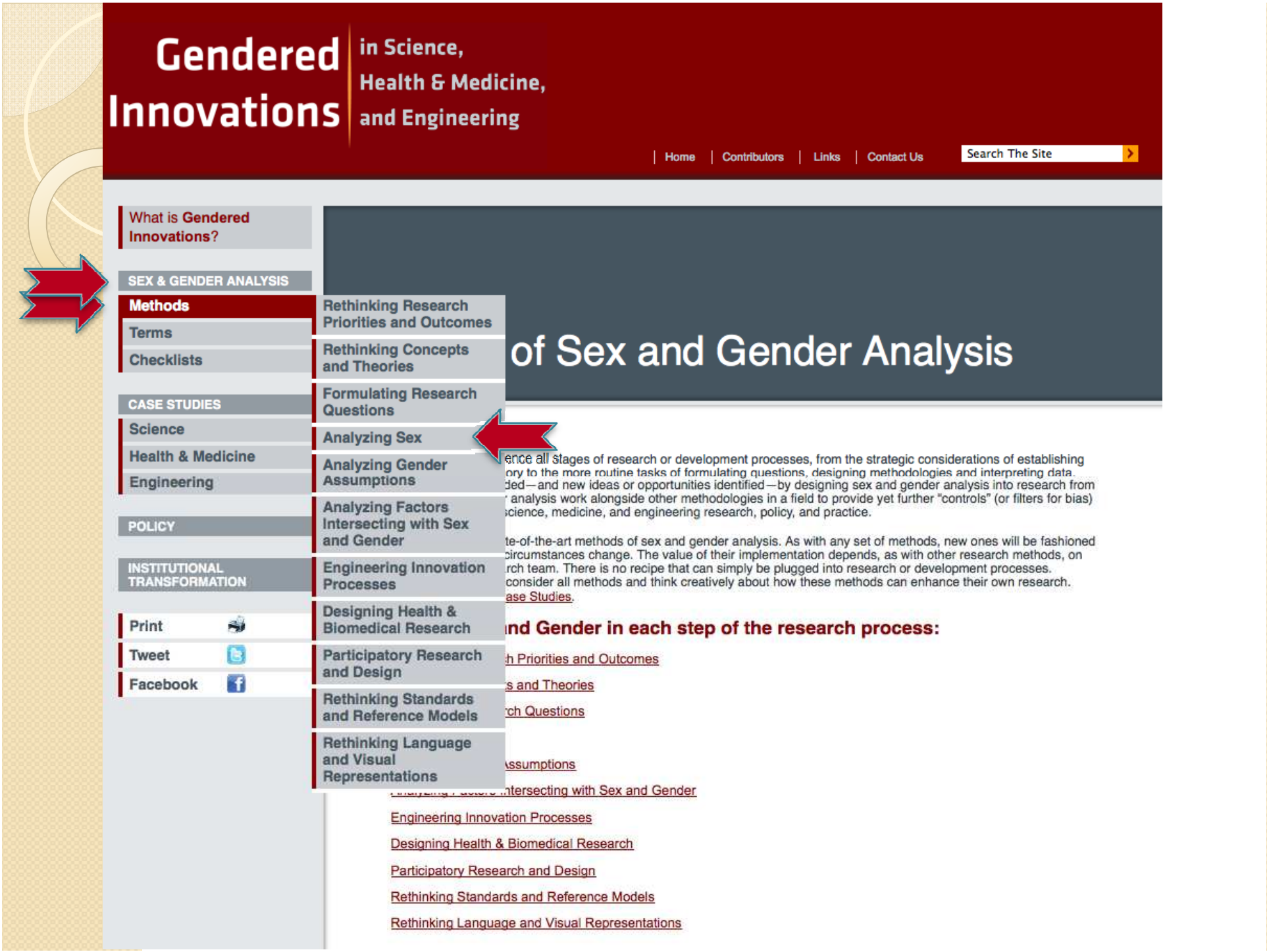
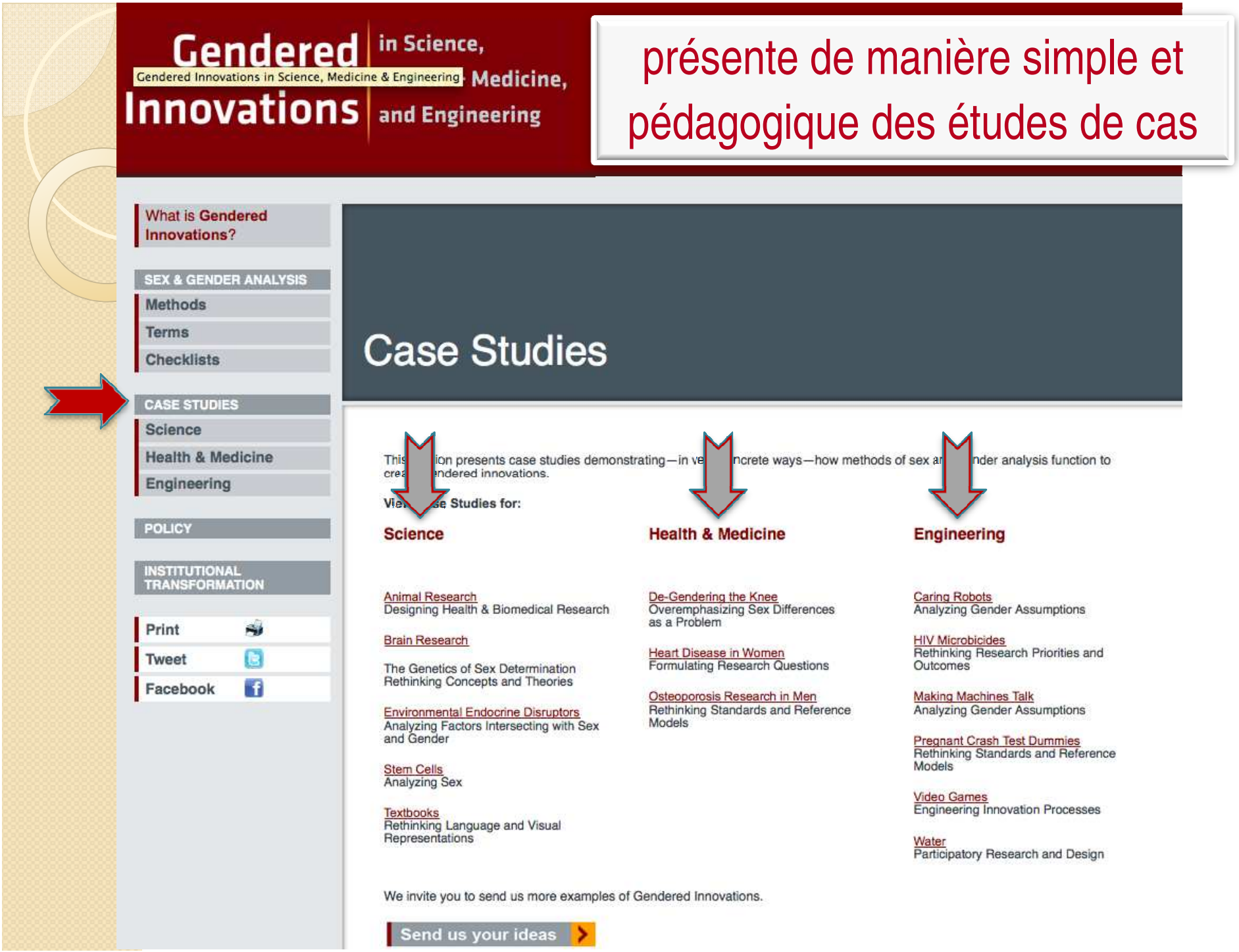
reprend des informations à caractère plus institutionnel, considérant:

- la place des femmes dans la recherche,
- les écarts de situation entre H et F qu'il s'agisse
  - de ségrégation par discipline,
  - de l'accès aux postes à responsabilités
  - ou des résultats des appels à projets et des recherches de fonds, dans différents pays du monde.


Gendered Innovations
in Science, Health & Medicine, and Engineering
Home
Contributors
Links
Contact Us
Search The Site
What is Gendered Innovations?
SEX & GENDER ANALYSIS
Methods
Terms
Checklists
CASE STUDIES
Science
Health & Medicine
Engineering
POLICY
INSTITUTIONAL TRANSFORMATION
Print
Tweet
Facebook
Rethinking Research Priorities and Outcomes
Rethinking Concepts and Theories
Formulating Research Questions
Analyzing Sex
Analyzing Gender Assumptions
Analyzing Factors Intersecting with Sex and Gender
Engineering Innovation Processes
Designing Health & Biomedical Research
Participatory Research and Design
Rethinking Standards and Reference Models
Rethinking Language and Visual Representations
of Sex and Gender Analysis
Engineering Innovation Processes
Designing Health & Biomedical Research
Participatory Research and Design
Rethinking Standards and Reference Models
Rethinking Language and Visual Representations


Gendered Innovations
in Science, Health & Medicine, and Engineering
Home | Contributors | Links | Contact Us
Search The Site
What is Gendered Innovations?
SEX & GENDER ANALYSIS
Methods
Terms
Checklists
CASE STUDIES
Science
Health & Medicine
Engineering
POLICY
INSTITUTIONAL TRANSFORMATION
Print
Tweet
Facebook
Sex and Gender are Distinct Terms
Sex
Gender
Interactions between Sex and Gender
Not Considering Sex Differences as a Problem
Overemphasizing Sex Differences as a Problem
Women & Men
Femininities & Masculinities
Race & Ethnicity
Stereotypes
Feminisms
of Sex and Gender Analysis
ence all stages of research or development processes, from the strategic considerations of establishing
ory to the more routine tasks of formulating questions, designing methodologies and interpreting data.
ded—and new ideas or opportunities identified—by designing sex and gender analysis into research from
analysis work alongside other methodologies in a field to provide yet further "controls" (or filters for bias)
science, medicine, and engineering research, policy, and practice.
te-of-the-art methods of sex and gender analysis. As with any set of methods, new ones will be fashioned
circumstances change. The value of their implementation depends, as with other research methods, on
rch team. There is no recipe that can simply be plugged into research or development processes.
consider all methods and think creatively about how these methods can enhance their own research.
ase Studies.
nd Gender in each step of the research process:
h Priorities and Outcomes
s and Theories
rch Questions
Analyzing Sex
Analyzing Gender Assumptions
Analyzing Factors Intersecting with Sex and Gender
Engineering Innovation Processes
Designing Health & Biomedical Research
Participatory Research and Design
Rethinking Standards and Reference Models
Rethinking Language and Visual Representations
/genderedinnovations.stanford.edu/terminology.html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présente de manière simple et pédagogique des études de cas
What is Gendered Innovations?
SEX & GENDER ANALYSIS
Methods
Terms
Checklists
CASE STUDIES
Science
Health & Medicine
Engineering
POLICY
INSTITUTIONAL TRANSFORMATION
Print
Tweet
Facebook
Case Studies
Science
Health & Medicine
Engineering
Animal Research
Designing Health & Biomedical Research
Brain Research
The Genetics of Sex Determination
Rethinking Concepts and Theories
Environmental Endocrine Disruptors
Analyzing Factors Intersecting with Sex and Gender
Stem Cells
Analyzing Sex
Textbooks
Rethinking Language and Visual Representations
De-Gendering the Knee
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Heart Disease in Women
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Rethinking Standards and Reference Models
Caring Robots
Analyzing Gender Assumptions
HIV Microbicides
Rethinking Research Priorities and Outcomes
Making Machines Talk
Analyzing Gender Assumptions
Pregnant Crash Test Dummies
Rethinking Standards and Reference Models
Video Games
Engineering Innovation Processes
Water
Participatory Research and Design
We invite you to send us more examples of Gendered Innovations.
Send us your ideas

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Home | Contributors | Links | Contact Us | Search The Site

What is Gendered Innovations?

SEX & GENDER ANALYSIS
- Methods
- Terms
- Checklists

CASE STUDIES
- Science
- Health & Medicine
- Engineering

POLICY

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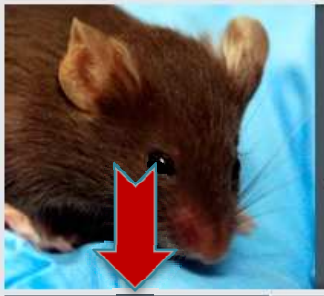

Animal Research: Designing Health & Biomedical Research

ABSTRACT | FULL CASE STUDY

The Challenge

Most basic research with animal models focuses on males to the exclusion of females (Zucker et al., 2010; Marts et al., 2004). This creates three problems:

1. **Less knowledge about disease processes in females due to underutilization of female animals.** Results of studies in males are often generalized to females without justification, and even some conditions that occur more often in women are studied in mostly male animals. A gap exists between the proportion of women in patient populations and the proportion of female animals used in testing—see chart.

2. **Inability to utilize sex as a variable** in studies of basic biology (Holdcroft, 2007). In many cases, sex has proven an important variable—for example, in regulation of immune function.

3. **Missed opportunities to examine female-specific phenomena** (such as pregnancy and, in some species, menopause) that often interact with disease progression. Studying pregnancy in model organisms is especially important given the safety concerns about testing in pregnant women.

Method: Designing Health & Biomedical Research

Countries typically have legislation that requires inclusion of women in government-sponsored human studies. For example, the U.S. National Institutes of Health requires "that women and members of minorities and their subpopulations" be included in all human subjects research (although sufficient representation of women to allow for sex analysis is required only for Phase III clinical trials—see Policy Timeline). These guidelines, however, rarely apply to studies conducted on animals even though sampling animals of both sexes and of various hormonal states has produced new discoveries with influence on drug development and patient care.

Gendered Innovations:

1. Studying sex differences in animal models has led to new treatments for traumatic brain injury (TBI).

2. Accounting for pregnancy, estrous cycle, and menopausal status in animal models has revealed the biological influence of hormones on basic molecular pathways and has been important to understanding certain autoimmune diseases.

3. Regulators have considered sex in order to improve animal models for toxicity; this has led to stronger environmental health standards.

o to Full Case Study

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Gendered Innovations

in Science, Health & Medicine, and Engineering

Home | Contributors | Links | Contact Us

Search The Site

- What is Gendered Innovations?

SEX & GENDER ANALYSIS
- Methods
- Terms
- Checklists

CASE STUDIES
- Science
- Health & Medicine
- Engineering

POLICY

INSTITUTIONAL TRANSFORMATION

- Print
- Tweet
- Facebook

Engineering & Technology Case Studies

Demonstrate Gender Methods In Design

This page provides practical examples of how sex and gendered innovations.

Gendered Innovations

in Science, Health & Medicine, and Engineering

Home | Contributors | Links | Contact Us | Search The Site

- What is Gendered Innovations?
- SEX & GENDER ANALYSIS
  - Methods
  - Terms
  - Checklists
- CASE STUDIES
  - Science
  - Health & Medicine
  - Engineering
- POLICY
- INSTITUTIONAL TRANSFORMATION
- Print
- Tweet
- Facebook

Pregnant Crash Test Dummies: Rethinking Standards and Reference Models

ABSTRACT | FULL CASE STUDY

The Challenge

Conventional seatbelts do not fit pregnant women properly, and motor vehicle crashes are the leading cause of fetal death related to maternal traum (Weiss et al., 2001). Even a relatively minor crash at 56km/h (35 mph) can cause harm. With over 13 million women pregnant across the European Union and United States each year, the use of seatbelts during pregnancy is a major safety concern (Eurostat, 2011; Finer et al., 2011).

Method: Rethinking Standards and Reference Models

The male body is often defined as the norm and serves as the primary object of study. In this case, crash test dummies were first developed to model the U.S. 50th percentile man (taken as the norm). This means that other segments of the population were left out of the "discovery" phase in design. Inattention to humans of different sizes and shapes may result in unintended harm.

Gendered Innovations:

1. Taking both women and men as the norm may expand creativity in science and technology. From the start, devices should be designed safety in broad populations.

2. Analyzing sex has led to the development of pregnant crash dummies and computer simulations.

Go to Full Case Study

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Home | Contributors | Links | Contact Us | Search The Site

What is Gendered Innovations?

SEX & GENDER ANALYSIS
- Methods
- Terms
- Checklists

CASE STUDIES
- Science
- Health & Medicine
- Engineering

POLICY

INSTITUTIONAL TRANSFORMATION

- Print
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Water: Participatory Research and Design

ABSTRACT | FULL CASE STUDY

The Challenge

Nearly one billion people worldwide lack reliable access to improved water (Hunter et al., 2010). In sub-Saharan Africa, water-fetching is women's work, and when villages lack water infrastructure, women and girls spend some 40 billion hours annually procuring water (Hutton et al., 2007).

Method: Participatory Research and Design

Because water procurement is women's work, many women have detailed knowledge of soils and their water yields. This knowledge is vital to civil engineering and development projects—for instance, in determining where to place wells and water taps.

Gendered Innovations:

1. **Tapping into local women's knowledge has improved the efficiency of water projects.** A study of water projects in 13 nations revealed that "equal [...] participation by women contributes to the success of community-managed water services" (Postma et al., 2003). Women's participation also correlates strongly with project sustainability (Gross et al., 2001).

2. **Easy access to improved water supplies can improve school attendance for both girls and boys**—hence helping to break the cycle of poverty.

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GenderedInnovations.eu :

C’est aussi :

- des réponses apportées par certaines institutions aux enjeux Women & Gender in Science et

- des bonnes pratiques mises en place.

GenderedInnovations.eu en 2012:

-des nouvelles études cas :
‘brain’, ‘transportation’, ‘textbook’, etc.,

- ‘train the trainer workshop’,

- optimisation du site et de son contenu,

- vos suggestions et commentaires sont les bienvenus ! Look at : 

Des questions, commentaires ?

Merci pour votre attention

Pour nous joindre :

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Marie-Hélène THERRE mht@therre.eu