

# Gender in science — How to make people understand why it matters

A presentation for the  
Gender Summit 7 Europe  
#GSEu7

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7 November 2015

# Elsevier Connect

Gender Summit #GS7EU: Informing the @UN Sustainable Development Goals  
All 17 SDGs will benefit from being examined through a gender lens

By Elizabeth Pollack, PhD | Posted on 3 November 2015

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## Earth & Environmental Science



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By Lucie Menz and Iris Kisjes | Posted on 2 November 2015

100 young innovators, 20 science start-ups and 20 world-class researchers will present their breakthroughs at Falling Walls Berlin

## Use straight-forward language

Women in Science

# Report: What science is missing when women are missing

From biochemical discoveries to seat belt design, women matter a lot, findings show

By Elizabeth Pollitzer, PhD · Posted on 12 March 2013

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A new report features examples of novel approaches to supporting women's career progression, especially in the early stages. Titled *From Ideas to Markets: the Gender Factor* [»](#), it shows how gender can make research more meaningful and open up new markets for scientific knowledge. It was developed by [Portia Ltd](#) [»](#) with funds from the [Elsevier Foundation's New Scholars program](#) [»](#) to support discussion at the [2012 European Gender Summit](#) [»](#), held at the European Parliament in Brussels. Based in the UK, Portia is a nonprofit organization that aims to help women and men have the same opportunities for engagement and advancement in science,

The report draws on the findings from a major European project on gender in science, [genSET](#) [»](#), led by Portia. A panel of 14 science leaders were asked to examine the available research evidence on common gender problems in science and produce a consensus report on the necessary actions that science institutions should take. (The report and the supporting evidence are available at [genderinscience.org](#) [»](#).)



Elizabeth Pollitzer, PhD

## Write for your audience



## From IDEAS to MARKETS: the Gender Factor

How gender dimension can transform and enhance research ideas and open up new markets for scientific knowledge



What science is missing  
when women are missing

From drug discovery to seat belt design,  
women matter a lot, findings show

## Don't just tell me — *show me*

The new perspectives emerging from the [gender in science](#) project create opportunities to be specific about what it means for science to be “gender neutral,” that is, to show that the study design has taken into account the needs of both women and men as equally important.



Examples?

The benefits are considerable, not only for the quality and outcomes of research, but also for new opportunities to apply research findings to create new markets for science knowledge.

## For example ...


**When voice recognition products were first introduced to the market, they generally worked better for men than for women — and still do.**

These technologies could be made better if the voice recognition algorithms were more sensitive to the frequency of female voice, which is different to the men's.

**The safety of cars, which are tested using crash dummies based on the male body, could be improved for women, who are not scaled down versions of men;** they have, for instance, less muscle tissue around the neck and upper torso than men and hence suffer considerably greater risk of whiplash injury in a car crash than men do, almost five times as big. Women also get pregnant but designers of car seatbelts seem to be unaware that in this state the traditional seatbelt is a hindrance, and poses a risk to the baby.

**The lack of data on women in toxicology models means potentially greater risk that a drug will be more dangerous to women than to men, and that the goals of personal medicine cannot be achieved.**

Huh?



Do explain  
academic terms  
and jargon

# Gendered innovations?



Women in Science

# Why science is gender-biased — and what we can do about it

## Speakers at Gender Summit Asia Pacific show how including women as research subjects can result in better, safer products

By Heisook Lee, PhD    Posted on 1 October 2015

By now, historical inequalities between women's and men's science participation are broadly known, if not yet overcome.

But many still don't know that failing to consider sex and gender in the research itself is also limiting the benefits of today's science. Most scientific research does not consider sex or gender as variables and treats male as the norm, resulting in different health and safety outcomes for women and men.

Evidence on this problem is quickly stacking up. The [Gender Summit Asia Pacific](#) > in Seoul August 26 to 28 presented 38 new examples of gendered innovations in research. More than 500 participants from 32 countries and regions joined to discuss better science and technology through gendered innovations, with a focus on innovations that can spark more creative economies.



Prof. Heisook Lee, PhD, speaks at the Gender Summit Asia Pacific.



## For example ...

For example, Dr. Jeffrey Mogil [▶](#), who heads the Pain Genetics Lab at McGill University [▶](#) in Montreal, presented research that shows that mediation of chronic pain processing in the spinal cord of male and female mice is radically different. New data from his lab demonstrates that different neural circuits, transmitters, receptors and genes may be relevant to pain processing in males and females.

The research of Dr. Sun-Young Rieh [▶](#), professor in the Department of Architecture at the University of Seoul, showed why rapidly changing gender roles must be considered in Korean Urban Public Rental Housing Guidelines. The housewives in aprons that illustrate the guidelines are no longer the only female demographic to consider. Single women's safety issues such as designing communal facilities to be well-lit and in full view, and designing more adaptable room layouts that can be used for family, but also for sublets or study were mentioned.

These studies and many others detailed on the Gendered Innovations website [▶](#) of Dr. Londa Schiebinger [▶](#), the John L. Hinds Professor of History of Science at Stanford University [▶](#), show that gendered innovations are important. But what are we doing about this?

The Gender Summit 6 aimed to integrate considerations of



Prof. Jeffrey Mogil, PhD, presents research that shows gender differences in pain processing.





## What is Gendered Innovations?

### SEX & GENDER ANALYSIS

[Methods](#)

[Terms](#)

[Checklists](#)

### CASE STUDIES

[Science](#)

[Health & Medicine](#)

[Engineering](#)

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### JOINT PROGRAM

### POLICY RECOMMENDATIONS

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## What is Gendered Innovations?

Gendered Innovations harness the creative power of sex and gender analysis to discover new things.

The peer-reviewed Gendered Innovations project:

- 1) develops practical methods of sex and gender analysis for scientists and engineers;
- 2) provides case studies as concrete illustrations of how sex and gender analysis leads to innovation.

Londa Schiebinger discusses the project in the video clip below:



# Share your personal experience

Higher Education

## Shattering the myth: Raising kids is a stumbling block to pursuing a PhD

Lessons I have learned while working towards my PhD with three young children

By Bushra Jamil | Posted on 17 September 2014

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The decision to pursue a PhD in science with three little kids was of course a difficult one. When I began my PhD program two years ago, my oldest child was 3 and my youngest just 2 months.

Nonetheless, it turned out to be a blessing in disguise.

Many of us are not audacious enough to take initiative after having kids. We assume that children will be a stumbling block on our way to excel.

However, for many people, children and higher studies are quite manageable simultaneously, though the journey will require more effort, persistence and management. One of the most common reasons people remain reluctant is they





## Share your personal experience

First of all, what actually prompted me to go for higher studies? It was none other than a realization that despite all efforts, I was not meeting the expectations of my in-laws as a sought-after *bahu* (daughter in-law) for a host of reasons. This realization deepened when I was taunted for my slipshod management of household chores despite all sincere efforts.

Here I realized that for my whole life, I would be judged by standards of societal norms, many of them defined under the influence of a semi-literate and tribal culture.

So I thought to venture into an arena where I can excel and display my real talents.

Still, thinking of how unmanageable it could be to pursue studies with kids was unnerving, and it took me five years to take this initiative. However, after tasting its real joy, I regret the time I had wasted in dilly-dallying. So my personal experience ultimately convinced me of the viability of higher studies, particularly if one has the positive mind to contribute something meaningful to his family and society as well.

# What *not* to do.

Really?

The 550 participants at  
the Gender Summit  
agreed that ...



No one should be afraid to ask difficult questions.



# The Business Case for Gender Diversity

- Gender is the only diversity measure that can be legally tracked globally
- The discussion has evolved from **equality and justice** to **competitiveness** and **good corporate governance**<sup>1</sup>
- Women bring in key leadership skills relevant for addressing future global challenges<sup>2</sup>
  - Intellectual stimulation, inspiration, participatory decision-making and expectation setting
- Gender equality positively correlates with **company's financial performance**<sup>3</sup>
  - Companies with the most female board members outperform those with the least on return on invested capital (ROIC) by 26%
  - Companies with 3+ women on their board in at least four of five years significantly outperformed those with sustained low representation by:



## Sources:

1. The Current State of Corporate Gender Equality Global Trends and Figures. March 2013.
2. McKinsey's "Women Matter", 2008 edition
3. Catalyst, *The Bottom Line: Corporate Performance and Women's representation on Boards (2004–2008)*. <http://www.catalyst.org/>, 2011

# Gender resources from Elsevier

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## New Scholars

Over the past nine years, our New Scholars grant program has contributed to the advancement of early to mid-career female scholars, helping them balance family responsibilities with demanding careers in science, health and technology.

As we come closer to celebrating our tenth anniversary, we have found it an appropriate time to take stock of our programs and activities, in order to ensure that our contributions to the lives of female scholars are both significant and unique. As a result, we are currently working on a renewed gender diversity program, together with key partners in the field of women in science, which will aim to reach scientists across the globe.

As we are busy outlining new directions for the Elsevier Foundation, we will not be issuing grant calls for 2015. Our new programs will be announced at the end of this year on our website and through our social media channels on Facebook and Twitter.

Please don't hesitate to get in touch via email should you have any further questions.

The Elsevier Foundation-Team



### Vietnamese Mathematician Wins Elsevier Foundation Award

February 25th, 2015 Yesterday the Asian Scientist Magazine published an article on its Newsroom about this years "Elsevier Foundation Awards for Women in Science in the Developing World" with... [Read more](#)

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## Find out more

- [Elsevier Foundation Awards for Early-Career Women Scientists in the Developing World](#)
- [New Scholars Grants 2006-2014](#)

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Research in the Developing World

## Elsevier Foundation awards \$600K to innovative libraries and women in science

Annual grants support projects to build research capacity in Africa and level the academic playing field for women scientists

By Ylann Schemm | Posted on 4 December 2014



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Women in Science

## 5 women scientists tell their stories of hard-earned success

Winners of the Elsevier Foundation Awards for Women Scientists in the Developing World overcome major challenges in their pursuit of math and physics

By Alison Bert, Editor-in-Chief | Posted on 23 February 2015

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The winners of the 2015 Elsevier Foundation Awards for Women Scientists in the Developing World: Kabia Saïd, PhD (Nigeria); Majisola Cullala, PhD (Nigeria); Nashwa Eassa, PhD (Sudan); Majisola Adeniyi (Nigeria); and Dang Thi Oanh, PhD (Vietnam) — Photos by Alison Bert

Awards

# How conferences are supporting scientists with young children

## An editor writes about the inspiration behind the new Elsevier Family Support Award for Cell Symposia

By Anne Granger, PhD | Posted on 20 May 2015

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It's Sunday morning. Elly (age 4.5) and Nils (1.5) bring me breakfast in bed, huge smiles on their faces. I feel like the luckiest mom in the world, and a bit tired too. It's 5:30 am, and in an hour I have to leave for the airport for another conference. It's hard to go. And I know how hard it will be on my husband and my children. But it is a cornerstone of my job.

As a mother and a scientific editor, I get how critical attending a conference can be. It's the way I network and make the connections I need to bring great papers to *Cell Metabolism* . I've heard that it gets easier as children get older, but for now I feel like I have to compromise.

With this in mind, I helped lead the creation of a new award



Anne Granger, PhD, with daughter Elly and son Nils



## The Elsevier Foundation's support for childcare

By Ylann Schemm



Ylann Schemm

The Elsevier Foundation New Scholars Program [»](#) supports a wide range of programs to help early career researchers balance a demanding career with family responsibilities. Childcare for scientists attending events has been an important component.

Since 2006, the foundation has supported 16 different childcare grant modules totaling over \$800,000 with universities and societies across the US and Europe. This was done through caregiver grants, onsite conference childcare, nanny services and other innovative

ideas. Working with the Association of Women in Science (AWIS) [»](#), we identified what worked best — far and away, childcare travel grants give parents optimum flexibility and value when balancing networking, collaboration and childcare. These best practices were distilled in the 2014 book *Equitable Solutions for Retaining a Robust STEM workforce* [»](#).

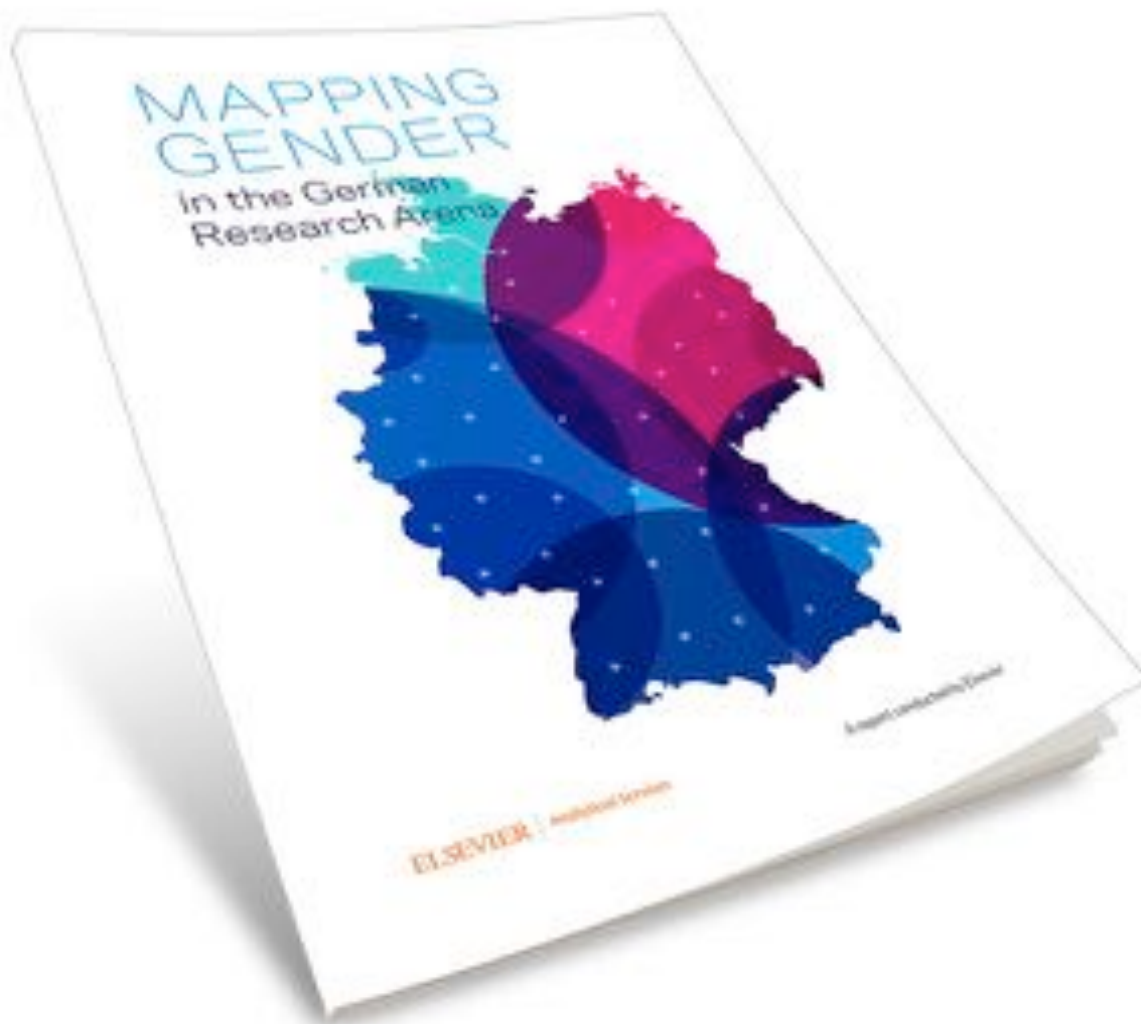
It's inspiring to see these ideas and best practices being embedded in the Cell Symposia this year, and I'm proud the foundation's work could help facilitate it.

### More on the foundation's childcare grants:

- [STEM Family-Friendly Writing Retreat aims to boost productivity](#)
- [A childcare program for women scientists](#)
- [The Special Childcare Program at the University of Groningen](#) [»](#)
- [A New Scholars Grant Sponsored the European Molecular Biology Meeting](#) [»](#)
- [Elsevier Foundation Supports Family-Friendly Programs at Princeton](#) [»](#)



## Analytical reports



# Gender resources at Elsevier

Women in Science

## A research networking system for women in STEM

Elsevier collaborates with Chicago research institutions to create an online networking forum for women researchers

By Holly J. Falk-Krzesinski, PhD, George Lan and David Kross | Posted on 30 September 2013



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As the process of conducting research grows more complex and the scope of scientific challenges becomes more interdisciplinary, researchers increasingly need to collaborate with experts outside their primary domains and institutions.

Research networking systems (RNS) enable the rapid discovery of experts and facilitate new collaborations and professional development opportunities by aggregating research and scholarly information about faculty members and researchers. To date, almost all RNS implementations, regardless of platform, focus only on harvesting and displaying expertise from a single institution or university system.

The new [Chicago Collaboration for Women in STEM expert portal](#), built on Elsevier's [SciVal Experts](#) system, has a broader scope while focusing on a population that is underrepresented. It's a multi-institutional RNS designed to stimulate networking and collaboration across disciplinary and institutional boundaries while promoting women in STEM disciplines.

STEM is an acronym for science, technology, engineering and medicine.

# Gender resources at Elsevier

**CHICAGO COLLABORATOR FOR WOMEN IN STEM**

**SciVal Experts**

Home

**Welcome!**

The Chicago Collaborator for Women in STEM is a joint initiative of Northwestern University and The University of Chicago aimed at enhancing the recruitment and advancement of women faculty in STEM disciplines at the two universities and women researchers at five DOE National Laboratories, Argonne and Fermilab. These institutions share a commitment to support women in the STEM disciplines, embracing diversity and inclusion through programming that promotes career success and develops leadership skills. This expertise portal is a key component of the initiative's mission to stimulate networking and collaboration among participants.

**Home**

- Recent Publications
- Most Frequent Journals
- SciVal Experts Community
- DIRECT2Experts
- Smartx Web Portal
- Profiling Overview

**Institutions**

**Argonne National Laboratory**

- C. Chemical Sciences and Engineering
- D. Design and Information Systems
- E. Energy Systems
- Environmental Science
- H. High Energy Physics
- I. Leadership Computing Facility
- M. Materials Science
- S. X-ray Science Division

**Fermilab**

**Researchers**

**Northeastern University**

- P. Parberg School of Medicine
- J. J. Kelley School of Management
- Sud D. and Regina Harberg College of Arts and Sciences
- R. Research Centers and Institutes
- Research Operators
- Robert R. McCormick School of Engineering and Applied Science
- S. School of Communication
- School of Education and Social Policy

**The University of Chicago**

- B. Biological Sciences Division
- P. Physical Sciences Division
- S. Social Sciences Division

**Recent Publications**

- Christie Perleick, Sharon Esteban  
2012  
Health insurance coverage within ethnics: prevalence of mental coverage and associations with health care utilization  
Social Science and Medicine, 2012,66:1-10.
- C. H.K. Huang, A.J. Pyrk, E.B. Gubau, P. De Cella, S. Kao, K.T. Faber  
2012  
Impact of doping on the mechanical properties of avicular skulls  
Journal of the European Ceramic Society, 2012,32:251-255-256.
- Rachal M, Steiner, S, Tanaka Kazuhiko, Daniel Polity  
2012  
The effect of pay-for-performance on nursing homes: Evidence from state Medicaid programs  
Health Services Research, 2012,46(4):1261-1414.

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