

ATHENA PROJECT

Athena Development Programme 1999 Good Practice Guide



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The Athena Project's aims are 'the advancement of women in science, engineering and technology in higher education and a significant increase in the number of women recruited to the top posts.'

Launched in 1999 as part of the Commission on University Career Opportunity's initiative to remove barriers to women's progress in higher education (HE), Athena is supported by Universities UK, SCOP, the UK funding bodies and the Office of Science and Technology. Athena is now part of the newly established Equality Challenge Unit which supports higher education institutions (HEIs) in promoting equality of opportunity for all staff employed in the sector.

This guide is based on good practice established by the 1999 Athena Development Programme and from the four key reports on women in SET published during the same period:

- European Technology Assessment Network (ETAN) Report on Women and Science
- The Royal Society of Chemistry: Study of Factors Affecting the Career Choices of Chemistry Graduates
- The Parliamentary Office of Science and Technology (POST) Report on its on-line consultation on women in SET
- The Wellcome Trust and Research Councils' Who Applies for Research

Funding? — Key factors shaping funding application behaviour among women and men.

The findings and recommendations on good practice from these reports endorse the learning from Athena's 1999 Development Programme. In summer 1999 development grants were awarded for initiatives to be completed by autumn 2000 to Bolton Institute, University of East Anglia, Imperial College, Nottingham and Loughborough Universities, the Open University and Sheffield Hallam University.

Professor David King, the Government's Chief Scientific Advisor, speaking in February 2001 at an event celebrating the successful conclusion of the Athena Project's 1999 Development Programme, challenged HEIs to adopt the report's suggested approach to tackling the under-representation of women in SET.

He suggested: 'Senior management must fully support efforts to ensure an equitable society in their HEI by examining policies and processes.'

Heads of SET departments can have a critical role in the implementation of policies, in recruitment and in ensuring that we do not lose these scarce-won talents. You must support all of your staff and work to ensure that the UK truly does have a research workforce to deliver the quality science that we are renowned for.

Women scientists and engineers should be helped and encouraged to expect

more support and guidance from their management, to understand and engage in policy development and to take responsibility for themselves through self-development and confidence building.'

Professor King concluded, 'I hope in my time in office that I shall see a change — the 10% barrier broken down and many more women making it to the top. I urge every vice-chancellor to look out for the good practice that is forthcoming from Athena and the Equality Challenge Unit.'

This guide to good practice will be updated and reissued in 2002 to

include lessons from Athena's 2000 Development Programme and other external initiatives on women in SET.

The evidence detailed in this guide provides a wealth of ideas and suggestions for good practice that works. HEIs that wish to follow up on these are advised to refer to the full reports, available from the Athena website: www.athena.ic.ac.uk. Information and support is available from the Athena Project team for those HEIs wishing to support the Project's aims and to improve their own representation of women in SET.

European Technology Assessment Network (ETAN) Report on Women and Science

The ETAN Report was requested by the European Union (EU) Commission to encourage and inform the debate on women in science. It concludes:

- while the presence of women in science has been increasing, extraordinarily few have an equal opportunity to enjoy the benefits of a scientific career
- the under-representation of women threatens the goals of science in achieving excellence as well as being wasteful and unjust
- 'bias is subtle and largely unconscious': the policies and practices that operate in scientific institutions discriminate against women and allow gender to be more significant than excellence as a defining characteristic
- the unjustifiable advantage that men receive through the organisation of science is not appropriate for it or for the allocation of resources and rewards within it
- institutions that employ scientists tend to be behind the times in addressing the life/work balance
- old-fashioned appointment and promotion procedures exclude women, eg reliance on patronage, the old boys' network and personal invitations cut across fair and effective employment procedures
- the peer review system does not work as it should in terms of objectivity and fairness.

Good practice

ETAN's recommendations take account of what they found had worked and what had not. They recommended HEIs to:

- support role models and mentoring programmes
- use women's networks to circulate information, eg on appointments, funding opportunities and procedures
- encourage women to apply for research fellowships and senior posts
- address the underlying structures and systems that are disadvantageous to women
- evolve more transparent methods of assessing merit, quality and productivity
- use fair selection and recruitment practices: all posts advertised, job/person specifications provided
- end the use of patronage to fill posts and jobs tailored to fit particular candidates
- treat women equitably with equal resources
- include women in decision-making roles at every level
- remove the gender pay gap with transparent pay rates and faculty gender audits
- tackle the balance of work and life for all staff, not just women
- introduce flexible working arrangements
- develop career-break schemes, childcare and eldercare policies
- provide programmes for women returners
- ring-fence funds for women
- collect, disseminate and use statistics on applications, recruitment and promotion
- encourage departments to set recruitment goals based on the proportion of women on the lowest rung of the academic ladder.

The Royal Society of Chemistry: Study of factors affecting the career choices of chemistry graduates

This study concludes that the situation of women in chemistry is among the worst in SET in HE. The key issue is retention. The recent appointment of 46 new male professors has reduced the number of senior lecturer posts and may further delay the necessary senior female role models as well as changes to the 'male' culture. It identifies the following factors as barriers to the promotion of women:

- men who see chemistry as hard-edged/not emotionally suited to women and have traditional attitudes to the role of women, particularly those with children
- women who doubt their own abilities, particularly at the post-doctoral stage and therefore expect to be treated differently/unfairly
- the large numbers of post-doctorals required for research, as well as massive competition for lectureships
- the limited opportunities to develop interdisciplinary ideas: women are more likely to favour interdisciplinary working
- long hours and little opportunity to socialise — except with other chemists — while socialising itself is dominated by 'male activities and values'
- the competitive culture and emphasis on results is at the expense of process: women are more interested in learning from the process, than in rushing to get published
- in the 'old' universities work is in large teams and large departments and part-time work is rare: women are more likely to work in smaller departments in new universities, alone, part-time, on short-term contracts
- departments that function as 'male clubs', where promotion depends more on individuals' fit within the culture, than on transparent assessment criteria
- women's stronger concerns about health and safety
- women's better abilities in acquiring transferable skills during their PhDs and recognising/selling their skills to other employers.

Good practice

The RSC report recognises that, if the position is to be improved enough to make women want to stay in chemistry, the culture has to change. They raise some pertinent questions on HEIs' procedures:

- are appointments supported by selection criteria that are opaque, or token, and does the process emphasise 'fitting in' with the existing, largely 'male', culture?
- do the criteria used in appraisals for measuring success lead to an emphasis on certain ways of working, eg long hours and fitting in?
- are 'personal' promotions, feeding from appraisal, similarly culturally biased against women?
- are mentoring and shadowing held back by a lack of senior female role models in chemistry? How many male chemists have had equal opportunities training?
- is the predominance of full-time posts determined by tradition rather than research and teaching needs? Can posts be split or partly worked from home?
- how many male researchers regard health and safety regulations as an annoyance? How common is there bravado about ignoring them?
- can the 'macho' atmosphere of laboratories be improved?
- how many staff rooms are restricted to permanent staff?
- are HEIs/departments prepared to manage actively staff's career breaks, and to provide resources to keep professional networking intact? Do they target child support at men as well as women?

The Parliamentary Office of Science and Technology (POST)

Report on its on-line consultation on women in SET

This consultation was enabled by the Athena Project working with POST and the Hansard Society. The topic and discussion method were agreed with the House of Lords Science and

Technology Select Committee as an input to their enquiry into Science and Society. POST's policy and action agenda suggested for HEIs were developed through the consultation.

Good practice

POST recommended the following actions, which have been cited directly from its report:

- develop mentoring/role model schemes to encourage women to continue with science
- set up networks of women with positive short-term goals to:
 - provide role models and support systems
 - raise the profile of women — to sit on committees, and become department finance directors rather than counsellors
 - tell it how it is: stories of success and team contributions as well as discrimination and isolation
- ensure that they have gender-neutral, family-friendly working policies
- be flexible in their approach to the working week and contracts of employment or to go further and develop a UK Code of Practice such as the U.S. Academy of Sciences
- involve men in the action and the benefits
- train men as mentors
- get men's support in identifying and tackling the institutionalised obstacles, unintentional discrimination and insidious behaviours
- develop family-centred policies with flexible working to allow both partners to balance the demands of work and their caring responsibilities (eldercare as well as childcare)
- develop more sophisticated methods of appointment and promotion, so that criteria other than the number of papers published are assessed and:
 - consider the inclusion of team working, communication skills, human resource management and teaching
 - systematise and publish the criteria
- reward co-operation and interdisciplinary work
- address the wastage of women between 25 and 65
- provide career and professional development not just for the best women but also for 'the merely very good'
- develop 'get around solutions', such as academic years rather than chronological years, to take account of time out and part-time working
- gather data on the recruitment, progression and retention of women in SET (by discipline) in order to measure, compare, explain and justify the differences in:
 - promotion rates, length of time for progression, eg from membership to fellowship
 - participation and progression rates of undergraduate, postgraduate, post-doctoral and academic faculty junior and senior
 - salaries, nature of contract — fixed term or permanent — resources provided, laboratory space and technical/administrative support for men and women.

The Wellcome Trust and Research Councils' Who Applies for Research Funding? – Key factors shaping funding application behaviour among women and men

The report confirms that 'the awarding of research grants is at the very heart of the academic system [...] we know that in the UK, once an application is received, there is no evidence of gender discrimination [...] yet in reaching this conclusion it became apparent that gender may be the determinant of grant application behaviour - women in general were applying for fewer grants than men.'

From a survey of over 3,000 academic staff in 44 HEIs, it was found that 'women were less likely than men to apply because of their status in the institution and the support they received.' The main influences on application behaviour (which disproportionately deter women from

making applications) are seniority, employment status, type of institution, professional profile, institutional support, career breaks and family circumstances.

The report suggests that changes are needed in HEI employment practices (and in funding bodies' policies) to ensure a more equitable distribution of research funding. It suggests that in the audits of equal opportunities policies and practices (that HEIs are being asked to undertake in response to the Bett Report), HEIs should consider how gender differences in application activities could be addressed, given that research plays such a crucial part in shaping academics' careers.

Good practice

The report suggests examples of good practice that HEIs could consider in order to tackle gender differences in funding applications:

- make promotion criteria explicit and promotion processes transparent
- develop formal career development mechanisms, eg appraisals, to minimise the chances of direct or indirect discrimination
- spell out the importance of research activities as promotion criteria
- integrate support for research activities into development and training programmes
- offer mentoring schemes to:
 - provide advice and support for research activities, including seeking research funding
 - help women overcome some of the problems identified, eg the lack of influential contacts, role models and support from senior staff
- ensure that information about the funding opportunities is accessible to staff who are eligible, for example a departmental research co-ordinator in order that the appropriate information reaches all staff, rather than those who happen to be in the right place at the right time and who know the right people
- review working arrangements to provide more support for staff with family responsibilities
- provide re-entry schemes and job-share opportunities for women returning from career breaks
- provide support to women with caring responsibilities to facilitate their funding applications and research activities.

Athena Project Report on the 1999 Development Programme

The report draws together the key findings and good practice from the six HEI Athena projects that started in summer 1999 and were completed by autumn 2000. It provides examples of programmes that work and offers some good starting points for HEIs that want to increase the number and visibility of women staying in HE and progressing their careers in SET. In addition to the main report there is a separate one for each project describing the aim of each, where it started from, what it did, and its outcomes:

No. 1 - Bolton Institute: mentoring

No. 2 - University of East Anglia: a network for research staff

No. 3 - Imperial College: mentoring and networking

No. 4 - Nottingham and Loughborough: staff development and networking

No. 5 - The Open University: career barriers

No. 6 - Sheffield Hallam: mentoring.

The findings and conclusions on good practice reflect the issues and recommendations from the external reports described above. The comments below refer specifically to good practice identified and/or developed by each project. The good practice is grouped under three categories:

- organisational precursors to success
- mentoring, networking, staff development and training
- career progression and removing barriers to recruitment, retention and progression.

Good practice - organisational precursors to success

A tripartite approach improves the representation of women in SET, senior management working with heads of departments and in partnership with the women in SET. Institutional commitment and ownership at the highest level is essential to:

- give support, visibility and credibility
- open doors
- assess the impact of their policies, practices and procedures on women and their careers, and to
- be ready to take the action that results from their assessment.

HEIs are encouraged to continue with any existing strategies and/or initiatives.

Consideration therefore needs to be given to costs, resources and time for all those involved.

Heads of SET departments are critical to implementing successful policies and good practice and are therefore encouraged to appreciate the difficulties women can face in male-dominated environments.

Support from heads of SET departments is essential for the success of career development programmes, as is the support and participation of:

- principal investigators who have a major responsibility for their research staff's career progression
- senior academics who may still see equal opportunities as an issue of political correctness
- senior women who have to understand their value as role models
- women who do not see the need for or wish to be associated with women-only activities/special treatment.

Women in SET who may not currently recognise their own value, or perhaps attribute their own success to 'luck', should be encouraged to recognise their worth and expect more of their worth and expect more of their departments and HEIs. It is recommended that they:

- take responsibility for their own careers
- pick up and create opportunities for networking, mentoring, personal development and training
- use all opportunities for informing and influencing HE policies, practices and procedures.

It is also important to build on previous work and successes:

- the human resource committee's review of/reports on employment statistics and a report on barriers to women's career development
- a recently established women in SET group/network
- a commitment to staff development and previous programmes, eg *Springboard*
- established flexible working arrangements.

Good practice in mentoring, networks, staff development and training

If women in SET are to give up their time by participation in these programmes, it is important to establish first what they want and need in terms of their personal or professional development, management experience, information and advice or skills training. Different approaches work for different institutions and depend on what is already happening therein. They can all be effective in:

- raising awareness of the current situation of women scientists and increasing women's visibility and profile
- improving senior academics' understanding of the differences in the culture and attitudes of different departments and of the challenges young women face in progressing their careers
- increasing both senior and junior women's assertiveness/self-confidence and helping to reduce isolation in a male-dominated environment
- challenging institutional culture and moving the issue of women higher up on HEIs' agenda encouraging women to expand their views of their careers in science.

Mentoring

One difficulty of mentoring is in matching mentors and mentees. Critical criteria are:

- career focus
- personal chemistry
- pairings not too far apart in terms of hierarchy and age
- similar family responsibilities: for insight/empathy and to see how mentors balance family and a successful career.

The mentoring relationship should be either time limited or should end when either partner feels it is no longer of value (there has to be a way to say it is not working and to start again).

Training sessions are necessary to clarify expectations of mentors and mentees, explain scheme 'rules' and the mentoring contract that provides a clear basis for the relationship.

Skills audits before and after mentoring help in evaluating the success of the schemes. Personal development plans help mentees to focus on what they want from mentoring and in drawing up action plans after mentoring meetings.

External mentors (to a department or an institution depending on size) may mean less likelihood of there being conflicting agendas. They would also offer mentees the opportunity to learn about different disciplines/departments/institutions/work in industry.

One of the benefits of having internal mentoring is the opportunity for those members of staff acting as mentors to improve their interpersonal skills and communications between colleagues at different levels. It may also enable such staff to perceive their institution in a different way.

Networks

Networks should aim to empower and politicise their members as well as inform them. They can be encouraged to influence management and can start to create the changes necessary for women to progress their careers. They need:

- a clear, short-term purpose and focus for their activities
- some administrative support
- input from HR/staff development/senior women to get them off the ground
- a co-ordinating group of women members to plan programmes, shape the network(s) and help to develop their successors
- programmes that reflect members' interests and ambitions.

Staff development and training

Staff development and training courses can link usefully with mentoring and networking initiatives to provide support and practical advice to participants in:

- clarifying personal and career goals, opportunities for career progression, CVs, interviews, oral/written communication
- identifying their strengths and abilities
- improving their interpersonal skills and assertiveness
- managing workplace demands and stress, prioritisation and time management
- balancing career and family
- how things work/insight into their institution/department/other fields/industry, eg people, politics and power.

Inviting women achievers, within and outside HEIs, to contribute to training programmes can deliver powerful support and encouragement, by giving presentations on how they arrived at their current positions, and their personal experiences, successes and failures, eg in applications for research grants.

Encouraging participants to share their own experiences in discussion groups brings home to them what they have achieved and they may therefore see their own successes, previously unrecognised, from a different perspective.

Good Practice – in career progression, and removing the barriers to recruitment, retention and promotion

The Open University's good practice combines flexible working with training and development opportunities in order to help women overcome barriers. This has helped to underpin the university's success in increasing the number of women they employ in SET. This is not just in their part-time Associate Lecturer posts, where 42% are female, but carries on through to Lecturers (55%), compared with 21% elsewhere in HE. In addition, 23% of their Senior Lecturers/Researchers are women, compared with 11% elsewhere, and 9% of Professors, compared with 4% elsewhere. The good practice they have adopted makes them the employer of choice for many women. For example, the Open University:

- enables new Associate Lecturers to have a paid mentor
- has a development fund for Associate Lecturers that can include conferences and research activity
- offers updating opportunities for women on career breaks
- asks women academics what experience or training they need
- has fair and transparent recruitment procedures with women on the panels for all posts and monitoring the outcomes
- has clear criteria for promotion
- is receptive to highly qualified re-entrants who need to update their skills
- provides training and development to allow women returners to update their skills, widen their subject knowledge and become familiar with new technology in order to stay in touch and to regain their confidence.

References

European Technology Assessment Network (ETAN) Report on Women and Science
ftp://ftp.cordis.lu/pub/improving/docs/g_wo_etan_en_199901.pdf

The Royal Society of Chemistry: Study of Factors Affecting the Career Choices of Chemistry Graduates www.rsc.org

The Parliamentary Office of Science and Technology (POST) Report on its on-line consultation on women in SET www.athena.ic.ac.uk

Who Applies for Research Funding? - Key factors shaping funding application behaviour among women and men, commissioned by the Wellcome Trust and the Research Councils
www.wellcome.ac.uk/publications full report of the findings www.natcen.ac.uk



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