

ATHENA PROJECT

Athena Guide to Good Practice

1999 to 2002

REPORT 22

THE ATHENA PROJECT

When the Athena Project was launched in February 1999 it was a free-standing four year initiative. In April 2001 it became part of the Equality Challenge Unit, which promotes equal opportunities for all those who are employed or seek to be employed in UK Higher Education. The ECU is funded by Universities UK, the Standing Conference of Principals, the higher education funding councils in England, Scotland and Wales, and the Northern Ireland Department for Employment and Learning. In addition the Athena Project receives dedicated funding from the Office of Science and Technology, DTI.

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Athena Guide to Good Practice 1999 to 2002

Report 22

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FOREWORD

Professor Sir David King Government Chief Scientific Adviser

Universities are the gatekeepers to research careers in SET. For any young woman, whose experiences there, as applicant, undergraduate, postgraduate or post-doc, turn them away from a SET career, there is a significant loss, in terms of the investment they or the country have made and of their potential future contributions to SET.

In February 2001, when I launched the report on the first year of Athena's work, I urged every Vice-Chancellor to look out for the good practice forthcoming from Athena and the Equality Challenge Unit.

I expressed the hope that in my time in office I shall see a change with many more women making it to the top. After two more years' work by Athena and the HEIs committed to Athena's aims we have a better understanding of the SET and employment culture of HE and a wealth of evidence-based good practice as described in this Guide.

Baroness Greenfield, in her recent report for the DTI 'SET Fair' refers to this good practice guide and as she identified, the challenge for Athena is:

now to embed its good practice into every higher education and research institution

I hope that all universities will engage with Athena's targets:

- Short term: the percentage of female applicants for academic posts to reflect the percentage of women at the level immediately below (in their own institution and/or the 'pool' of institutions where they usually recruit)
- Medium term: the percentage of newly appointed / newly promoted women in academic posts to reflect the percentages at the level below
- Long term: the percentage of women at each career level to reflect the percentage at the level below (including the undergraduate intake)

I would expect that next year Athena will be able to report that a significant number of Vice - Chancellors have made a commitment to achieve these targets.

March 2003

INTRODUCTION

Professor Dame Julia Higgins Chair Athena Advisory Committee

I am pleased to introduce this guide to good practice, which is based on Athena's work since 1999. The good practice described was developed on the ground by practising scientists and engineers with their colleagues in university and departmental administration, personnel, staff development and equal opportunities. It is evidence-based good practice that works. Very little is institution specific and most can be adapted to local circumstances and resources.

Without the energy, commitment and enormous investment of time of the many women and men in the HEIs who have contributed to our programmes, the work described here would not have happened. Athena on its own would have produced nothing other than fine words.

However, there is still work to be done to reach out to all UK HEIs and the women and men who manage and work in their SET departments. There are some universities with significant numbers of staff in SET, and grade 5 * departments who have as yet not engaged with the agenda identified by Athena. And we know that those who have, may sometimes have a struggle to keep the issues high up their university and departmental orders of priority. So the need continues for Athena to encourage and develop activities and methodologies which:

- challenge the culture and values of SET departments and HE
- increase, recognise and celebrate the contribution of women to their research success
- engage principal investigators and heads of research groups whose support and understanding, or the lack of it, is critical to women's career progression

Athena will continue to follow the progress of all the HEIs who have already contributed to Athena's success and to report on their progress in future years and to:

- work with the HEIs who are beginning to make a real difference to their organisational culture and processes to push the boundaries forward
- disseminate and publish the results of leading edge good practice
- provide a source of advice support and contacts for HEIs and individuals within them who are 'getting started'
- network the networks of women in SET

I hope that all the Vice-Chancellors whose universities are active in the areas of science, engineering and technology will respond to the expectations expressed by Professor Sir David King in his foreword to this guide and will, as a mark of that commitment:

- establish formal links between their university and Athena
- measure their university against the results of Athena's 2003 survey of SET academic staff
- pilot, test or adopt at least three of the good practice approaches described in this guide- one at university level, one at departmental level and one which directly involves the women in the university's SET community.

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EXECUTIVE SUMMARY

Athena's aims are the advancement of women in SET in HE and a significant increase in the number of women recruited to the top posts. This guide encourages HEIs to develop effective strategies, programmes of activities and action agendas to achieve these aims.

The guide is for all who want to understand more about and are in a position to influence thinking on:

- the differences between men's and women's career progression
- the 'comfort factors' that attract women to departments where they stay to progress their science
- what will work for their HEI/department in terms of their culture, resources and structures
- how to start the change process and what action is needed to implement that change

In particular it is aimed at:

- Pro Vice-Chancellors
- SET Faculty Deans and Heads of Departments
- Colleagues in university and departmental administration, personnel, staff development and equal opportunities

as well as the women and men working at all levels in SET.

The good practice described will be useful to HEIs at all stages:

- for the significant number who do not yet meet Athena's short term target, that is, when the percentage of female applicants for academic posts in SET reflects the percentage of women at the level immediately below (in their own institution and/or in the 'pool' of institutions where they usually recruit)
- for those on their way to meeting Athena's medium term target, that is, when the percentage of newly appointed and newly promoted women in SET academic posts reflects the percentages in the level below

It will also remind all HEIs how far they have to go before they reach Athena's long term target, that is, when the percentage of women at each career level in SET reflects the percentage at the level below, down to the undergraduate intake.

The guide describes:

- approaches which focus on individual women's career development and which have been successful in 'kick starting' change
- departmental and workplace arrangements that make working in SET more enjoyable for men and women
- the changes to institutional processes which lead to changes in organisational culture
- the management commitment and organisational support necessary for change to become embedded
- individual successes, achievements and pointers for the future

The guide brings together good practice from Athena's 1999 and 2000 Development Programmes and the 2002 Athena Awards; good practice which can be easily modified by HEIs with different needs and resources. Much of it is also applicable to other disciplines and other staff groups.

The good practice identified is what the HEIs involved in Athena's programmes have shown to be the key factors in improving the working lives of women (and men) in SET, and in breaking down the inadvertently discriminatory systems and processes which incrementally present barriers to women progressing in and enjoying the benefits of SET careers.

USING THE GUIDE

The guide complements but does not replace Athena's 1999 and 2000 Good Practice Guides (both are included in the accompanying CD), plus the individual HEI Reports from the 1999 and 2000 Development Programmes and the 'best' from the 2002 Athena Awards. The sections are:

- Women in SET
- Working in SET
- Setting Good Practice

Each starts with a short summary of the issues and good practice, followed by subsections on specific topics. The subsections highlight the key themes and examples of good practice developed by HEIs.

Women in SET

The good practice described is drawn mainly from Athena's 1999 Development Programme, which focused on:

- Mentoring
- Networking

as ways to help equip women in the early stages of their careers, to increase their self-awareness and develop the confidence needed for a successful SET career.

Working in SET

The good practice is drawn widely from partner HEIs, and from the Royal Society of Chemistry 'Recruitment and Retention of Women in Academic Chemistry' published earlier this year. Career progression, career choices and the enjoyment of working in SET relate directly to workplace support, working practices and the way departments allocate resources and responsibilities and recognise individuals' contributions. Men and women fare differently and respond differently. The relationships between the issues are complex but are described here under three headings:

- Career barriers and career choices (mainly focused on research contract staff)
- Academic appointments and promotions
- Departmental management

Setting Good Practice

This explores what is involved in starting the change process, the structures that need to be in place and the changes of culture needed to underpin policy and make a reality of good intent. The good practice is described under:

- Successful initiatives
- Organisational and cultural change

Appendix A Lists contributing HEIs, where to find them in the guide and contact information

Appendix B Athena Publications

Two key activities, mentoring and networking, are highlighted. The good practice described in this section comes mainly from projects in Athena's 1999 Development Programme. The focus is on women in the early stages of their careers and on:

- activities designed to support individuals' career progression
- raising their expectations of their departments and HEIs
- encouraging and enabling them to take control of their careers

The issues

Mentoring and networking are both valuable as stand-alone initiatives, but are more powerful and more likely to be successful if used together, particularly if combined with personal and professional development programmes. However, without the commitment and involvement of senior management, they are unlikely to make much of an impact on the established culture of SET.

Without clear support, from the very top of the institution and at head of department level, there is a potential lack of credibility. If such activities are not seen as important to the institution, or are not 'owned' by departments, then women may be perceived as 'the problem' and the programmes / activities offered can be seen as 'remedial therapy.' Where women are isolated there is often a reluctance to 'put your head above the parapet' and certainly not to do it for something which is neither recognised as a legitimate academic activity nor seen to make an obvious contribution to career progression or research success.

Unfortunately, it is often the most isolated women, those who most need the career support, encouragement and advice that come from mentoring and networking, who are the most difficult to persuade of the value of taking part. This makes it very important for research supervisors, team leaders and principal investigators to recognise and take seriously their responsibility for the career development of those who work for them.

The good practice

The 1999 HEI projects were successful. They provided support, reduced isolation and raised the visibility of women within their HEIs. They also raised senior managers' awareness of the differences between men and women's career progression in SET, and the barriers faced by women trying to balance their careers and their caring responsibilities.

Mentoring and networking can, in a relatively short timescale, be highly effective ways to help equip women, early in their careers, with the support, self-awareness and confidence needed for a successful career in SET. They do make a difference in many ways to the women's career development. Although on their own they will not bring about the cultural shift that is needed to redress the under-representation of women in SET, they have been used to 'kick start' change and provide the seedbed from which other changes will grow and develop.

MENTORING

Introduction

The 1999 Athena Development Programme reports (7 and 8) describe the key findings from mentoring schemes at Bolton, Imperial, Nottingham/Loughborough and Sheffield Hallam:

- choosing mentoring as the approach to tackle women's under-representation in SET
- why mentors and mentees choose to take part
- matching mentors and mentees
- mentors' attributes and their training
- the choice of male or female mentors, internal or external mentors
- the benefits for mentors and mentees and the impact on their HEIs.

The schemes from which the good practice is drawn all, initially, limited their mentoring to female mentees. However as one male mentor commented:

Both males and females can equally benefit from the confidence boost and empowerment provided by a mentoring relationship. Many of the issues raised - career breaks, balancing child care and promoting more flexible working environments are applicable equally to men and women.

In some HEIs the programmes were additional and/or complementary to schemes for newly appointed and probationary staff. None of the schemes were for senior women, despite the recognition that:

the higher the fewer and the more lonely

Nevertheless, becoming a mentor often brought unanticipated benefits:

it allowed me to reflect on my own objectivesI got a university chair, I listened to my own advice and the networking involved with Athena helped

In all the partner HEIs the introduction of mentoring schemes opened up discussion of the issues of women's career progression. Among the reasons given by HEIs for introducing mentoring schemes were:

- raising awareness of the needs of women, and the profile of women in SET at HEI level
- changing the way the university looked and making its SET departments a more comfortable place for women and a place where there were more women
- providing women at the beginning of their career with a framework within which to think through their career choices and career planning

Mentoring – a powerful tool

Mentoring is a powerful and flexible tool for developing and supporting individuals. It encourages them to learn from others' experiences and can be used to build the confidence to plan and carry career development forward.

Comments showed that mentoring initiatives can be successful in getting change started:

- *I have a slightly better understanding of some issues that may affect female scientists*
- *it enhanced my understanding of consequences of a career break*
- *they saw their institution through different eyes, they realised the differences between the culture and attitudes of different departments and understood the obstacles that young women face in progressing their careers*

As Imperial recently commented on its now embedded mentoring scheme:

The take up is not as important as the message it gives about the College support for mentoring. This is powerful in an institution like Imperial College. It is being taken up but the signal is what matters - the College is trying to make itself a more comfortable place for women to work in, it is a recognition and an acknowledgement of the issues

Many of the benefits of mentoring can be provided by other support activities. However, there is something uniquely powerful about the one-to-one mentoring relationship.

Sustaining mentoring

Mentoring is however resource intensive. Piloting a scheme requires energy, enthusiasm and commitment, but sustaining a programme year on year needs more. If mentoring programmes are to flourish and become embedded they need to be:

- supported and championed from the top with adequate resources, management and administrative support
- a good fit with the culture of the HEI and structured to meet their objectives
- monitored with feed back, outcomes evaluated and successes celebrated to sustain management interest and keep the issues on their agenda

To achieve continuing success a mentoring programme needs to be supported by other organisational changes and awareness raising strategies. As one pilot made clear in its recommendations to the university for continuance:

- *the scheme should not be the only avenue that the University takes to redress the balance*
- *the University pays too little attention to the well-being of staff, few opportunities to discuss career development issues, lack of career development structure in the University prevents structured assessment and objective view of career development*
- *a mentoring scheme run with genuine corporate backing and support should help to identify what the barriers are and provide a framework to overcome them*

Mentoring examples of good practice

University of Aberdeen

Aberdeen's mentoring pilot won an Athena Award in 2002:

- their mentors were internal and external, male and female
- mentors' networking meetings increased contacts inside and outside the university
- a major conference on women in SET was organised by a group of mentors and mentees
- the progress and evaluation of the pilot was reported through the university's committee system
- the university is exploring links with local industry partners
- mentoring case studies are being developed

Bolton Institute Athena Report 1

The report on Bolton's mentoring pilot covers: recruiting external mentors, matching with mentees, mentee information meetings, mentor training, the mentoring process, monitoring and evaluation including short term outcomes. The pilot:

- included final year undergraduates, postgraduates and staff
- the mentors were all women and external
- the pilot was well structured, documented and evaluated
- mentors' and mentees' careers have changed significantly since
- Bolton is now working with the North West Universities Association on a regional mentoring programme

University of Cambridge Athena Report 18

Cambridge

- incorporated mentoring into the requirements of its draft Code of Practice for SET laboratory disciplines
- has recently introduced MentorNet for undergraduates, an e-mentoring programme pairing industry, commerce, local government/civil service mentors with SET students.

University of Edinburgh

Edinburgh established its SET mentoring programme in 1996 (under the Scottish Winning Women Initiative). It is now centrally organised, with a consultant and administrative support. Costs are shared between the staff development budget and departmental budgets

- many of its mentors have mentored for several years and have resisted suggestions of male mentors
- mentees go through 'Springboard'

Imperial College Athena Reports 3 & 19

Imperial's pilot and evaluation of a number of support strategies was successful in heightening institutional awareness of the issue of women in SET:

- mentoring was offered to all women under age 35 (32 pairs, male and female mentors) and was more successful than their email network and career development programme
- initially mentors, who were given little initial training, were uncertain what to expect and asked for more feedback on their effectiveness – they now get training and feedback
- the pilot was resource lean, but had high level support, which generated more mentors than could be used
- following evaluation and a report to the rector and governors, it was agreed to roll the programme out to faculties for young academics and final year post-docs and to include men - a response to the message: *you do not want to take up the offer of a mentor because it shows you can't hack it*
- staff development runs the scheme which is managed by the Rector's Committee
- faculty principals are involved and heads of departments identify potential mentors

Nottingham and Loughborough Universities Athena Report 4

The universities combined mentoring for women post-docs with a five day off-campus development programme to provide the skills and confidence needed for long term careers in SET. The topics covered in presentations by mentors included the keys to career progression:

- applying for jobs
- writing grant proposals
- being effective on committees
- managing a research team

Sheffield Hallam University Athena Report 6

Sheffield Hallam developed a mentor training programme, which drew on Witec's European experience and:

- enabled the university to re-evaluate its existing mentoring practices
- developing the training programme was an interventionist strategy to raise awareness of the under-representation of women in SET
- focus groups identified the barriers to women's progress and the benefits to the university of mentoring
- the thorough identification of needs and the issues underlying them allowed senior management to buy into the solutions

NETWORKING

Introduction

The 1999 Athena Development Programme reports (7 and 8) describe the rationale for, the learning from and the benefits and outcomes of networking for women in the early stages of their careers at Imperial, Nottingham / Loughborough, the Open University and the University of East Anglia.

Athena Report 14 describes the varying aims and outcomes of the work of the five Local Academic Women's Networks (LAWNs) established in Athena's 2000 Development Programme and based at East Anglia, Leeds, Loughborough, Plymouth and St Andrews universities. The programmes they developed included seminars to showcase women academics' work and to identify and generate cross-disciplinary research opportunities, workshops and conferences for women in the early years of their academic careers.

The unifying and distinctive features of LAWNs' activities are their emphasis on role models, on women talking directly and honestly about their career experience and providing information and opportunities for skills development. Together they make a powerful combination.

Networks and the support, encouragement and activities they offer their members can make small but significant differences to the working lives of women in SET and help their members to develop an understanding of how to progress a career in SET by:

- encouraging self-confidence as scientists, the sense of belonging in the scientific academic community and an understanding of how men and women interact in the SET workplace
- probing, questioning and informing colleagues about the issues and seeking support from the top for more transparent policies and practices and better opportunities for women
- show-casing, promoting and raising the profile of women's research
- improving their ability to make a positive and informed choice about careers, including the confidence to seek a new career outside SET / HE

Successful network programmes

Through their programmes of seminars, workshops and meetings, networks can provide their members with the support and encouragement that they do not otherwise get from their departments, supervisors, principal investigators, research group leaders or section heads.

Inviting recently appointed vice-chancellors, pro-vice chancellors and deans to talk about 'how they got there' provides not only an interesting presentation but also the opportunity for members to explore, with senior managers, issues of career progression and the local practices and systems which may act as barriers to that progression. 'From Pit Village to Pro VC' was a recent presentation given at an Athena network meeting.

Lack of understanding and awareness of how academic processes really work (selection, promotion, bridging funding, departmental resourcing, research grant and fellowship applications) is a significant issue for many women at or near the bottom of the career ladder. These are ideal topics for meetings with speakers from registry, finance and personnel and the press office, the last of whom may also provide welcome publicity for networks and their members' successes.

Inviting heads of departments and senior colleagues (who may thus recognise their value as role models) to contribute to a network discussion meeting or when the network has a high profile speaker should help to 'legitimise' their activities.

The institutional impact of networks

'Selling' the value of a network to the HEI is important, for example a leaflet giving the network's programme is a clear signal to prospective female applicants of a supportive environment. The value of ResNet, Athena's longest established network, is recognised, as UEA's Pro Vice-Chancellor made clear in his endorsement of their work:

its members have arranged a varied annual programme which has attracted the attention of distinguished members of our research community. At the practical level, its members have been able to acquire the knowledge and skills in applying for grants and fellowships, as well as the confidence to apply for posts which benefit the wider scientific community

As the first prize winner of the 2002 Athena Awards, the Women's Forum at Queen's University Belfast shows, a network, tasked by the Vice-Chancellor with investigating gender issues and improving the profile and position of women in the university, when given support and a direct reporting line to the Vice-Chancellor can:

change the organisation's culture to be ready for women leaders

Sustaining networks

As member organisations, networks need to achieve maximum impact with minimum effort, and little time commitment, for example, 'piggybacking' on university events - inviting women who are receiving honorary degrees to speak to network members, or to give a departmental or faculty research seminar, open to all and into which they might be encouraged to weave their own career progression, ups and downs.

Turning a network started with enthusiasm by a small number of generally already over-committed women into something sustainable is not easy, particularly as the founding members' careers progress and family commitments grow. This is a particular problem for a research staff network, whose members have short contracts and little or no access to departmental administrative support.

A skills audit among members and a call for volunteers who want to develop their transferable skills (eg chairing committees, event organisation, public relations and web skills) can produce useful results.

ResNet based at the University of East Anglia has identified the essential components of sustainability:

- ownership by members
- reconnecting regularly with senior management
- sharing tasks to allow members to gain organisational experience
- maintaining a high quality and balanced programme to meet members' differing needs (information, role models and meeting other women scientists)
- administrative and clerical support, which also provides a focal point for communication
- being prepared for/taking advantage of unexpected outcomes / changes of direction
- taking stock from time to time, revisiting objectives and re-aligning as required

Networking examples of good practice

ResNet- University of East Anglia Athena Reports 2, 14 & 21

ResNet was set up as a low cost self-sustaining network for research staff, with a programme which offers a mix of consciousness raising and information sessions and presentations by role models. The programme is developed and managed by a co-ordinating group of members, with some administrative support. Their survey which provided the data and evidence to influence senior management, was valuable in giving the network a clear purpose in its first year.

In the 2002 Athena Awards ResNet was awarded a special prize for its 'grass roots' work at the first critical career stage of contract research: *when things start to go wrong*

Imperial College Athena Reports 3, 19 & Occasional Paper 2

Imperial established an annual high profile networking event with an Athena Lecture, to counter the feelings of isolation, identified by its evaluation of its least successful mentoring strategies (an email network).

Queen's University Belfast Athena Report 20

The Women's Forum was set up in 1999 by a group of senior women at the request of the Vice- Chancellor, which:

- collects/disseminates evidence of the university's gender imbalance, makes men and women aware of it and investigates its causes
- allows women at all levels to voice their concerns
- draws up action plans and identifies proposals for implementation by the university
- has a wide-ranging and high profile programme of activities
- has mentoring and networking groups
- has monthly meetings to monitor progress

University of Surrey Athena Report 13

Surrey's SET women's forum was established to review grant proposals, provide information, encouragement and support on the promotion process and offer strategy and good practice workshops. It provided a vehicle for delivering learning activities to equip women to play a full role in departmental and university life, with sessions on promotion, meetings, the university's finance and planning systems.

LAWNs

Local Academic Women's Networks established 2000 Athena Report 14

East Midlands

The network followed on from work by Loughborough and Nottingham in Athena's 1999 programme. It held a conference 'How to succeed in winning grants and developing a successful research portfolio', material from which is now available on the web.

Northern

Based at Leeds and Bradford the network offers support for women in SET and associated disciplines. It runs quarterly research seminars delivered by established women academics and networking meetings to identify opportunities for research collaborations.

St Andrews

The network challenged the attitude of their male dominated SET faculties with a high profile lecture series by successful women scientists within the faculties' regular research seminar programmes. Monitoring the faculty programmes in subsequent years has kept women's representation on faculty agendas.

South West

The Plymouth LAWN built on an existing group concerned about the research profile of women who were not good at pushing themselves forward. Their programmes provided platforms for a mix of women speakers from different backgrounds at different points in their careers.

Local Academic Women's Networks established 2002/03

North East

The network based at Northumbria University supports academics in SET and related areas with a regional programme of monthly lunch-time seminars and formal quarterly guest seminars given by academics and practitioners to raise the profile of professional women in the North East.

Northern Ireland

The Queen's Belfast and Ulster network exists to exchange ideas and information and support the development of knowledge/skills, with workshops, visiting speakers and role models. It includes the Open University and local industry and hopes to expand to become an all-Ireland network.

Scientific Women's Academic Network SWAN

Set up by London Metropolitan and Luton it is a virtual LAWN with web-based resources, advice, guidance and information for 'new universities' in the South East and aims to raise the profile of women within their HEIs.

WestScot

The Glasgow/Strathclyde network offers a mentoring for promotion scheme, surveys women's experience in the promotion process. It hopes to expand to neighbouring universities.

The good practice described here comes from Athena's partner HEIs, and from the Royal Society of Chemistry's 'Recruitment and Retention of Women in Academic Chemistry' published earlier this year, which identifies:

what it is about the culture in certain department and/or institutions which causes women to apply for and accept posts and subsequently encourages them to remain in these departments and/or institutions

Women's career progression, the career choices they make, the extent to which they feel comfortable in their work and the degree to which their careers benefit from the contributions they make, all relate directly to the way departments are managed, the working practices that are adopted, and the way departments allocate resources and responsibilities and recognise and reward individuals' contributions. The inter-relationships between the issues are complex but are described here under three discrete headings:

- Career barriers and career choices (mainly focused on research contract staff)
- Academic appointments and promotions
- Departmental management

The issues

Equity will not be possible if there exists one group of people (for example people with care responsibilities) who are systematically unable to meet the requirements of the ideal academic who gives full priority and all his time and energy to his academic work

This was said by Lotte Bailyn, Chair of the Science Faculty at Massachusetts Institute of Technology (MIT), at the time the committee of women faculty submitted its report 'A Study of Women Faculty in the School of Science at MIT', when she gave the first Athena lecture at Imperial College. The lecture is published as Athena Occasional Paper 2.

Overt discrimination is not the problem. The barriers are the established systems and women's perceptions of them. These barriers are unintentional but deeply rooted in the structure and organisation of SET and HE and are invisible to those on the inside track. As the AUT commented in its 1999 analysis of the gender, pay and employment of academic staff:

Women are treated worse than men in every aspect of HE employment. There is only one explanation – the sector is rife with institutional discrimination...few senior academics probably arrive at work each day intent on discrimination against their women colleagues, but institutionally that is precisely what happens

The good practice

All the 2000 project HEIs chose to address the organisational culture of HE and SET departments through their processes and systems. They realised that the culture is the product of systems and cannot be significantly changed by short-term initiatives. However, they recognised that reviewing and changing the way their departments work can start to make them more comfortable places for women (and men) to work and succeed in. Their work to understand the differential impact of their processes and to open up them up is beginning to make a difference.

CAREER BARRIERS AND CHOICES

Introduction

As Athena's 1999 Development Programme (Reports 7 and 8) shows career progression in SET is different for those who are or who have chosen to be single and/or childless. The surveys by the University of East Anglia and the Open University explored:

- why so many women drop out of SET HE careers
- the choices made by women
- the institutional practices which might act as barriers to women's career progression
- women's perceptions of those barriers

The work by Edinburgh, Heriot-Watt and Oxford universities in Athena's 2000 Development Programme (Reports 15 and 16) on women's career progression, focused on:

- the gap between post-doc and first academic appointment, where women start to disappear
- the differences between the perceptions of career development by contract researchers and by heads of departments and principal investigators
- action and performance measures to address the retention /development of contract research staff

The work in both programmes confirmed the commonly held views that women:

- do not lack the ability to do a job, but tend to hold back when opportunities arise and wait too long before applying for promotion
- often lack the confidence to take themselves seriously as applicants
- need to understand about the processes that are at work, and the more they do so the better they are able to manage their career development, to make conscious choices, and to improve their chances in the HE job market

Developing a career strategy

A career strategy is an important first step towards a successful SET career, but few research staff have career plans, or receive support with career planning. This reflects the reality, that few principal investigators (PIs) planned their own careers. Similarly PIs are disadvantaged in terms of advising on CVs and job or promotion applications, as they are unlikely to have seen any, unless they regularly sit on appointments committees. Indeed they may not be conscious of their responsibility for the career development of their staff.

The absence of career advice impacts more on women than on men. Because women have far fewer role models to base themselves on and have less informal social contacts with senior colleagues they have less opportunity for 'picking up tips'.

The move from contract research

UEA's survey revealed a dichotomy between the factors identified by contract research staff as key to career development (performance in job, ability to write proposals and publication records) and the tasks undertaken most frequently by research staff (the analysis of data/ fieldwork, research experiments and menial/housekeeping tasks).

Work undertaken by UEA and Leeds confirms that facilitating the transition from contract researcher to lecturer requires action on both sides of the barrier (as well as on the barrier - the appointments process), a more structured approach to the career development of researchers and making lectureships more attractive to men and women and more sustainable by women.

The choice of whether to stay in SET in HE relates directly to the culture of SET and HE employment:

- the poor management of researchers' work and the absence of career development support
- the SET bench culture of long hours which measures commitment by presence - *those who have the time can hang around longer on weekdays and weekends*
- the need for information and active support of managers to help in making informed and realistic career choices
- *it would help if there were more steps on the career pathway so you could see that if you did xyz you could get promoted*

Career barriers and choices examples of good practice

ResNet- University of East Anglia Athena Report 2

ResNet found that becoming a parent made a difference to career decisions, for women flexible hours became more important, while men looked for safer options, no relocation and financial stability. They identified the factors which promoted career development and the obstacles to career progression.

University of Edinburgh Athena Report 9

Edinburgh is taking action to address the concerns they identified and explored:

- the institutional practices constraining women's career potential
- the linkages between the rhetoric of policy statements and the realities for women getting over the barriers (appointment to lecturer and promotion) to establishing SET careers
- men and women's approaches to their careers
- the barriers - the constraints of fixed term contracts, little encouragement from managers to take part in staff development activities and exclusion from informal networks

Heriot-Watt University Athena Report 10

Heriot-Watt wanted to find out why their women left and what the barriers were that prevented them seeking promotion. After wide consultation the findings were presented to heads of departments, who proposed:

- departmental seminars on promotion procedures and clarifying promotion criteria
- feedback to heads of departments and individuals on promotion outcomes
- a new appraisal scheme
- 'nurturing' their women staff for future senior roles

Imperial College Athena Report 19

Imperial commissioned a survey which identified three main issues:

- the perception that college was not supportive to women
- poor internal communications about, for example, maternity rights and family friendly policies
- concerns about the implications for a successful academic career of taking maternity leave

Action was taken - a mentoring pilot, joining 'Opportunity Now' and the creation of fellowships to provide academics returning from maternity leave with a sabbatical from teaching and administration for up to one year after the birth of their baby.

Although they did not expect all PhD students to become academics, they felt that working as a post-doc indicated an interest in an academic career and were concerned at the significant losses of women at both levels. A pilot survey of career choices in an engineering department, seen as 'women friendly' will be repeated with a larger sample in 2003.

University of Leeds

Leeds won an Athena Award in 2002 for work by its Faculty of Biological Sciences on the transition from contract researcher to lecturer. They found:

- a lack of HR management skills which disproportionately affected staff with caring responsibilities
- appraisal and mentoring that failed many at the point of delivery
- excessive working hours and a culture that fostered this
- a lack of infrastructure support such that made delegation of tasks difficult
- contract researchers who often felt disenfranchised and had few opportunities for personal development
- a male-dominated management hierarchy which inhibited many women from speaking up
- few opportunities for part-time work even on a temporary basis
- too much variation in policy and practice between departments/research groups

The first successful outcome of this work was a feedback guide 'Improving performance, skills and job satisfaction through feedback' issued to Faculty staff. Diversity Officers are being appointed and other recommendations are being incorporated into the University's diversity plan.

Nottingham and Loughborough Universities Athena Report 4

The participants in their career development were clear that it had empowered them and given them confidence and the ability to focus on goals - important influences in retaining women in SET careers. The task the universities are now addressing is to give heads of departments and senior academics a wider appreciation of the difficulties for young women in balancing their career aspirations with child rearing.

The Open University Athena Report 5

The OU study confirmed that women have to choose between family and career because HE SET employment offers no middle ground. The reason why the OU was the employer of choice for women with family commitments was the flexibility, combined with the training and development opportunities, that the OU offers.

University of Oxford Athena Report 12

Oxford undertook research with women within their recruitment pool, in Oxford and elsewhere, which produced interesting insights into women's careers:

- a move into industry reflected a need for security, a professional career pathway and good management
- for those interested in working in Oxford the motivation was the work of the department not the university's reputation

Oxford held a women in science conference as the first step to removing some of the barriers to applications from women. The conference provided information on career options in science, in particular the opportunities to combine research and teaching in a university such as Oxford. Oxford has now introduced a university career development fellowship scheme with an emphasis on positive action for women.

APPOINTMENTS AND PROMOTIONS

Introduction

The Reports (15 and 16) on the 2000 Athena Development Programme describe the work by Edinburgh, Heriot-Watt, Luton and Surrey on appointments and promotions. Concerns included:

- appointments 'secured' before interview
- men having unfair advantages through their informal networks
- aggressive interviews: *not a case of appointing the most able academic, rather the person most able to withstand the taunts and jibes of the panel*
- worries by women that failing to be appointed would have a subsequent negative effect
- the importance for internal applicants of a signal that their application would be welcomed
- the assumption that appointments depended on who you knew not merit
- women who wanted to be able to talk to someone independent of the selection process about possibilities for flexible / part-time work, without prejudicing their chances
- *the requirements on flexibility of working for more senior appointments can make things very difficult for women who are also expected to look after children*

They are all taking action to address the equity and transparency of their procedures and to promote positive images of departments and their HEIs to potential women candidates.

Appointments

As the universities who monitor their lecturer appointments know, where women apply for lecturer posts, they are slightly more likely to be short-listed and appointed. On this basis, the sharp fall in the percentage representation of women between research and lecturer levels is not caused by overt discrimination but relates in more subtle ways to the university's processes and practices.

Perceptions govern behaviour: if women believe that an advertised post has been designed for a male candidate, internal or external, they are not going to put themselves forward for rejection.

The Royal Society of Chemistry in its report 'Recruitment and Retention of Women in Academic Chemistry' looked at ways to create a more rounded selection process in which candidates are not judged on first impressions or a single presentation and which reduces the tendency for a department to appoint in its own image or on the basis of personal contacts. The good practice found included:

- targeting external women for inclusion in the short list
- encouraging internal women applicants to gain practice with interviews, and to get feedback
- a discussion with the head of department and other staff
- requiring candidates to present their research to a non-chemist
- having on the panel two women (if necessary the external academic and the lay member) and an external chair

Promotions

There is generally a more positive feeling about the fairness of lecturer appointments than about promotions. Lecturer appointments are usually governed by HEI rules and procedures, personnel staff are usually involved and often monitor the outcomes. Concerns about promotion are more pronounced:

- the process at university level is seen to be fair, however there can be significant differences in departmental procedures
- decisions to apply are affected by uncertainty about eligibility
- experience suggests that women often need more active support and encouragement from colleagues before they feel confident about putting themselves forward
- inconsistency: *the procedures are fair; I am not sure the execution of them is so fair*
- the need for transparency: *publish clear guidelines about routes to promotion and stick to them without changing the goal posts all the time*
- the need for staff to be more aware of them *as I do not know what they are I cannot comment objectively*
- temporary promotions without advertising or competition: *it's all cloak and dagger stuff*
- progression perceived to be based entirely on research and consequent publications
- *unstructured and flawed being hugely dependent on the head of department*
- personal applications not supported by the head of department *may get disapproved of and their promotion prospects put back*

The Royal Society of Chemistry study suggests that promotion remains a significant mid career barrier with:

- a lack of formal procedures
- the potential sidelining of women into atypical posts with unclear future progression routes
- the emphasis on research in the selection criteria for the most senior posts
- women's relative lack of mobility, coupled with a perceived bias to external candidates

However the Royal Society of Chemistry did identify existing good practice:

- induction for all, a formal programme, with briefing on how promotion operates at departmental and institutional levels
- compulsory lecturing training, to ensure that all appointees are treated the same, and have to meet standard probation criteria
- providing mentoring for all new staff
- work allocation meetings before new staff take up post, to discuss overall workload, including the balance of teaching, research and administration and to give the appointee the opportunity to raise any personal circumstances that might affect their allocation of duties

Appointments and promotions examples of good practice

University of Cambridge Athena Report 18

Cambridge recognised that:

we appoint women in the same proportions that they apply for SET posts - now we need to increase application rates from women

It has recently appointed two recruitment officers to the science schools, to act as head-hunters, who will:

- identify potential women candidates and ensure they receive appropriate information about positions that may interest them
- track the progress of women candidates
- advise and support appointments committees in evaluating women's CVs
- run workshops on gender bias and gender equality issues for senior academics

University of Edinburgh Athena Report 9

Edinburgh's recommendations included action at university, departmental and individual levels for both principal investigators and researchers.

Imperial College Athena Report 19

Imperial found anecdotal evidence that women progressed more slowly than men, but no evidence of gender bias but different practices in the operation of departmental panels were identified. It is now:

- publicising examples of departmental best practice
- offering a staff development programme for mid-career academics to ensure that they think proactively and strategically about promotion to a chair

University of Oxford Athena Report 12

Oxford explored the barriers which prevent women applying for posts. It is using its findings to set targets and reviewing its selection criteria and recruitment processes.

University of Surrey Athena Report 13

Surrey surveyed its academics' perceptions and attitudes on career progression and promotion. In response to its findings, the results of its last promotion round were analysed. They found, contrary to perception, that administration and teaching were valued. However, the university recognised a clear gradient of agreement among women academics, with those feeling most discrimination at the most senior rank. Surrey now has four members of its promotion panel, two male and two female, who are available to potential applicants to give them general advice and guidance on the presentation of their case for promotion.

DEPARTMENTAL MANAGEMENT

Introduction

The 2000 Development Programme reports (15 and 16) on work by Edinburgh, Heriot-Watt, Luton, Oxford and Surrey universities describe the barriers to women's enjoyment of work in SET departments.

They recognised that it is the day-to-day pressures of departmental life which can be critical to women's decisions to leave. Women are subject to the competing demands of their careers and their caring responsibilities as well as the competitiveness of the SET workplace. For women this is often made worse by what one Pro Vice-Chancellor noted when reviewing departmental candidates for promotion:

it is the women who tend to carry larger teaching, administrative and student 'welfare' loads and this has a negative effect on their research output

They described the good practice they are putting in place to address the weaknesses they had identified. This includes the introduction of fair and transparent arrangements for the allocation and rotation of departmental responsibilities.

The allocations of roles and responsibilities

The projects found:

- differential allocations of departmental responsibilities
- male-dominated departments where women are not seen as having serious careers and where their onerous administrative and teaching loads compromise their research
- the inverse relationship between the perceived value and recognition of the roles and the time and energy needed to fulfill them

Surrey's survey showed there is little evidence of a system for allocating administrative roles and such roles are not seen as valued in terms of promotion.

being on a course/exam board can, at first, help you get to know how things work but if you keep at it too long it doesn't really benefit you....Worse still were the girly bits of jobs like dealing with troubled students which were jobs for someone with plenty of tissues in their bag

Such problems are compounded, when individuals, promoted on the basis of their research skills, are expected to fulfill management roles for which they have neither aptitude nor training.

Women in a male environment

The projects found that the departmental exclusion which was built into the system was seen by women as subtle, for example the timing of seminars and inaugural lectures makes it difficult if you have children:

if you don't go you are frowned upon and you miss out. There are very interesting and eminent speakers. And afterwards they go out and have a drink and talk. And you can make some good connections

Oxford's research flagged the dual concerns of women's visibility and invisibility - high visibility, the 'gossipy' academic environment, where women's personal lives and relationships were talked about, and the invisibility of women's work, which was not profiled or valued to the same extent as men's work.

- the visibility and recognition of women and their contribution to their departments
- high profile work activities /events given to men rather than women
- women finding it harder to get recognition for the work they do: *I think female academics perceive they are less likely to achieve, therefore they do*
- *there is a lot of undermining of women by both men and women. My impression is that men are generally over-estimated and over-praised, even when they are good (they are not necessarily that good) and women are very rarely referred to as good, while shortcomings are blown out of proportion*

Heads of department

There is a need to go beyond the oft-heard argument, from heads of department and senior academics:

we would appoint women, and we do if they apply, but they don't apply

The question is why do women not apply to some departments? If the heads of SET departments do not address this question, they are responsible for a enormous waste of talent. By taking no action, they are responsible for the loss of some of the best female potential if large numbers of post-docs, their own and others, choose not to apply for posts in HE and to leave science for good.

Athena's 2000 development projects identified:

- the low value placed on personal and professional development which led to poorly managed departments
- inadequate structures for the organisation of research
- the belief of staff that the extent to which individuals were encouraged to be involved in departmental activity (contributing to publications, writing research proposals and attending conferences) had a direct influence on career progression

The Royal Society of Chemistry's report is clear that the personality and personal circumstances of the head of department are significant in determining good management practice and that HEIs have a responsibility to ensure that the processes of appointing heads of department do not result in selection in their own image.

The best departments

The Royal Society of Chemistry's report on the culture of chemistry departments and its impact on women's decisions to apply to them provides some valuable suggestions.

Its report recognised that the best departments do not target measures specifically at women but create a culture of diversity where all individuals can thrive and be rewarded for their contribution, regardless of gender and family circumstances. From the examples of good practice they collected they defined the characteristics of open and supportive departmental management:

- letting staff know if they can put themselves forward for increments and promotion
- legitimising decisions about balancing work and home
- supporting and rewarding individuals through appraisal, development and mentoring
- a broadly based reward mechanism
- peer support
- facilitating social contacts
- transparent decision making
- board of studies membership open to all
- meetings that are not male-dominated, intimidating or hierarchical
- the open discussions of teaching loads
- equity in allocating administrative and support duties, on a rota to avoid women taking too many support roles
- open bidding system for studentships
- open accounting so everyone knows how much funding others receive
- research organised on floor basis not segregated into laboratories

Departmental management examples of good practice

The Open University Athena Report 5

The OU studied the experiences of its associate lecturers, many of whom had previously been in full time academic employment. It found that what is conspicuously absent from general HE employment but which made the OU an employer of choice for women is:

- support
- flexible working
- staff development opportunities

University of Oxford Athena Report 12

Oxford is asking its departments to:

- think about incorporating positive images of women throughout their work programmes - for example inviting women from other HEIs to discuss their work
- develop a comprehensive and consistent approach to part-time working which includes the consideration of career development needs

University of Surrey Athena Report 13

Surrey explored the links between women's progression and the entrenched outlook / the culture of some of its male-dominated SET departments and the lack of flexibility in combining career and caring responsibilities. In response the university has recognised that heads of departments have a critical responsibility for most of the decisions affecting the careers of their staff.

It has made a number of recommendations on good departmental management practice and heads of department are charged with responsibility for:

- the development of their staff's management skills (through courses and the delegation and allocation of responsibilities to ensure that they gain relevant experience)
- encouraging their staff to apply for promotion when they have a good chance of success
- developing fair and transparent systems for the allocation and rotation of teaching and administration (to ensure that the total allocation, the balance and the values attached to individual tasks are fair and open to scrutiny)
- monitoring the results of their new practices

The good practice in this section comes from the projects in Athena's 1999 and 2000 Development Programmes and from the winners of the 2002 Athena Awards. It explores what is involved in getting initiatives started and bringing about the organisational, structural and cultural changes needed to underpin policy and make a reality of good intent. The good practice is described under two headings:

- Successful initiatives
- Organisational and cultural change

The beginnings of the initiatives taken under the Athena banner are described, with a look at what is developing from them. The 'oldest' of the initiatives described began in 1999, the year the Athena Project was launched, although some of them built on earlier foundations. Athena offered minimal seed corn funding for just a year. The hope was that if the initiatives were successful they would take root. Some of the networks and mentoring schemes have done so and have flourished. Some of the changes to processes and systems are still working their way through. Some are being incorporated into the organisational structure of their institutions and some are becoming generally recognised as 'the way we now do things round here.'

The issues

Initiating change and sustaining its momentum require different approaches, organisational structures and levels of commitment. However, without early successes, which should be both recognised and celebrated, there is no base on which to build. Engaging senior managers, involving the women in SET and the male majority who influence the way laboratories, departments, faculties and universities are run is not easy. It requires high level champions and foot-soldiers to make sure that the representation of women in SET it is kept high up on university and departmental agendas.

The good practice

The HEIs whose good practice is described in this final section achieved and sustained their successes with a three-way partnership:

- senior managers - ensuring equity by examining their policies and processes, responding to qualitative and quantitative evidence and listening to the views and voices of women in their SET community
- heads of SET departments - recognising their critical role in the implementation of those policies, and the need to support and develop their staff at all levels, so that UK SET does not lose these scarce won talents
- women scientists and engineers – expecting, and demanding, more support and guidance from their departments and managers, taking responsibility for their career development, understanding and engaging in policy development

The HEIs which are succeeding demonstrate a comprehensive approach to change:

- building awareness and understanding among the academic community at large
- regularly monitoring the impact of their work
- routinely measuring and reporting the progress in women's representation in SET

SUCCESSFUL INITIATIVES

Introduction

As the HEIs in Athena's 1999 Development Programme (Reports 7 and 8) and 2000 Programme (Reports 15 and 16) showed, the good practice that works is simple and well targeted. It is often through small well-focused local projects that progress is first made and small changes do make a difference. The project teams identified the fundamentals for the success of their initiatives:

- a clear rationale for what they did - based on the low representation of women in SET
- goals that linked the university's HR strategy
- identifying the contribution the work would make to the university's diversity strategy
- high level commitment from the top - to give their work visibility and credibility
- the benefits of building on previous work and complementing existing initiatives
- regular reporting on progress and disseminating findings through the management and committee structures, to develop support for any changes proposed

None of the successful projects operated in isolation. They involved the people that mattered:

- senior administrators - men and women
- principal investigators, heads of research groups and the academics responsible for the development of junior colleagues
- heads of departments, Pro Vice Chancellors and lay governors
- women in SET, including successful women who could act as role models

Surveys

Many of the HEIs undertook surveys and commissioned research which helped to:

- improve institutional awareness and understanding of the issues for women in SET
- move women's under-representation higher up management's priorities
- decide priorities, set action agendas, provide the base line for setting targets, which were realistic and achievable, and measuring future progress

A good fit

In deciding what initiatives to choose and where to start, the HEIs and departments considered what best reflected local constraints, concerns, culture, needs and academic missions.

it is difficult to persuade a highly successful university at the top of the league tables, or a 5 star department that we need to change, to attract good women scientists or to change a winning formula

The changes that became embedded were those that went with the grain. Get that right and the culture may well develop to support the changes. Signals are important, and academic credibility the touchstone. Where the Vice-Chancellor or university research committee take the lead and provide the funding for an initiative it gives it a head start.

Successful initiatives examples of good practice

Bolton Institute Athena Report 1

The project was a pilot for the introduction of personal development plans for staff, under the Institute's new five-year plan.

University of East Anglia Athena Report 2

The network built on established 'Springboard' programmes, taken up by 200 women, many of whom had since gained promotion or made significant career choices.

University of Edinburgh Athena Report 9

Edinburgh had several established SET initiatives, mentoring, a researcher development programme and a long-term study on research careers, but monitoring suggested the need to address wider institutional policies and practices.

Heriot-Watt University Athena Report 10

Heriot Watt had recently launched a new equal opportunities policy, which required heads of department to develop action plans for their departments.

Imperial College Athena Reports 3 & 19

Its mentoring pilot resulted from an external report commissioned by the College on the nature and extent of the problems experienced by women academics.

University of Luton Athena Report 11

Luton had recognised that committees were an intrinsic part of academic life, but had not previously considered the issue of gender representation and imbalance in its university structures.

Nottingham and Loughborough Universities Athena Report 4

Their development programme for post-docs was based on an earlier scheme for lecturers which had clearly showed that the greatest loss of women was at the post-doc stage.

University of Oxford Athena Report 12

Monitoring had shown that although the proportion of women applying for posts was improving, a significant shift would be needed to ensure that the full range of suitably qualified women applied.

University of Surrey Athena Report 13

Its established training provision and equal opportunities data collection did not take account of the subliminal 'cultural' aspects of the university, which tended to disadvantage some groups. The view was that things would not change until senior management were provided with hard evidence of this largely indirect and subconscious discrimination.

ORGANISATIONAL AND CULTURAL CHANGE

Introduction

The universities included here are the three main prize-winners, Cambridge, Imperial and Queen's Belfast from the 2002 Athena Awards (Reports 18-20) and those from Athena's 2000 Development Programme, Luton, Oxford and Surrey whose action programmes were sufficiently advanced to be included in Reports 15 and 16.

Leaders, champions and crusaders

It is clear from the work of these HEIs that for cultural changes to become established, action has to be taken at institutional level. It needs a clear and public demonstration of leadership and ownership of the changes from the very top, not just by the Vice-Chancellor, but by the heads of department, without whom effective changes to working practices and workplace norms will just not happen.

Most of the successful initiatives achieved their success through the persistence of women scientists. Senior men may be sympathetic but are unlikely to 'crusade', however they are valuable as 'champions' of change.

Male champions and female crusaders are important but cannot succeed on their own, no matter how senior they are. They all have 'the day job' to do and their own careers to progress.

It is important to ensure that other developments do not knock the change programme off course. Champions and crusaders may be promoted or leave and not be replaced on important committees.

The reorganisation of university management structures may reduce the number of departmental and deputy headships which provided useful career development opportunities. Champions who pick up the university portfolio may look over their shoulder a year later and discover that their own 'department', which led the good practice, has now fallen by the wayside.

Sustaining change

Change needs a proper support structure and one that is embedded in the organisation. A multi-disciplinary team or committee is important:

- to make sure that the action agenda moves forward
- to smooth the path through the system and its committees and out into departments
- to act as a sounding board and to test or pilot proposals
- to champion and publicise the changes
- to ensure no one or no group, who needs to know, to be involved or to be trained, is ignored, forgotten or left out

The team should include SET academics, senior university managers and planners and personnel, equal opportunities and staff development representatives (whose members are well positioned within the institutional hierarchy) and individuals who sit on the university committees, including the governing body, to whom recommendations will be made.

HEIs with active change agendas, which were originally promoted by project committees or teams with such a membership, which are stood down when their recommendations are accepted, have found that a 'project officer' left on her own, without the contacts and networks of the committee members and with no sounding board, or power base has difficulty in keeping things moving.

Committees are an intrinsic part of university life, but as Luton and Surrey both found women's representation on committees and thus their influence in shaping institutional direction and culture is not something that engages management attention. For Luton:

what started as an issue of women's representation and was seen as a problem about women has now been recognised as core issue of university governance and an issue for the university's corporate management

Continuing to report outcomes year on year to departmental and university committees helps to sustain management interest and keep the issue on their agenda.

Monitoring progress and reporting on it to the women in SET community helps to keep them connected and able to contribute to the development and the pace of change. As change gets going the agenda moves, expectations increase and perceptions need to keep pace with change.

In conclusion

None of the institutions included here would yet be confident that they have 'really' succeeded. They all admit that they have a long way still to go to achieve a reasonable representation of women near and at the top of SET.

However, it is important to understand how they have achieved their considerable successes and to recognise and celebrate that success.

Meanwhile, outside Athena's ambit, there are many HEIs who have not yet started to tackle the appalling waste of skills and ambitions resulting from the way in which SET in HE is organised.

Organisational and cultural change examples of good practice

University of Cambridge Athena Report 18

Cambridge won joint second prize in the 2002 Athena Awards for its Women in SET Initiative (WiSETI)

WiSETI is responsible for improving the numbers of women studying SET and the recruitment, retention and promotion rates of women in SET appointments and raising the profile and enhancing the self-confidence of women in SET:

- WiSETI is championed by the Vice-Chancellor and other senior academic and administrative staff
- WiSETI succeeds in engaging senior male scientists in its activities
- WiSETI's work involves heads of department, principal investigators, senior administrative staff; contract research staff, students and practitioner scientists, both male and female
- all SET departments have designated WiSETI representatives to keep them informed of activities

WiSETI's current programme is mainstreamed into and funded from the University's HR Strategy. Its main strands are:

- MentorNet an email mentoring programme for women undergraduates
- an annual lecture
- a recruitment programme
- a Code of Practice and best practice guidelines which together form a toolkit for SET departments

WiSETI has made a difference to women's experience and to the institutional culture, by:

- making the issues explicit
- demonstrating the practical effects of discrimination on women's experience and careers
- introducing practical strategies for addressing these issues

Imperial College Athena Report 19

Imperial won joint second prize in the 2002 Athena Awards for the work of its Rector's Committee on Academic Opportunities. The creation of a committee reporting to the Rector signalled how serious Imperial was about the under-representation of women. Its remit was

to explore and understand barriers to academic women's progression, to take action by removing any barriers that may exist in appointment or career advancement for highly qualified women and to ensure that the numbers of such qualified women are as high as possible

Imperial College

The Committee recognised the need to tackle the two fundamentally important groups of issues:

- the nature of the academic career
- the culture of the institution

They knew that unless they took action on both at the institutional level, they would not achieve long term success.

The Committee makes an impact because:

- it has a multi-dimensional approach to the issues
- it follows through its base line research
- it identified the key building blocks – mentoring, improving communications and networking
- it has the clear and unambiguous support of the head of the institution
- it has engaged senior managers and academics
- it is an on-going activity and its cumulative activities and presence is challenging the traditional culture of the college
- it is a structure which is appropriate to Imperial

No one action on its own fixes the problem, we are changing the nature of the debate and beginning to move the culture to make it more friendly but we still have a mountain to climb. In the years since the Committee was established it has moved the issue from something we were nervous about raising with the heads of department to something which is now much more mainstream

University of Luton Athena Report 11

Luton recognised membership and conduct of committees as important barriers to women's full participation in university life. Committee representation was not wholly within the university's gift, being largely determined by quasi-democratic processes. Women represented 70% of the members of the mitigating circumstances and other 'administrative' committees, but only 13% of the research committee.

The senior Pro Vice-Chancellor as chair of the project committee allowed the university to act on issues as they were identified and ensured that the university questioned the representation of women on all committees. Other changes have been made:

- mechanisms for selecting committee members are more open
- appointments to committees are for a fixed term to allow more staff to participate
- the training for committee chairs is a response to the comments:

weak chairs cannot prevent senior management from domination

often a male chair will disregard what a female member says because of the way it was expressed which is taken as over-emotional or taken personally. It is hurtful and often means that the female doesn't contribute further

those of us who are part of or privy to the male network know the issues/politics around the discussion. The rest of us are excluded

University of Oxford Athena Report 12

The university adopted an action plan based on findings from their research:

- it links with the university's human resource strategy and equal opportunities planning
- the divisional boards responsible for academic administration and appointments were briefed by the Vice-Chancellor on the action plan and will be assisted to incorporate appropriate targets in their development plans
- continuing evaluation is built into the university's planning process
- for each action, the part of the university responsible is identified- they include public relations, academic departments, personnel and equal opportunities
- it includes the projection of positive images - giving greater publicity to women's work in SET, to counteract the university's image of a white male institution and making available publicity material which uses inclusive language and images
- recruitment advertisements have a welcoming positive action statement
- a review, in consultation with Colleges, of recruitment materials, selection criteria and processes, to check for inadvertent adverse impact
- panel chairs are required to attend training

Oxford is also:

- reviewing its salary structures against equal pay considerations
- undertaking pay audits
- introducing mentoring and careers support for researchers, to encourage them to consider academic careers, backed by guidance for their managers

Oxford has recently made the first appointments on its career development fellowship scheme.

Queen's University Belfast Athena Report 20

Queen's Belfast won the first prize in the 2002 Athena Awards for the work of their Women's Forum, set up in 1999 at the request of the Vice-Chancellor, to investigate gender issues and improve the profile and position of women in the university, not just the most disadvantaged group in SET. The Forum prepared the ground by:

- building the confidence of women, so that they would be willing to put themselves forward for advancement, making sure they would be in the right position at the right time with the right experience behind them
- listening and responding to what was said by the 600 women who contributed to the initial consultation

Queen's Belfast

A gender champion, the Director of the Gender Initiative, an administrator and secretary were appointed and the Gender Initiative Office was opened with its agenda set by the recommendations of the Women's Forum Report.

Each recommendation has its own champion, and a subgroup to support it. Their methodology is to move forward with the support of senior and middle management and the backing of the women of Queen's. Together they:

- listen - the 2000 rolling programme of seminars will be repeated in spring 2003
- implement - recommendations from the Forum Report are developed and introduced
- mainstream - as each measure goes through the university's committees, plans for mainstreaming it are put into place, often through HR

Their achievements:

- procedures have been overhauled and criteria made more explicit, eg for promotions, professorial banding and discretionary pay
- the infrastructure is in place to encourage women into higher places
- the cultural environment has changed radically and symbolically –
 - Senate now comprises 41% women, an increase matched by the increase in women receiving honorary degrees
 - there is now the first of many portraits of women hung in the Great Hall
 - a large canvas representing women of Queen's emerging from the shadows will be mounted on the Council Chamber wall in March 2003

University of Surrey Athena Report 13

Conclusions from the University of Surrey Briefing Note published September 2002

The University's Athena project has produced a wealth of interesting information, particularly through the survey. The project has helped to stimulate greater interest in equal opportunities issues within the University. Some actions have been put in place and more are planned. There is no doubt that at the highest level within the University there is commitment to change and improving opportunities for all.

Heads of schools, departments and research centres will have a crucial role to play in effecting many of the recommendations that have been made, as it is at this level that most of the decisions affecting the career development of staff are made.

The key issues that have been highlighted are: proper appraisal linked to staff development and training, succession planning, preparation of individuals for promotion, encouragement of applications for promotion, transparent and fair allocations of tasks and responsibilities. Progress in these areas will need to be monitored, but Personnel, the Equal Opportunities Executive Group and the Pro Vice Chancellor for Staff Development are all committed to providing a lead on this and to ensuring that change is effected.

HEI CONTRIBUTORS

THE FOLLOWING ALPHABETICAL LIST INCLUDES ALL HEIs WHO HAVE CONTRIBUTED TO ATHENA'S DEVELOPMENT OF GOOD PRACTICE, PLUS: RELEVANT ATHENA PUBLICATION REFERENCES, THE TOPICS THEY COVERED (BOLD TEXT- DENOTES WHERE TO FIND THEM IN THE GUIDE) AND CONTACTS FOR FURTHER INFORMATION.

Aberdeen University
Athena Awards 2002
mentoring
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Bolton Institute
Athena Report 1
1999 Programme
mentoring
successful initiatives
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Bradford University
Athena Report 14
Founder Northern LAWN 2000

Cambridge University
Athena Report 18
2002 Athena Awards (joint second prize)
mentoring
appointments/promotions
departments
organisational and cultural change
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<http://www.admin.cam.ac.uk/univ/wiseti/>
Springboard <http://www.admin.cam.ac.uk/offices/personnel/staffdev/springboard/>
University of Melbourne Employment by Gender <http://www.hr.unimelb.edu.au/e/>
MentorNet <http://www.mentornet.net>

De Montfort University
Member East Midlands LAWN 2000

University of East Anglia
Athena Report 2
1999 Programme
network
career barriers/choices
successful initiatives

Athena Report 14
Founder East Anglia LAWN 2000

Athena Report 21
2002 Athena Awards (special prize)
network
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Athena Report 9
2000 Programme
career barriers/choices
appointments/promotions
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2000 Programme
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Imperial College
Athena Report 3
1999 Programme
mentoring
successful initiatives

Athena Occasional Paper 2
2001 Athena Lecture

Athena Report 19
Athena Awards 2002 (joint second prize)
network
career barriers/choices
appointments/promotions
departments
organisational and cultural change
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Founder Northern LAWN 2000
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Faculty of Biological Science project
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Leicester University
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London Metropolitan University
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network
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www.unl.ac.uk/ipse/swan.htm

Loughborough University
Athena Report 4
1999 Programme
network, mentoring
career barriers/choices
successful initiatives
www.nottingham.ac.uk/tsd/athena

Athena Report 14
founder East Midlands LAWN 2000
network
Research Success Conference material-
http://www.lboro.ac.uk/admin/personnel/athena_web/INDEX.HTM
2002 Athena Study 'career choice academe or industry' awaiting publication

Luton University
Athena Report 11
2000 Programme
appointments/promotions
successful initiatives
organisational and cultural change
member SWAN LAWN 2002
network
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Northumbria University
Founder North East LAWN 2002
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1999 Programme
network
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career barriers/choices
successful initiatives
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www.nottingham.ac.uk/tsd/athena

Nottingham Trent University
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The Open University
Athena Report 5
1999 Programme
career barriers/choices
appointments/promotions
departmental management
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<http://iet.open.ac.uk/research/projects/external/athena.cfm>

Oxford University
Athena Report 12
2000 Programme
career barriers/choices
appointments/promotions
departmental management
successful initiatives
organisational and cultural change
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Plymouth University
Athena Report 14
Founder South West LAWN 2000
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Queen's University Belfast
Athena Report 20
2002 Athena Awards (first prize)
organisational and cultural change

Founder Northern Ireland LAWN 2002
network
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St Andrews University
Athena Report 14
Founder St Andrews LAWN 2000
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Sheffield Hallam University
Athena Report 6
1999 Programme
mentoring

Strathclyde University
Founder WestScot LAWN 2002
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Surrey University
Athena Report 13
2000 Programme
networks
appointments/promotions
departmental management
successful initiatives
organisational and cultural change
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Ulster University
Founder Northern Ireland LAWN 2002

ATHENA PUBLICATIONS

Athena Reports 1 to 6

The reports describe the work undertaken by the seven HEIs who contributed to Athena's first development programme and include: the rationale for their initiatives, a brief description of the HEI and previous related initiatives, their learning, achievements and plans for the future.

Athena Report 1 Mentoring Women in SET

Bolton Institute - pilot mentoring scheme (undergraduates, postgraduates and staff, external women mentors)
mentoring, successful initiatives

Athena Report 2 ResNet2000

UEA established a self sustaining low cost network for CRS staff at UEA and the Norwich Research Park, includes findings from survey of CRS career development perceptions.
network, career barriers/choices, successful initiatives

Athena Report 3 Might Mentoring Help?

Imperial College piloted mentoring strategies (male and female mentors, career issue workshops and email discussion site).
mentoring, network, successful initiatives

Athena Report 4 Skill Acquisition and Mentoring During Early Career Stages

Nottingham and Loughborough developed a support programme for post-docs to provide the skills and confidence needed for a long term career in SET.
mentoring, career barriers/choices, successful initiatives

Athena Report 5 Beating Barriers and Constraints in HE Careers

The Open University surveyed their associate lecturers to explore why the OU is successful in recruiting and retaining female academics and identified barriers to women's career progression.
career barriers/choices, departmental management

Athena Report 6 Developing a Mentoring Training Programme

Sheffield Hallam developed mentoring training following a survey on the barriers to women's career progression.
mentoring

Athena Report 7 The 1999 Athena Development Programme

Draws together the results of the programme and the work of the HEIs, which focused on women at the beginning of their SET career, and the initiatives that were piloted to support career progression, to increase women's expectations and to encourage and enable them take control of their careers.
mentoring, network, career barriers/choices, successful initiatives

Athena Report 8-The Good Practice Guide 1999

In addition to the good practice from Athena's 1999 development programme, the report summarises good practice identified in key external reports:

- 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
<http://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
- The Wellcome Trust and Research Council's Who Applies for Research Funding? – Key factors shaping funding application behaviour among women and men
www.wellcome.ac.uk/publications full report of the findings www.natcen.ac.uk

mentoring, network, career barriers/choices, successful initiatives

Athena Reports 9 to 13

The reports describe the work undertaken by the five HEIs who contributed to Athena's first development programme and include: the rationale for their work, a brief description of the HEI and previous related initiatives, their learning, outcomes and action plans.

Athena Report 9 Bridging the Gap

Edinburgh examined the under representation of women at lecturer level / over representation at post doc level , women's attitudes to and the experiences of applying for lecturer posts.

career barriers/choices, appointments/promotion, departmental management, successful initiatives

Athena Report 10 The Development and Retention of Academic Women

Heriot-Watt University explored why women left the university, identified the barriers and developed an action plan including promotion and staff development.

career barriers/choices, appointments/promotions, initiatives/precursors

Athena Report 11 Inclusive Committees

Luton explored the representation and participation of women on university committees, made changes in response to their findings and started to address underlying barriers.

career barriers/choices, appointments/promotion, successful initiatives

Athena Report 12 Encouraging Applications from Women Scientists

Oxford identified the barriers to women applying for appointments and incorporated solutions which covered a range of practices into a university action plan.

career barriers/choices, appointments/promotion, departmental management, successful initiatives organisation/culture

Athena Report 13 Moving Up

Surrey explored the recruitment, retention and progression of women and the means to ensure that they played a more significant role in shaping the university's direction and culture.

network, appointments/promotion, departmental management, successful initiatives, organisation/culture

Athena Report 14 Local Academic Women's Networks (LAWNs)

The report describes the aims and activities of the five Networks set up in 2000 and what they achieved.
network

Athena Report 15 The 2000 Athena Development Programme

Draws together the work of the HEIs, which focused on women making or not the first significant step on the career ladder to lecturer appointments, and on the organisation, culture and practices of SET employment in HE which represent barriers to women's progress. It identifies a number of organisational cultural and value issues and describes some of the necessary precursors to success. The HEIs all chose to address their culture through changes to practices and have begun to implement the action plans they developed.
network, career barriers/choices, appointments/promotion, departmental management, successful initiatives

Athena Report 16 The Good Practice Guide 2000

The report summarises the practical approaches and solutions developed by the HEIs in the 2000 Programme and the foundations on which they built their action plans:
career barriers/choices, appointments/promotion, departmental management, initiatives/precursors

Athena Report 17

New Research on Women, Science and Higher Education – a summary of the key themes from the Athena Conference held in September 2001. The full proceedings are published in Occasional Paper 3

Athena Reports 18 to 21

These reports describe the work undertaken by the prize winners from the 2002 Athena Awards, who between them developed a wealth of well targeted and practical approaches to redressing the under-representation of women in SET.

Athena Report 18 Women in SET Initiative (WiSETI)

Cambridge's work is raising the profile and enhancing the self-confidence of women in SET, improving the numbers of women studying SET and the recruitment, retention and promotion rates of women in SET appointments. It is mainstreamed within the university structure.
mentoring, departmental management, initiatives/precursors, organisation/culture

Athena Report 19 Challenging Culture The Rector's Committee

Imperial's work is led firmly from the top. Its committee has a single focus - the recruitment, retention, reward and development of women academics, its impact is on-going and cumulative
mentoring, network, appointments/promotion, departmental management, initiatives/precursors, organisation/culture

Athena Report 20 Addressing the Gender Imbalance

Queen's Belfast addresses issues of gender imbalance across the whole university, collecting and disseminating the evidence, investigating its causes, and develops family-friendly policies and action plans for implementation by the university.
network, appointments/promotion, departmental management, initiatives/precursors, organisation/culture

Athena Report 21 ResNet 2002 The Maturing Network a Powerful Tool

ResNet the network for UEA and the Norwich Research park continues to provide well targeted practical activity and support for women at the first critical stage of the SET career.
network

Occasional Paper 1 Women Scientists in Higher Education: A Literature Review

Bebbington, D.

Occasional Paper 2 Gender Equity in Academia: Lessons from the MIT Experience

Text of the first Imperial College Athena lecture, May 2001, given by Professor Lotte Bailyn, who was the Faculty Chair at the time the Committee of Women Faculty in the School of Science at MIT submitted its report 'A Study of Women Faculty in Science at MIT'.

Occasional Paper 3 - New Research on women, science and higher education

Proceedings of the Athena conference at the Royal Institution of Great Britain 25 September 2001 edited Bebbington, D.