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Gender Summit 9 Europe

Strategic priorities for regional STEM gender equality policy

Strategies to tackle gender inequalities in STEM in the
Nordic countries

Marja Makarow
Brussels, 9 November 2016

Society needs radical innovations



Radical / disruptive innovations

Arise from unexpected findings of fundamental research

That no-one could have imagined to ask for
That create jobs, new markets and economic growth
That change the world and increase the quality of life

The criteria of one of the world's most significant innovation prizes

The Millennium Technology Prize

Established by State of Finland, high-tech industry and academia
Awarded by Technology Academy Finland

1st Millennium Technology Prize to Tim Berners-Lee in 2004 for WWW



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Internet launched the digital revolution

125,000 new jobs annually in Europe alone
Digital Single Market: 800,000 new jobs estimated by 2020
15% of world economy based on ICT

Digital revolution changes our way of life

Work and business
Manufacture and transport
Learning and communication with each other

Women underrepresented in math, computing, technology, engineering

26% of computing professionals are women (USA 2015)
12% of engineering professionals are women (USA 2015)

Without policy measures to support women in STEM education and research

Women not prepared to contribute to and benefit from the digital revolution
Half of talent missing in creation of innovations supporting well-being and growth
Women's participation in changing the world missed

8th Millennium Technology Prize 2016: first woman Frances Arnold



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Women in the innovation and research scenery



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MTP nominations by organisations world wide

Even nominations of women almost non-existent, 5% of over 400

Nobel prizes in science

5% women out of ~870 awardees

Fields medal for mathematics

1 woman / 66 awardees

European Research Council's share of women awardees in science

30% of starting grants and consolidators

15% of advanced grants

ERC Proof of Concept calls (from research to innovation, 2011-2015)

Success rate similar to men's !

Academia Europaea

12 % women of 3200 members, young Academy 26% women

European Union Women Innovators Prize badly needed and great inspiration

EIT promotes translation of research ideas into products and services, solutions to societal challenges and growth

Share of women in governance and top management of EIT Knowledge and Innovation Communities

Raw materials	4/13	31%
Health	5/20	25%
Climate	7/30	23%
Energy	2/33	6%
ICT	1/40	2,5%

Risk: Lack of diversity in decision-making bodies lowers quality of decisions

Glimmer of hope at grass root level: young women do well in EIT entrepreneur competitions

Finland's solution to diversity in decision-making bodies

Gender quota in legislation since 1995



Bodies exerting DIRECT or INDIRECT power over public funds ***Minimum of 40% of minority gender***

Research Councils: at least 40% of female members

Results: Share of women applicants of research funds risen to ~ 50%
Pro-active encouragement and monitoring

Share of women awardees risen considerably

Post-doctoral positions	56%
Grants to launch independent career	45%
Most prestigious professorships	27%
Directors of Centers of Excellence	17%

Gender balance more or less achieved in research except in STEM
Still only 24% of women professors

Understanding the Nordic Paradox: top score in European Gender Equality Index but no gender equality in academia



NordForsk launches in 2016 two Nordic Centers of Excellence on gender equality

NordForsk: The Nordic countries facilitator organisation for cross-border research collaboration

“Solving the Nordic Paradox: Gender Gaps in Research and Innovation”

Highlights of Research themes

Analysis of regional knowledge and innovation systems

Assessment of impact of equality policies

Identification of barriers

Understanding challenges for gender equality in labour market context

Émilie du Châtelet



First internationally known woman scientist

Mathematician, physicist, philosopher
France 1706-1749

"Illumination of Enlightenment"

Metropolitan Opera New York
Live cinema diffusion of
Opera "Émilie"

10 December 2016

Composer Ms Kaija Saariaho
Conductor Ms Susanna Mälkki



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Thank you for your attention!

<http://www.nordforsk.org/>