



BACCHUS

Impact of Biogenic versus Anthropogenic emissions on Clouds and Climate: towards a Holistic UnderStanding

Collaborative Project

SEVENTH FRAMEWORK PROGRAMME
ENV.2013.6.1-2

Atmospheric processes, eco-systems and climate change

Grant agreement no: 603445

Deliverable number:	D6.4
Deliverable name:	Gender Action Plan
WP number:	6
Delivery date:	Project month 6 (31/05/2014)
Actual date of submission:	31/05/2014
Dissemination level:	PU
Lead beneficiary:	ETHZ
Responsible scientist/administrator:	C. Schnadt Poberaj (ETHZ)
Estimated effort (PM):	1
Contributor(s):	M. Kübbeler, U. Lohmann (ETHZ), A. Ansmann (TROPOS), C. Facchini (CNR-ISAC), M. Kanakidou (UOC), P. Stier (UOXF), J.E. Kristjansson (UiO)
Estimated effort contributor(s) (PM):	0.25
Internal reviewer:	U. Lohmann (ETHZ)

BACCHUS Gender Action Plan

“Women account today for almost 60 % of university degrees in Europe, and they achieve excellent grades, better on average than their male counterparts. However, their presence at the top of scientific and academic careers is scarce. Only 18 % of full professors in Europe are women; 13 % of heads of higher education institutions and 22 % of board members in research decision-making. Women’s skills, knowledge and qualifications are grossly underused in the labour market. The low numbers of women in decision making positions throughout the science and technology system is a waste of talent that European economies cannot afford.” (EC, 2012)

The high share of women in leadership positions of 40 % in our project puts us into an advantageous starting position. Now, reasoned and concerted action must go beyond raising gender statistics and practical measures to facilitate work-life balance. It must include concrete actions such as raising gender awareness and actively promoting women into leadership roles. The FP7 framework programme seeks to promote gender equality by 1) promoting the role of women in science with a target of 40 % women’s participation at all levels, and 2) by equally addressing women’s and men’s realities as an integral part of the research to ensure the highest level of scientific quality (Toolkit - Gender in EU-funded research, 2009).

The following text outlines the situation of gender balance in the BACCHUS consortium, presents plans to reduce the gender gap on the project level, and attaches a short overview on the underlying reasons for existing gender inequality in science.

1.1. Gender balance situation in the BACCHUS consortium

The BACCHUS consortium is coordinated by a woman (Ulrike Lohmann) and includes female scientists at the level of work package leaders including management, 4 out of 10 (40 %). Additionally, three female work package leaders are also members of the SC, resulting in a female vs. male ratio of 3:3 in the SC.

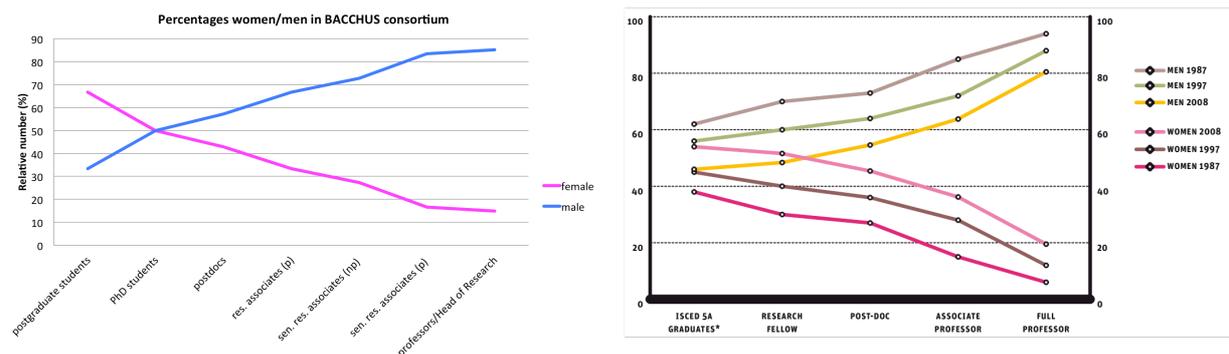


Figure 1: Left: Percentage women to men in the BACCHUS consortium in project month 1¹. Right: Norway: Percentage of women and men in various stages of the career cycle in 1987, 1997 and 2008. Source: NIFU STEP, register of research personnel, register of academic personnel. From: *Talent at stake*, 2010.

¹ Research associate: major responsibilities relate to performance of research; a person possessing the doctor’s degree or its equivalent, whose academic qualifications are comparable to the regular faculty ranks of assistant professor/associate professor. Senior research associate: as research associate, but at least ten years of experience as research associates. Definition of terms from the Handbook of Academic Titles at Carnegie Mellon University (euro.ecom.cmu.edu/titles/titlebook.htm).

In fact, the men to women ratio in the whole consortium of the first project month reveals the well-known picture of the leaky pipeline with fewer women the higher the ranking is (Fig. 1) elucidating that away from the coordinating unit and the SC, the project is not outstanding in terms of fractionation of women/men, and that actions are still necessary at the higher career levels. Note that a very similar rank statistics is shown for Norway, a country known to be very engaged in promoting women in the working world. It indicates that disparities in the number of women and men in high-ranking positions persist despite strong supporting actions to promote women to these positions. The picture suggests that there must be more subtle and/or complex impediments that hinder women to proceed in their career. Some of these are listed in the Section 1.4. It is one of the aims of the Gender Action Plan to bring these impediments to our awareness (see Section 1.2).

1.2. Actions in the BACCHUS consortium

The gender action plan aims to raise awareness to gender inequality within the consortium and in general, to improve the gender balance in the project, promote female scientists during all stages in their career including the build-up of a professional network, and at measures to help reconcile work and private life. We follow the EC checklist provided by the FP7 gender toolkit (2009). Specifically, we target the following issues:

- *Monitor and document gender progress at all organisational levels of the project on an annual basis.* This will include statistics as presented in Fig. 1 and short reports by the work package leaders to the PMO to document specific promotions of women in the project: we will monitor and document the “gender success rate” in terms of successful female applications into the project on the PhD and postdoc level over the time of the project, and promotion of women to responsible tasks and/or positions. Gender statistics and specific promotions will be published at the project website.
- We will actively support excellent female and male postdocs in their career by concrete measures such as promoting them to responsible tasks, letting them deputise their PIs at international meetings and conferences, and proposing them for awards in case of excellent scientific work. In the case of women postdocs who have family and who may work at reduced pensum, we will aim at including their family situation in the assessment of scientific excellence acknowledging that the number of publications may be reduced when children are still small and travel possibilities may be constrained. In assessing scientific excellence, it will be important to keep in mind that many women have their publication peak later than men due to family responsibilities (Section 1.4). Of course, the same considerations will apply to men with family, who decide to take family responsibilities and reduce workload.
- *Apply 50 %-50 % female-male ratio to presentations at annual meetings.* The EU FP7 target would be a 40 %-60 % ratio. Due to the high fraction of women in leading positions in our consortium, we fulfil this target already. Hence, we will aim at the ideal ratio of 50 %-50 % presentations by females and males.
- *Gender equality presentations and workshops at annual meetings.* To ensure that decision-makers and researchers are trained in gender awareness and how to

avoid gender biases, we plan a gender awareness workshop for the next annual meeting in 2015.

- *Dedicated female lunches at annual meetings.* There will be explicit women lunches at the annual meetings to foster exchange between female professors/senior research associates and female PhDs/postdocs. This platform will provide opportunities for questions, advice, and exchange of experiences.
- *Encourage women scientists at early career stages (PhD, postdoc) to enrol in mentoring programs by their universities or elsewhere.* Mentoring is a very useful tool to reflect the own career wishes/aims and career perspectives. Additionally, mentors can often provide helpful advice to overcome difficult situations, and they may help develop a person's network. PIs and work package leaders will be instructed about the benefits of mentoring schemes and will be encouraged to motivate their female employees to enrol in such a program. The existing mentoring programs of the partner universities will be listed at the BACCHUS wiki.
- *Provide recommendations to avoid gender biases in the recruitment process and in letters of recommendation.* These will be distributed to the principal investigators and published at the BACCHUS website.
- *Reconcile work and private life:*
 - Project events will be organized that travelling does not interfere with weekends
 - Minimize travelling, through adequate use of teleconferencing
 - Offer childcare on an individual basis at workshops and annual meetings
- *Collaborate with equal opportunity offices at the universities of the consortium members.* For instance, contact with the gender equality office at ETHZ, ETH Equal!, has already been established, and valuable recommendations were given for this gender action plan.

1.3. Proposed actions aimed at a wider public

The following actions aim at raising awareness in the wider public:

- *Encourage partner institutes to participate in events to enthuse girls at secondary schools for science, technology, engineering, and mathematics (STEM) disciplines.* This may be by organising or participating in visiting days, trial-weeks, or experimenting days at the lab. Events will be announced and published at the BACCHUS website.
- *Actively promote female scientists to international working groups and panels in climate science*
- *Presentation of BACCHUS' gender policy and action plan on the project website*

1.4. Underlying causes for the underrepresentation of women in science

To develop measures for increasing the number of women at the high-end positions in science, it is essential to understand the underlying causes for their attrition after the PhD or postdoc stage.

Probably most important among all career critical factors, science structure and life-course factors determine whether men and especially women stay in science. These factors have been extensively described in the *Meta-Analysis of gender and science research* (2012) and will be summarised here:

A significant amount of literature points out that the scientific career takes the traditional life of men as the norm; this entails the difficulties for combining professional and personal lives for scientists of both sexes, but in the context of gender division of labour this conflict disproportionately affects women. Particularly, the greatest pressures for achievement and embarking on a scientific career coincide with women's childbearing years and the social expectations about the right moment to have a family, in a context in which women continue to bear the primary responsibility for caregiving and housework. This critical moment is sometimes called "rush hour", understood as the life stage in which women's family and academic requirements most often collide. It is a deeply-rooted assumption that future career progression relies very much on performance in the rush hour, a fact that disadvantages women who wish to have family or already have family.

In addition to problems associated with the "rush hour", the EU FP7 project PRAGES (Practising Gender Equality in Science) report from the year 2009 identifies three areas of risk:

- *Science as an unfriendly environment*

Science is considered to be objective and meritocratic. As a consequence, there is common belief that science does not need to deal with the gender dimension. Thus, actually existing segregation mechanisms often go unrecognised even by women themselves. While overt discrimination is now virtually absent, hidden rooted structures of discrimination are still in place:

- Leaky pipeline: probably the best indicator of stress for women in science and technology (S&T): women drop out at a higher rate than men at each career stage. Many factors contribute to this process: education, socio-cultural attitudes and prejudices, work-life balance issues (mainly in connection with the rush hour, see above), direct discrimination in male-dominated selection committees, indirect discrimination grounded in unconscious gender-biased selection criteria, self-censuring rooted in gender stereotypes.
- Critical mass: feelings of isolation and other difficulties may be due to the problem that a "critical mass" of women has not been reached. A significant presence of women is necessary to affirm styles that are alternative to the typical masculine models and to question the masculine symbolic perception of science to create a more comfortable environment for women. The presence of only few women in staff of scientific faculties is also considered discouraging for female students, which has been demonstrated in several studies.
- Pay gap: European women researchers tend, on average, to earn 24 % less than their male colleagues (European Commission, 2007), in line with the pay gap covering the entire economy.
- Evaluation of scientific merit: there are indications for unfair evaluation of scientific merits. Two core processes appear involved in assigning lower competence to women: biased evaluations occurring when there are no objective ways of evaluating a performance and double standards for competence.

- *Science as gender-insensitive*

Die-hard stereotype: gender stereotypes persist in science identifying S&T with masculinity. The perception and internalisation of stereotypes play an important role in producing low self-esteem and dynamics of self-exclusion among young women who decide about scientific careers. Some typical stereotypes that associate science with men: science is a perfectly rational activity, dominated by objective and purely logical procedures, therefore not completely compatible with the assumed more emotional attitude of women; research is a very demanding activity that has to be performed on a full time basis; S&T is a sector, where strong competition is required, and therefore researchers have to be very aggressive, as men would typically be.

- *Scientific leadership and publications*

Women are underrepresented in science not only in the EU, but similarly in USA, Canada, and Australia. Women's presence among research directors and high-level decision-making bodies is also limited. Women's position in S&T functions can be measured through evaluating parameters such as publications, which – beyond measuring productivity – also represent the women's importance in scientific communication and technological innovation, and the extent of their inclusion in important scientific and industry-related networks. As documented by *Gender and Excellence in the Making* (2004), productivity is not an independent characteristic of individuals, but rather a reflection of people's position in the academic hierarchy and the access to resources that those positions make possible. Following this view, the lower productivity of women can be explained by the fact that they are working at lower professional levels than men. An alternative explanation for gender differences in publication rates, which was cited in the same report, emphasises family responsibilities: research showed that there is a family effect on productivity: the publication peak for men is earlier in their careers than for women. Within the same professional rank, it seems that there is no significant difference by gender. No significant difference is found in impact factor: data show that publications by women are as influential as those by men.

Changes with respect to the DoW

In the DoW, we promised to implement a mentoring scheme for women scientists including support to build up professional networks. We have reduced the dimension of the proposed mentoring programme to women lunches at the annual meetings. We will additionally encourage young female researchers to enrol in the partner institute's or national mentoring schemes. Additionally, beyond what we have described in the DoW, we will carry out a 1-2 hour workshop on gender awareness at the annual meeting 2015.

References

Gendered Innovations website at Stanford University (<http://genderedinnovations.stanford.edu/institutions/bias.html>).

Gender and Excellence in the Making, European Commission, Report EUR 21222, ISBN: 92-894-7479-3, 179 pp., 2004.

Meta-analysis of gender and science research: Synthesis report, European Commission, Report EUR 25138, ISBN: 978-92-79-21311-3, doi:10.2777/75176, 2012.

PRAGES, Guidelines for Gender Equality Programmes in Science, Report of the FP7 EU project PRAGES (Practising Gender Equality in Science), 256 pp., 2009.

Structural change in research institutions: Enhancing excellence, gender equality and efficiency in research and innovation, European Commission, Report EUR 24905, ISBN 978-92-79-22394-5, 45 pp., 2012.

Talent at stake. Changing the culture of research - gender-sensitive leadership, Committee for Gender Balance in Research, editors: Lina M. Rustad and Annes Winsnes Rodland, Norwegian Ministry of Education and Research, 2010.

Toolkit - Gender in EU-funded research, European Commission, Yellow Window Management Consultants, Luxembourg: Office for Official Publications of the European Communities, ISBN 978-92-79-11290-4, doi:10.2777/12256, 2009.