Planning for Success: Good Practice in University Science Departments

RSC | Advancing the Chemical Sciences
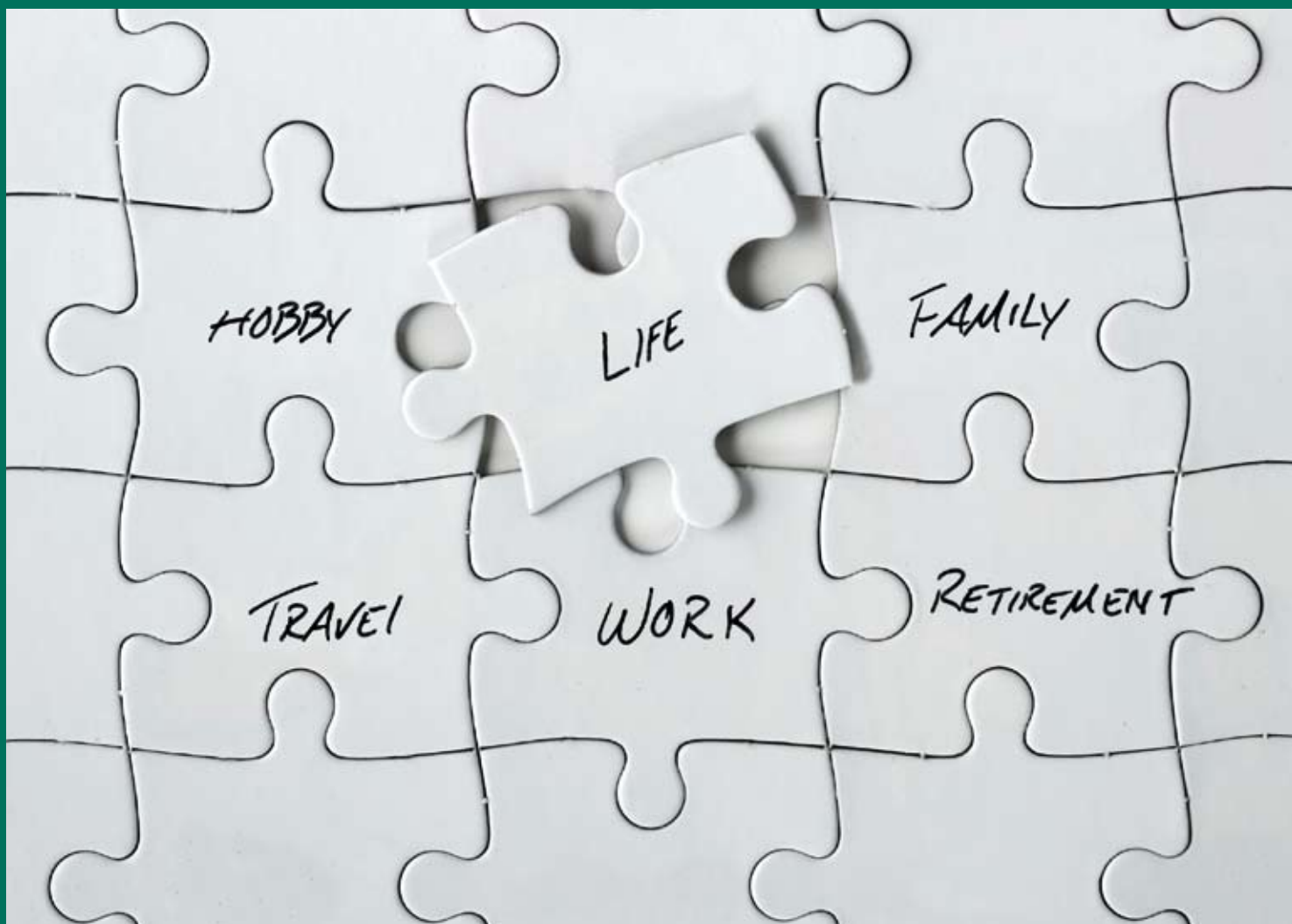
About the RSC

Since 1841, the RSC has been a leading society and professional body for chemical scientists, and is committed to ensuring that an enthusiastic, innovative and thriving scientific community is in place to face the future. The RSC has a global membership of over 44,000, with a further 300,000 associated chemical scientists internationally, and is actively involved in the spheres of education, qualifications and professional conduct. It runs conferences and meetings for chemical scientists, industrialists and policy makers, at both national and local level. It is a major publisher of scientific books and journals, the majority of which are held in the RSC Library and Information Centre. In all its work, the RSC aims to be objective and impartial, and is recognised throughout the world as an authoritative voice of the chemical sciences.

www.rsc.org

About Athena

The Athena Project ran from 1999 to 2007. The project's aim was the advancement and promotion of the careers of women in science, engineering and technology (SET) and the achievement of a significant increase in the number of women recruited to the top posts. The Athena Forum and the Athena Partnership were established in 2008 as part of the Athena Project's legacy. The mission of the Athena Forum is to provide a strategic oversight of developments that seek to, or have proven to, advance the career progression and representation of women in SET in higher education (HE) and research. The Athena Partnership is a grouping of professional institutions and learned societies, including the Royal Society of Chemistry, and funders of science, technology, engineering and maths (STEM) HE and research who are committed to fostering good practice in higher education and research.

www.athenapartnership.org

To comment, or for further information about the report, please contact: Sarah Dickinson, Royal Society of Chemistry, Burlington House, Piccadilly, London W1J 0BA, Tel: 020 7440 3396, Email: dickinsons@rsc.org Website: www.rsc.org

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Foreword

We are delighted to present the findings of this second joint initiative by the Royal Society of Chemistry (RSC) and the Athena Project. The RSC and Athena worked together throughout the life of the Athena Project. This collaboration was instrumental in the establishment of the Athena Partnership. This report is the first contribution to the Partnership's STEM Good Practice Toolkit, and we look forward to future components, some already in the pipeline, which are being produced by the RSC in collaboration with the Institute of Physics.

The Athena/RSC Good Practice report, published in 2004, promised a review, and this revised report on the Good Practice in (38) UK chemistry departments is the result. We know how widely read the 2004 report was, both inside and outside chemistry departments, and we hope that university departments, be they science, engineering, humanities, or social science-based, will find this report equally stimulating and useful.

The situation has moved on: things are changing for the better, in universities generally, in STEM departments, and specifically in chemistry departments where more women are being appointed and more promoted. Athena and the RSC have played a part in the changes. Edinburgh Chemistry Department was the first UK department to receive a silver SWAN (Scientific Women's Academic Network) award in 2006 and, at the time of writing, York Chemistry Department is the only UK academic department to have been awarded a Gold SWAN.

Something which has not changed is that, in contrast to departments that really have not started to think seriously about good practice, the departments at the leading age of good practice are far more likely to be aware of what good practice really means. More importantly, these leading departments are also aware of what more needs to be done in creating a work environment in which everyone can achieve his or her potential.

Without the energy, enthusiasm and commitment of the academic community none of the improvements we have seen so far could have taken place. Progress has been made. But, as the report suggests a community still has much more to do. Departments where practices and cultures fall short of the best will soon find that doing nothing is no longer an option. Action will have to be taken if they are not to lose their best workers and students. And yet, starting on the road to improvement is easy: much of the good practice is simple, cheap and proven. Indeed, we hope that this report will galvanise and encourage many departments to start planning their journey towards The University of Utopia.

Professor Dame Jocelyn Bell Burnell, FRS
Athena Forum Chair
President Elect Institute of Physics

Professor Paul Walton
RSC Diversity Working Group Chair

Acknowledgments

Our thanks go to the many individuals in university chemistry departments who contributed to this study. They are too numerous to mention individually. They include the heads of departments, and others who gave their time to complete the good practice checklist, and to take part in the follow up telephone discussions, and the many individuals who contributed their experiences and their views of working in academic chemistry. Every example of good practice quoted, or referenced, in the text is in place in one or more UK chemistry department.

Particular thanks are due to the departments we visited, to the heads of department, their senior colleagues and administrative staff whose organisational skills made our visits enjoyable and valuable. Thanks also go to the five individuals, who provided us with a personal perspective of the realities of trying to achieve a sustainable work life balance and having a successful academic career.

We would also like to thank all the departmental members who found time to talk to us during the visits. We have drawn extensively on what we leant - the examples of good practice they shared with us, their views on what is important for career progression, and the issues that have still to be resolved if men and women are to enjoy equally the benefits of the contributions they make to science.

We hope all those who contributed to the report will be satisfied with the results and will feel the time they invested was worthwhile.

Sarah Dickinson and **Sean McWhinnie**
Royal Society of Chemistry

Caroline Fox
Advisor Athena Forum

Executive Summary

This report presents the good practice found in UK chemistry departments. The good practice collected for the original 2004 RSC/Athena report has been supplemented by examples of good practice collected for this report. The stimulus for this revised report was the wish to review progress on how things had changed since the 2004 report was published, to discover what new and useful good practice had been developed, and to provide:

- A Good Practice Checklist which can be used by any university STEM department;
- Examples of good practice which can be adapted and used by university STEM departments;
- Markers against which future progress can be measured.

The 38 departments who contributed represented a wider range than in 2004. Five departments that took part in the 2004 project did not participate; two have closed.

Every department had some good practice in place, sometimes by chance rather than the result of planning. However, in many cases departmental good practice was built on the basis of clear university policies, expectations, and requirements.

The level of good practice found was higher than in 2004, so the hope expressed in the 2004 report, that other chemistry departments would use that report to benchmark themselves, and would take part in the planned re-run of the checklist, has been fulfilled.

In 2004 there were pockets of good practice in a relatively small number of departments. Now good practice is more widely spread. The departments which were clearly ahead of the field in 2004 are still in the lead, but are being chased closely by a number of others.

Key Findings

Many of this report's findings further endorse the key messages of the 2004 report;[1] some come from interactions[2] with university chemistry departments since that report was written, and others from departments which contributed to this review. What is clear from this work is that:

1. Good practice benefits all, staff and students, men and women. However, bad practice adversely affects women's careers more than men's.

2. The best departments don't target measures specifically at women because improved working conditions benefit all and make for a happy department: Good Practice isn't about how many women are in the department, it's about processes that are fair, flexible, accessible and transparent to all.

3. Good Practice departments appear able to attract and retain women far better than other departments.

4. There is no evidence that the introduction of good practices adversely affects the excellence of the science carried out. Good practice equates with good science. In contrast the detrimental effects of bad practice are incremental.

5. Leadership from the top, with the Head of Department acting as champion, is critical to changing culture, to making the changes stick, and to changing behaviour. Simple changes to processes, which deliver clear benefits to staff, can start to change policy and behaviour, but without a Head of Department prepared to introduce changes and monitor adherence, little will be different in the medium and longer term.

6. The age profile of the department, and the diversity of its staff, makes a difference. Young men and women with families have different expectations and needs from their older colleagues. Those younger staff members careers (and their science) cannot thrive unless the working culture of the department reflects the reality of dual career partnerships.

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[1] The report Good Practice in University (Chemistry) Departments is available on the RSC website www.rsc.org/diversity

[2] Since 2005 the RSC has undertaken a number of dissemination events in chemistry departments. Edinburgh and York chemistry departments made successful submissions for Athena SWAN awards in 2006 and 2007. Academic departments in universities which are members of the Athena SWAN Charter can apply for departmental SWAN silver and gold recognition awards. Information on the Athena SWAN Charter and its recognition awards is available on www.athenaswan.org.uk.

7. Successful action is based on good planning, which takes account of the department's academic plan and which is based on evidence.

Background

The first *Good Practice in University* (Chemistry) *Departments* report was published in 2004, with the intention of repeating the work in 2006. Despite some misgivings on the need for a rerun, the evidence - the 38 departments who contributed, those who had read the report and implemented some of its recommendations, and the increased level of good practice - suggests it was worthwhile. The review provided the opportunity to respond to feedback on the original checklist, to take a more generic approach, and to focus more on good practice and less on women specific initiatives.

An hour before the launch of the 2004 report the first consignment of freshly printed reports finally arrived and the first box was opened eagerly; imagine the horror when it was realised that the word Chemistry was missing from the cover and that the RSC was about to launch a report entitled Good Practice in University Departments.

But, every cloud has a silver lining; although drawn from chemistry departments the information in the report was generic, so the less specific title was apt. An amazing number of non-chemists have picked it up and are continuing to make good use of it, but as they tell the RSC when they ask for more copies, they would not have looked at it twice had the word chemistry appeared on the cover. The demand was such that the report was reprinted, and the cover was left unchanged.

This report, although once again containing examples of good practice almost all drawn from chemistry, is this time deliberately entitled Good Practice in University Science Departments and it is hoped that it will be useful to any UK university STEM department – and to non–STEM departments as well.

One relatively recently appointed Head of Department commented,

> *The 2004 report was useful but I wish I had read it before I started.*

The RSC's hope is that this report may become a standard text for academics who are thinking about taking up a departmental headship.

Structure of the Report

The report structure has been designed to meet the interests of a range of readers, in the hope that its readership will be wide, both within and outside chemistry departments.

The Executive Summary, with the key findings from the review, and *Planning for Success- the first five steps on the Journey to Utopia*, provide an overview of the report.

Chapter 1, *Utopia Revisited* - a review of the university chemistry department's progress, repeats the device used in the 2004 report to showcase the good practice in place in the best departments. It updates the reader on recent changes made by the "utopian" department of the original report. Appendix D is a reproduction of an article originally published in the RSC's Policy Bulletin in 2005 which provides a summary of the department as described in the 2004 report.

Chapter 2, *The Methodology of the Review*, describes how the review of good practice was carried out. It provides an introduction to the analysis of the checklist, which appears at Appendix A. This section will be of interest to the departments that contributed to the report, to other STEM professional societies, who may be considering a review of good practice in university departments in their own discipline, to universities considering the use of a good practice checklist among their own STEM departments, and to any departments who wish to see where they stand, as a first step on their planned journey towards Utopia.

Note: Any organisations wishing to make use of the good practice checklist should use the current version (Appendix C).

Chapter 3, *Statistics of Progress 1994 to 2007*, presents an overview which places UK academic chemistry in the context of other science, engineering and technology disciplines. This will be useful to departments who wish to measure the representation of women at staff and student levels in their department against the UK picture.

Note: A fuller picture, *including data on other disciplines*, is available on the RSC website (www.rsc.org/diversity).

Chapter 4, *Work Life Balance – Five individuals' Reality Takes*, gives the personal insights of five chemists and how they have tried to achieve balance between their personal and working lives.

Chapter 5, *Key Performance indicators for Academic Departments*, the issues and good practice identified in this section all come from UK chemistry departments, mostly from the completed checklists, from follow up phone calls with heads of departments and from discussions held during departmental visits. The five point framework[3] used in this report covers the areas of activity identified in work by Athena and the RSC as the keys to good practice, to women's career progression and their improved representation at the top levels of science.

- The fundamentals in planning for success

- Appointment and promotion processes

- Career development

- Organisation, arrangements and culture

- Flexibility across the working day, working year and working life

The above indicators form the basis of the checklist used for this review, they have also been used by the Institute of Physics (IOP) as the five principles which underpin their Project Juno Code of Practice. This section will be of interest to Physics departments who are considering applying to the IOP for Juno Champion status, to any STEM departments considering for applying for an Athena SWAN recognition award, or any STEM department interested in improving the representation of women at all levels, and upgrading its employment practices.

Note: The analysis of the checklist responses from the 38 participating departments together with a comparison with the information from 2004 is presented in Appendix A.

Chapter 6, *Next Steps*, focuses on what can be done by departments who wish to become or to retain their status as employers of choice for young academics (men and women), on what the RSC plans to do to support and encourage good practice in UK university chemistry departments and on what the UK's professional and learned societies more generally can do (and in some cases are doing).

Appendix A provides an analysis of the 38 checklists completed for this review. It will be of interest to departments wishing to compare themselves and their progress with other UK departments.

Appendix B is the checklist used to collect information for this report.

Appendix C is a generic checklist for STEM departments. It incorporates feedback from departments and is the one recommended for use by any discipline.

Appendix D reproduces an article which was originally published in the RSC's Policy Bulletin in 2005. *Utopia or reality* summarises the utopian department first presented in the 2004 report, and provides the backdrop for Chapter 1.

Planning for Success – the first five steps on the journey to Utopia

The steps suggested are based on what the departments at the leading edge of good practice have done, but none of these departments would see themselves as having completed their journey yet. What they are very clear about is how long it has taken from when they started, and how much there is still to do, but they are determined to get there and to go the extra mile, because they can see the benefits of the changes they have made to the department, its members and its science, and can anticipate the future benefits.

1. Start simple, use common sense and go for some quick wins, climb the hills before the mountains, the first steps won't cost anything but time. Small changes can make a real difference and will prepare the ground for bigger changes, and celebrate success before moving on to the next challenge.

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[3] The 2004 report identified three key performance indicators, however, subsequent work, including the development of the Athena SWAN Charter principles and key assessment areas, has resulted in an expansion to five indicators.

2. Look around at what quantitative and qualitative data the department can use, for example, data collected by the university under its public sector gender equality duties, the data in chapter 3 of this report, and data from ASSET surveys[4] and look at what the data says about the department.

3. Identify the support the department can get from its university, for example, initiatives under the gender equality duty, find out whether the university is a member of the Athena SWAN Charter, look at what other departments are doing. Has the university's physics department signed up to the Juno Code of Practice?[5]

4. Discuss openly and share the findings with staff at all levels, and seek their views on what to do in terms of both priorities and practicalities.

5. Then, decide on a small number of actions/activities, set a time scale and some targets, identify individuals to take them forward, report the plan and progress to the management team, and publish it on the department website, and again ensure that success is celebrated.

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[4] Reports on the Athena Surveys of Science Engineering and Technology (ASSET) in 2003. 2004 and 2006 are available on www.athenapartnership.org.uk.

[5] Physics Departments can 'sign' up to the Institute of Physics Juno Code of Practice (for advancing women's careers in physics in higher education) at either 'Supporter' or 'Champion' level. The five principles on which the IOP code is based are the same as the Key Performance Indicators described in Chapter 5. The code complements the Athena SWAN Charter and is designed to help physics departments on their journey towards silver and gold SWAN recognition awards. JUNO information is available at www.iop.org.

1. Utopia Revisited

In 2002, on his appointment, the previous Head of Department completed a fundamental reorganisation of the School's management structure. The head appointed a departmental administrator, who acts as secretary to the management team (who happened to be an ex-academic); this arrangement has proved very affective in freeing up research time for research active staff.

The head also moved away from the tradition of a management team comprising the three senior professors who headed the department's key research areas, and introduced a line management structure with a five year rotation of posts. This resulted in staff with senior line management positions who had very different outlooks and life experiences from the previous section heads. The section heads now sit on the departmental research committee and their views are represented on the management team by the chair of that committee. The management team is completed by the chair of the teaching committee and the head of the departmental technical staff.

The responsibilities of the management group are clearly defined and its members are equally clear that they are accountable to the staff of the department. Spelling this out was a conscious move as a reaction to the old system, where group heads were able to complain about things, but did not have the responsibility for making things happen. These changes laid the foundation for what followed.

When the 2004 RSC/Athena report on good practice was published, the department commissioned a group, including administrative, technical and research staff, to investigate how well the department matched up to the checklist in that report. One outcome, related to the sidelining of women into atypical posts, was that the post of disability officer is now held by a senior male academic.

The university requires its departments to include diversity action plans within their annual academic plans. As part of its planning process the university sends all departments their figures, and expects departments to benchmark themselves against other university departments. So, for its successful application for a SWAN recognition award, the department was able to benchmark its staff profile over a number of years against RSC published UK data. The department found the SWAN self-assessment process valuable, they identified:

- The need for good data capture, to measure the long-term effectiveness of the schemes they had in place. Anecdotal evidence was available, but the department had not been capturing and/or recording what would have been useful data;

- The challenge of balancing the importance of women's involvement in decision-making, on committees and selection panels, with ensuring that inclusion was not at the expense of their academic careers (with the limited number of women on the staff they had become involved in a wider range of activities than their male counterparts).

All the university's academic departments have a diversity officer; chemistry's is a Royal Society University Research Fellow who is involved in the university's active diversity programme. The university takes women's representation very seriously but hasn't to date raised any issues with the department, so that's taken as a good sign.

The changes in the department, which started when the previous Head of Department was appointed, are being even more vigorously pursued by the new head who is, if anything, even more enthusiastically committed to good practice, and to maintaining a supportive working environment, than the previous head. That enthusiasm was an important factor in the department's choice of head; there was no way they would have allowed the department to 'regress'.

The previous and current heads both engendered a culture and style of management that encouraged staff to manage their domestic commitments, and not for these to be seen as having a negative impact on their careers. This positive attitude has benefited many staff who consequently feel more comfortable with balancing work and domestic commitments in a flexible way. It has reduced the pressures they put themselves under, and has led to a healthier, happier and more committed workforce. The department recognised from its early experience, that this approach made good business sense, and that flexible working arrangements would be much more likely to be taken up by female staff if they were also taken up by senior males.

The Head of Department makes sure that all staff understand the department's culture, which is to value people and their contributions at all levels. Now that people know that their concerns will be listened to, taken seriously and dealt with, they feel valued, and in turn contribute fully to the department.

The head maintains an open door policy and regularly visits all members of academic staff in their offices. The layout of the department, with new members of staff located near their colleagues, is good for encouraging support. The strict physical separation of office and laboratory accommodation had an unplanned benefit - it is possible for staff to bring their children into the office. The banning of personal kettles and coffee making from offices not only promotes socialising in the common room but makes offices safer as well. The common room has recently been refurbished by transferring money originally earmarked to refurbish a small laboratory; all staff were consulted, and the consensus was that this improvement to the working environment would benefit productivity more than refurbishing one laboratory. The staff picture/notice board includes both academic and support staff; all first names are included, and the board is ordered alphabetically by surname and not by grade, and the staff information/biography on the university website includes at least one sentence for each staff member giving information about the individual not their science.

Recently the university had introduced a system of appraisals every 6 months for post docs with their principle investigator; the appraisals include a discussion on the post doc's potential for an academic post. A system of interviews with careers advisors for post docs has also been introduced; whilst the scheme is voluntary, post docs are advised by their principle investigator to take advantage of it, and are granted time off to do so. Previously post docs were appraised every two years which meant that some only had an appraisal shortly before their two year contract ended.

With funding from the Higher Education Funding Council for England (HEFCE), and input and backing from senior female members of staff who have had children, the head supports and encourages the new Programme for Women Academic Returners. The programme provides funding to women on maternity leave to either employ cover so that their research continues during their leave, or fund an additional post to provide support once they return. This initiative has had a huge impact on the young female staff and has reduced the blame culture associated with women scientists leaving to go on maternity leave.

The head has also led a university wide campaign for the refurbishing and extension of the university crèche, ensuring that it is fit for purpose with a ground floor location, close to a drop off point/short stay car park and with corridors wide enough to accommodate buggies and pushchairs with ease. The head didn't need to use the facilities himself, as his children are now older, but he felt strongly that his staff needed good convenient facilities. He had also won his battle to change the closing time of the crèche to 6 15 p.m. rather than 5.30 p.m., as some of the university's laboratory classes finished at 6.00 p.m.

Interestingly the current head, reflecting on the changes he had made, is quite clear that he couldn't have made significant progress had it not been for the culture change initiated by his predecessor.

2.   The Review Methodology

The methodology was the same as that used in 2004. In April 2007 a good practice checklist, with covering letter was sent to heads of chemistry departments (and to heads of science departments where chemistry is taught) and their Vice Chancellors. The checklists were mostly completed by the Head of Department; however some were filled in by another member of academic or administrative staff.

The returned checklists were followed up with telephone interviews to further explore the responses given. The interviews lasted around 40 minutes, and were normally with the Head of Department. Based on the information collection from these interviews, four departments were selected for visits.

2.1 Contributing Departments

The checklist was completed by 38 departments; those with an asterisk also completed the checklist in 2004, those with a dagger were visited as part of the research to produce this revised report, and those with a 2 daggers were visited for the original report.

Aberdeen	Hull	Queens University Belfast
Aston	Imperial College London *	Robert Gordon
Bath *††	Kent	Sheffield *†
Bangor	Kingston	Southampton †
Bradford	Leicester *†	St Andrews
Bristol	Liverpool John Moores	Strathclyde *
Cambridge *	Loughborough *	Surrey *
Cardiff	Manchester *†	Sussex
Durham *††	Newcastle	University College London *
Edinburgh *††	Nottingham *	University East Anglia
Glasgow *	Nottingham Trent *	Warwick *††
Heriot-Watt *	Northumbria	York *††
Huddersfield *	Queen Mary London *	

Of the 38 departments, 14 are in Russell Group universities and 6 are in post '92 universities. Of those departments entered in the last Research Assessment Exercise (RAE) as chemistry, five departments were graded 5*, ten departments were graded 5, ten were graded 4 and seven were graded 3a or 3b.

17 departments are in Universities who are members of the Athena SWAN Charter.[7] Since the last report was published Edinburgh Chemistry Department became the first department in any discipline to win an Athena SWAN[8] silver recognition award and York Chemistry Department was the first to win a gold award.

2.2 Good Practice Checklist

The 2007 checklist at Appendix B was a refinement of the one used for the 2004 report. The sections were increased from 3 to 5, organised on the basis of the Athena/RSC key performance indicators of good practice and the Institute of Physics' (IOP) Juno principles, so there is consistency. The analysis of the 38 checklists that were returned (Appendix A), and comparisons with the position in 2004, was based on the structure of the 2007 checklist (Appendix B).

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[7]The Athena SWAN Charter is a scheme which recognises excellence in Science, Engineering and Technology (SET) employment for women in higher education and research. The Charter was launched in June 2005. Any university or research institution which is committed to the advancement and promotion of the careers of women in SET in higher education and research can apply for membership. Over twenty five per cent of all eligible universities are now members (www.athenaswan.org)

[8]Athena SWAN awards recognise good practice on recruiting and promoting women in universities and departments or faculties.

The performance indicators cover:

- The fundamentals in planning for success that delivers equality of opportunity and reward in STEM - covering evidence and data, leadership and resources;

- Appointment and promotion processes that encourage women and men to apply for academic posts at all levels;

- Structures and systems that encourage and support career progression and development;

- Organisational arrangements and cultures that are open, inclusive, and transparent and engage all staff;

- Flexibility across the working day, the working year and working life that maximises individuals' participation in STEM at all life and career stages.

Departments were asked to provide a gender profile of students and staff.

As in 2004, the areas explored were not specific to women, however, the references to women in some of the questions usually prompted the response that the process applied equally to all. The new 2008 edition (Appendix C) was revised to recognise that good practice benefits all, and refers to both men and women.

As in 2004, the follow up discussions showed that the 'best' departments were more likely to rate their performance lower than it actually was, compared with others. They were also more likely to say that what they were doing was just "common sense" and that they still had a lot to do.

The consensus was that the checklist was a useful tool; completing it had led departments to review their processes, for some it had:

- Promoted awareness of career progression and appraisal issues;

- Emphasised the importance of a having a Head of Department who supports flexible working by, for example, only holding meetings during core hours;

- Prompted a look at the treatment of post-docs;

- Helped their assessment of how jobs were advertised/the wording used;

- Led to an assessment of career breaks and their support for returners.

The 2008 revision of the checklist (Appendix C) is generic; the word "chemistry" does not appear. This has been done in the hope that other STEM learned societies and departments will use it, and thus spread the good practice which has been developed by chemistry departments.

2.3 Telephone Interviews

Telephone interviews were carried out with almost all of the departments that returned checklists. The purpose of the interviews was to explore the processes and procedures of the departments in more detail.

The telephone interviews were usually with the person who had completed the checklist and typically took around 40 minutes. Common topics covered were:

- How staff know when they're ready for promotion;

- Frequency of appraisals;

- Recent staff appointments;

- Recent experience of career breaks;

- Rotation of senior roles.

Most interviewees were happy to give their time; the majority had heard of Athena Swan and had read the 2004 Good Practice guide report.

2.4 Site Visits

From information gathered in the telephone interviews, four departments with good employment practice, and a supportive culture, were selected for a site visit. It was decided not to re-visit departments used in the 2004 report. Time constraints limited the number of departments visited.

The purpose of the visits was to explore the good practice policies and procedures identified by the checklist and the interviews, and to see how well they were implemented at different levels, specifically including post doctoral researchers.

Typically, in each visit the team held seven discussion sessions, starting and finishing with the Head of Department. Professorial staff, senior lecturers/readers, lecturers and postdoctoral researchers were seen separately (where numbers were low, senior lecturers/readers and lecturers were seen together). The post-docs were also separated into male and female groups.

The staff who participated in the visits had varying lengths of service and experience of working elsewhere. Where possible, as many female academics, heads of sections/research groups, and individuals with significant administrative responsibilities and/or recent experience of appointment or promotion processes were included in the relevant groups. A briefing sheet was sent to the staff in advance of the visits which explained that:

- Their department had been flagged as having good employment practices;

- The purpose of the visit was to validate the departments 'good' practices and processes and to get a feel for the impact they have made on individuals' enjoyment of their careers in academic chemistry;

- Although the aim of the visit was to collect material to include in a report, individual comments would be anonymised/treated as confidential;

- The main interest of RSC/Athena was to find out what could be achieved at a practical, departmental level, what could change or had changed the culture for the better, and what makes academic chemistry an enjoyable career.

The discussion sessions ranged around the theme of what made the department a good place to work and focused on:

- Appointment, promotion, appraisal, training and development;

- How staff contributions were supported, encouraged, valued and recognised;

- The allocation and rotation of responsibilities and resources, communications, and committees.

Post-doctoral researchers were the one group for whom the meetings with men and women were separate. The emphasis of the discussions was different, and included:

- Their induction to the department, whether mentoring and/or networking was encouraged;

- Whether they had been appraised, how often and whether they found it useful;

- The extent of their involvement in the academic life of department;

- How they viewed themselves within the department, i.e., did they feel like staff or students;

- The career counselling and development opportunities available to them, and whether these were taken up;

- The level of support and encouragement they were given to raise their profiles internally and externally;

- Their interest in continuing as an academic or in a career in chemistry outside academia.

3.   The Statistics of Progress 1994 to 2007

This section updates the data first presented in the report 'Study of the Factors Affecting the Career Choices of Chemistry Graduates' published in February 2000, and subsequently updated in the first Good Practice report. The analysis is based on data from the Higher Education Statistics Agency (HESA).

As was highlighted in the 2004 Good Practice report, and in the Recruitment and Retention of Women in Academic Chemistry report, chemistry has no trouble attracting women at undergraduate and postgraduate level, in fact the proportion of men and women graduating at undergraduate level in the academic year 2004-05 was almost equal, with women making up 49% of the population (although this fell back to 44% in 2005-06, see figure 2).

Where chemistry falters, is in the transition from PhD student to postdoctoral researcher and beyond. Within STEM (science, technology, engineering and maths) chemistry has one of the steepest declines in the proportion of women moving from undergraduate (46%) to professorial level (6%). In terms of retention, physics fairs better than chemistry, around 20% of physics undergraduates and 5% of its professors are female. With the proportion of female chemistry undergraduate students approaching 50% the retention issue is becoming far more important in terms of the labour market.
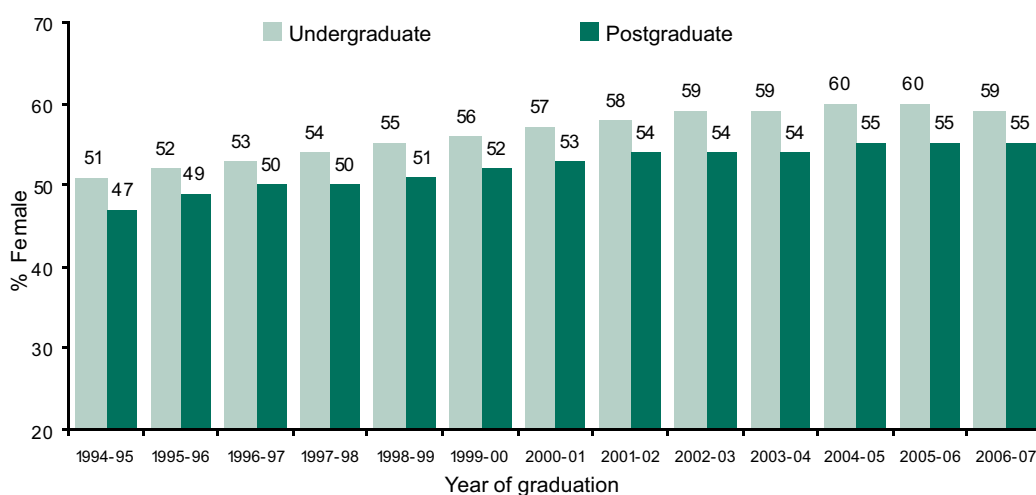
Figure 1. Percentage of female graduates in all subjects

3.1 Chemistry Students

The original analysis showed that a higher proportion of women studied chemistry at first degree and postgraduate levels, than either physics or engineering, but that chemistry was less successful in subsequently attracting women into academic careers. The proportion of females graduating from undergraduate chemistry programmes has continued to increase steadily, as shown in figure 2: in the 13 academic years from 1994/95-2006/07 it increased from 37% to 46%, and from postgraduate courses, it increased from 22% to 40%, but it still remains well below the average for all subjects (see figure 1). In 2006-07 women represented 59% of all those graduating from undergraduate and 55% of all from postgraduates courses respectively.
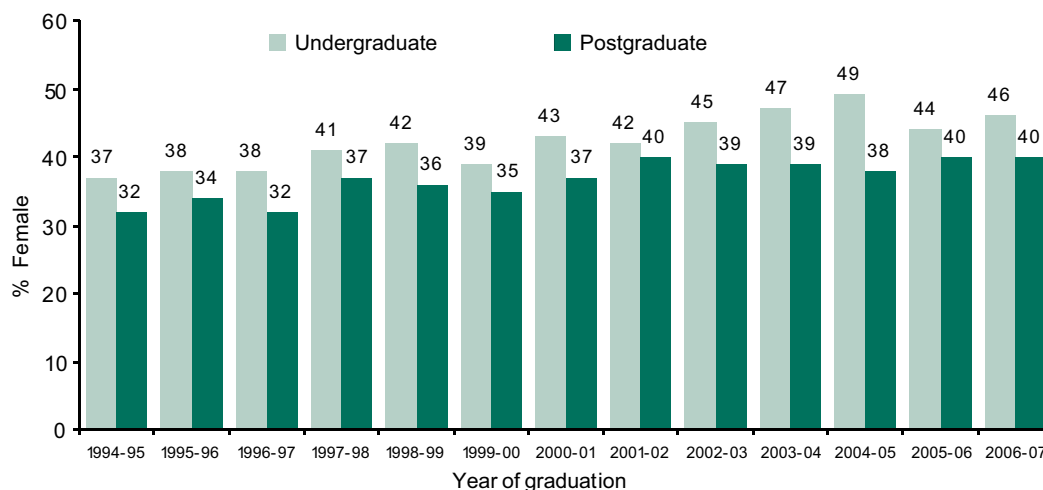
Figure 2. Percentage of female chemistry graduates
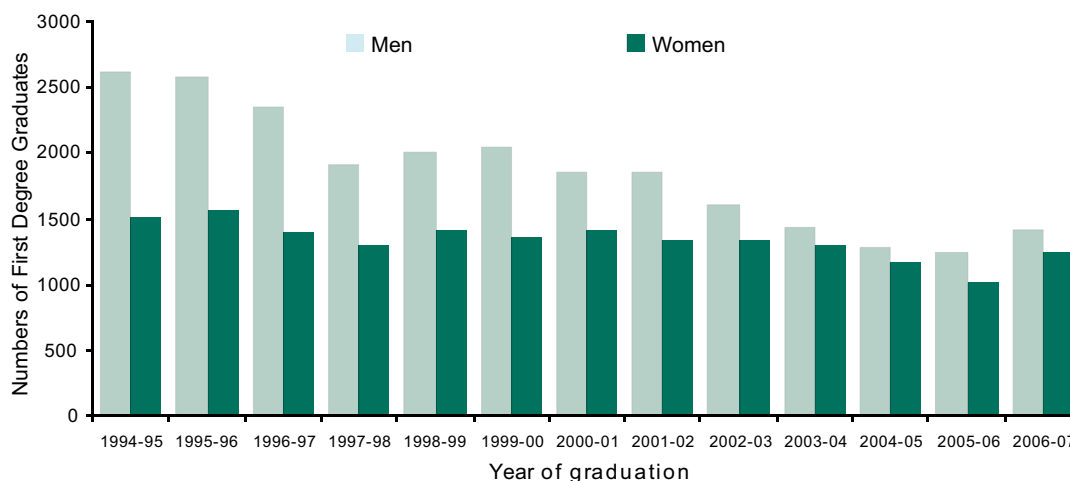
Figure 3. Number of men and women graduating from first degree chemistry programmes

Although there has been a strong increase in the proportion of female chemistry undergraduate and postgraduate students, the annual rate of increase has slowed. The proportion of females graduating does vary; at undergraduate level it has essentially been between 44% and 49% for 5 years, and at postgraduate level it has been around 40% for 6 years (see figure 2). In fact, the difference between the percentage of females graduating overall and in chemistry has remained at around 14% since 1994-95. Parity between men and women may well be reached at undergraduate level in the near future, given that almost 50% of those graduating are female. However, parity at postgraduate level is unlikely for some time. The current rate of growth in the percentage of female postgraduates is less than 0.2% a year, suggesting that the proportions of men and women graduating will not be equal for at least 40 years (2047).

Against the background of the increase in the proportion of females graduating from undergraduate chemistry programmes, there has been a fall in the total number of chemistry graduates, and in particular, in male graduates. This is the main reason why the percentage of female graduates has been increasing. In fact, over the last 10 years the number of female first degree graduates has fallen slightly (see figure 3).

3.2 Chemistry Staff

The gender imbalance for chemists employed in HE is worse than for HE as a whole. In the academic year 1996-97, 3,759 staff were employed in chemistry, of whom 621 were women (16% compared with 33% in all subjects, see figure 4). By 2001-02 the overall number had increased slightly, with 3,785 staff of whom 808 were women, with women now representing 21%, compared with 39% in all subjects. In 2006-07, 3,425 staff were employed, of whom 835 were women, with women representing 24% compared to 42% overall.
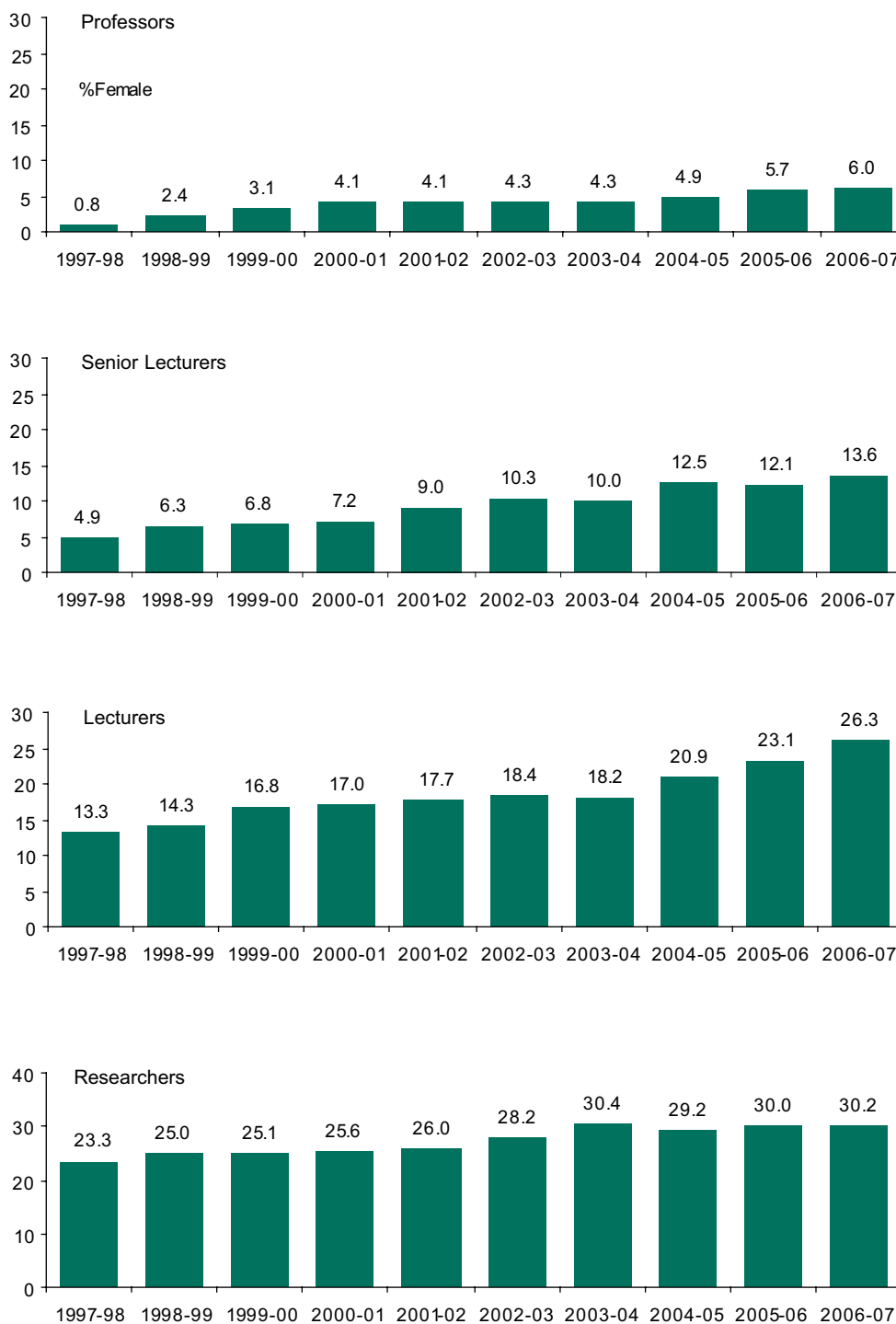
Figure 4. Percentage of female chemistry staff 1997/98 to 2006/07

In terms of vertical segregation in the academic year 1996-97, the percentage of women fell dramatically in the higher grades (women represented <1% of all professors, 4% of senior lecturers, 13% of lecturers and 22% of all research staff). The situation shows a significant improvement in 2006-07, with women representing 6% of professors, 14% of senior lecturers, 26% of lecturers, and 30% of researchers.

However, it is interesting to examine the proportion of UK domiciled staff working in chemistry. Figure 5 Illustrates that if UK domiciled staff are considered alone, only 19.3% of lecturers and 10.7% of senior lecturers are female. Considering the proportions of UK and non-UK domiciled lecturers, 65% of females and 82.1% of males are UK domiciled. This suggests that although the proportion of females in chemistry academic positions is rising, this is in part because there has been an increase in the number of non-UK domiciled females gaining academic positions in chemistry, and does suggest that UK domiciled male chemists are significantly more likely than UK domiciled females to stay in academia and gain academic positions.
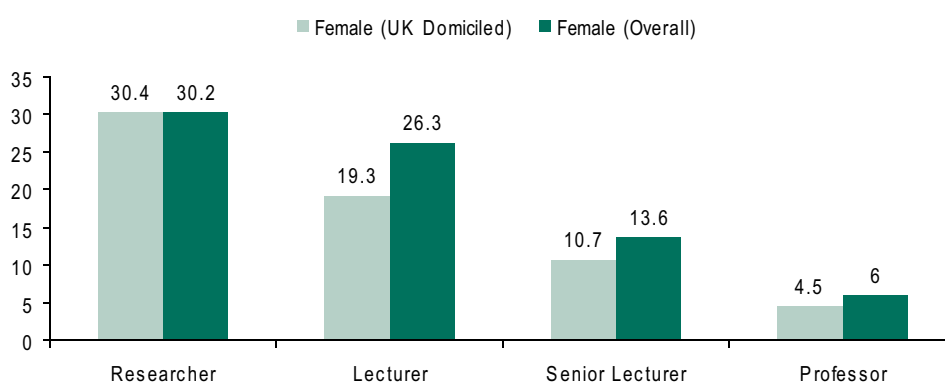
Figure 5. Percentage of female chemistry staff 2006/07 UK domiciled and overall

3.3 Age and Status

In the academic year 2006-07 chemistry academic staff are on average 45 years old compared to 47 for academic staff overall. Female academic staff in chemistry were on average younger than their male counterparts.

- women: averaged 40 years (compared to 45 for all subjects)

- men: averaged 46 years (compared to 48 for all subjects).

There are important differences by grade in chemistry:

- Professors: 70% of women and 47% of men are under 50 years. The average age of women is 50 and of men 52.

- Senior lecturers: 75% of women and 59% men are under 45 years. The average age of women is 43 and of men 46.

- Lecturers: 56% of women and 39% of women are under 35 years. The average age of women lecturers is 36 and of men 40.

- Researchers: The average age of women is 33 and of men 34.

3.4 Conclusion: towards parity

Across all subjects, the proportion of women graduating and in staff positions continues to increase steadily. There has been improvement in the percentage of women in academic grades each year from 1994-95 to 2006-07. The increase is about 1.0% a year. If this trend continues, women will form 50% of academic staff in approximately 2019-20. The rise in professorships for women has been slower, about 0.9% each year. This trend has accelerated slightly since the early 2000s, but it will be another 40 years before parity is reached.

In chemistry, the proportion of female staff overall is increasing at 0.7% per year and at 1.0 % per year for academic grades. The annual increase varies by grade and is just 0.5% a year for professors.

At the current rate, chemistry will achieve parity (all grades considered together) in 2045; this is later than the predicted parity date in 2003 and reflects a slow down in the rate of increase in the proportion of female staff. Parity in chemistry professorships is not likely for 86 years. The rate of increase in female staff may also be affected by rates of improvement in undergraduate and postgraduate numbers and by the flow of non UK nationals in and out of academic employment in the UK.

In 2003, physics was predicted to reach parity of academic staff in 2101, but the percentage of female staff has been increasing more rapidly recently. Based on the last 6 years, physics will reach parity in around 54 years, i.e. in 2062. In 2003, parity in maths was predicted to be reached in 2237 the proportion of female staff has been increasing significantly more quickly recently than it had in the past and so parity is now expected in 50 years time in (2058). In contrast, parity in bioscience is expected in 2029 among academic grades, and by 2042 in earth, marine & environmental sciences. However, in all these subjects, the supply of women into academic posts will be affected by the supply of students in the academic pipeline, so in reality parity dates in physics, and maths in particular are likely to be significantly later than predicted by a simple extrapolation of recent trends.

4. Work Life Balance - Five individuals' Reality Takes

Andrea E. Russell
Professor of Physical Electrochemistry at the University of Southampton

Andrea is originally from the USA, and completed her undergraduate studies at the University of Michigan in 1986, and her PhD at the University of Utah in 1989. Andrea first held a temporary lectureship at Liverpool (1991-1993) and then at Newcastle, and became permanent there in 1997. A few months later she moved to the University of Southampton, and was promoted to senior lecturer in 2001, to reader in 2003, and to her current position in 2007. She is currently serving as Head of the Electrochemistry and Surface Science Research Group, and is the Chair of the University's Women in Science, Engineering, and Technology (WiSET) group. When she first told her colleagues and friends back in the USA that she was moving to the UK, they told her that she was committing 'scientific suicide'. She is happy to inform them that they were wrong and feels that the more collaborative environment of science in the UK, and the lack of a US-style tenure battle have allowed her career to develop in ways that may not have been possible if she hadn't moved.

Love brought Andrea to the UK in 1991, having met her (now) husband, Ian Hayward, when they were post-docs at the US Naval Research Laboratory in Washington, D.C. Ian was a PhD physicist from Cambridge and finding jobs for both of them was a challenge in the economic climate of the early 1990s. Andrea moved from Newcastle to Southampton in 1992 partly to advance her own career but also to enable Ian to take up a permanent position at Renishaw, for whom he had been working periodically as a consultant since 1992. When Andrea and Ian are not working they enjoy hill walking and travelling.

Julia A. Weinstein
Lecturer in Physical Chemistry & EPSRC Advanced Fellow, Sheffield

Julia grew up and was educated in Moscow, Russia. After a PhD in photophysics from Chemistry Department of Moscow State University (1994), she became a member of staff there. Secondments to Amsterdam, and a visiting professorship in the US, were followed by a RSC/NATO Fellowship to Nottingham, and by a temporary lectureship there. The award of the Russian Lomonosov Award in Science and of the van Heuns Lectureship from Holland (2003) preceded an EPSRC Fellowship, and a lectureship in Sheffield (2004). Her research focuses on interaction of light with condensed matter, which ranges from fundamental aspects of photophysics to design and synthesis of molecular architectures which can be used for solar energy conversion. Fast electronic and vibrational spectroscopy is passionately explored by the internationally diverse group, with the support from the EPSRC, EU, the RS, and the University of Sheffield.

In a dual-career family, Julia is married to Peter who, after Germany – UK– Germany shuttling, started an EPSRC Advanced Fellowship in the same Department in October 2007. A birth of their son Alexander in July 2007 brought a completely new dimension to life, as well as enormous amount of fun and delight. The family is enjoying working and living in Sheffield; flexible working hours supported by the Department were very useful in Julia's return to work. Whilst high latitude trips in wild Russian mountains, which Julia was so used to will perhaps remain a dream, hiking is hopefully only a little way away. Yet music remains, as do books, math puzzles and an occasional game of chess which Julia loses all too often.

Paul Walton
Professor of Inorganic Chemistry and Head of Department at the University of York

Paul Walton gained his BSc and PhD degrees from Nottingham University, the latter in 1990. He spent two years as a NATO postdoctoral fellow at the University of California at Berkeley, working with Professor Ken Raymond on novel methods to extract uranium from sea water. In 1993 he was appointed a lecturer at the University of York, where he is currently Head of Department and has a chair in bioinorganic chemistry. His main research interests are in bioinorganic chemistry and metallodrugs, in which he has published many research papers and reviews.

Paul greatly enjoys teaching and was awarded the RSC's higher education teaching prize in 2000. His book 'Beginning Group Theory for Chemistry' is a popular undergraduate text, available in two different languages. He is also a regular giver of schools and public understanding of science lectures. His work commitments are balanced against family duties, where university flexible working helps him strike this balance. Practices adopted under Athena Swan, such as keeping meeting times within school hours, have been particularly helpful in this respect.

Helen Fielding
Professor of Physical Chemistry at University College London

After a degree from Cambridge, a DPhil from Oxford, 3 months as a junior scientist at the National Physical Laboratory and 18 months post-doc in Amsterdam, Helen returned to the UK in 1994 to a lectureship at King's College London. She was promoted to reader in 1997, and professor in 1992. She moved to University College London in 1993 where she has established a very well-equipped ultrafast laser science facility. She is a recipient of the Harrison, Marlow and Corday-Morgan medals of the RSC, and was rather pleasantly surprised to be awarded the Moseley medal by the IOP earlier this year.

After returning to the UK in 1994, Helen married and had two children, who are now 10 and 7. Her husband is Head of Measurement R&D at LGC in Teddington and they live in south London. They both commute about an hour to work – in opposite directions! During the school term, life at home is pretty hectic, but fun. After playing in the park, swimming, taking the children to sport and music activities, and attending various school events, there is little extra time for anything else. In the holidays it is nice to escape from London as a whole family for activities such as walking in the Lake District.

Julie Macpherson
Professor of Chemistry, University of Warwick

After completing her PhD in scanning electrochemical microscopy at the University of Warwick, Julie switched topic, and completed postdoctoral studies in hydrodynamic flow techniques. In 1999, she was made a Royal Society University Research Fellow in the Department of Chemistry at Warwick. Julie has established an award winning research group which focuses on the development of new techniques and materials for nanoscale imaging, device fabrication and characterisation of surfaces. She was promoted to reader in 2004, and professor in 2007. Her work has been celebrated on numerous occasions, including the 2005 Times Higher Awards when she was awarded the title of Young Researcher of the Year. She has also been honoured with the Marlow Medal by the RSC and the McBain Medal jointly by the RSC and SCI, and featured in the Sunday Observer Magazine as one of the UK's Young Alpha Females.

Julie finds that opening your mind to science encourages creativity, and allows you to appreciate many other aspects of the world. She is also passionate about art, architecture and photography, and takes every opportunity to explore new countries, and experience different cultures. Julie is also a keen sportswoman, and has a passion for climbing and the outdoors, visiting many beauty spots around the UK and abroad. Over the years she has realised the importance of maintaining a healthy work-life balance. Taking time out to enjoy other pursuits reaps benefits for productivity at work.

5. Key Performance Indicators for University Departments

This chapter includes examples of good practice provided by the many scientists who took part in this review; the quotations in italics are taken from the checklists returned by chemistry departments, from follow up telephone calls with heads of departments, and from discussions held during visits.

The material is arranged under the five point framework which covers the areas identified in work by Athena and the RSC as key to good practice, to women's career progression, and their improved representation at the top levels of science. The checklist used for this review was based on this framework and the same framework underpins the Project Juno Code of Practice.

Note: The analysis of the checklist responses from the 38 participating departments together with a comparison with the information from 2004 is presented in Appendix A.

5.1 The fundamentals in planning for success

This, the first key area covers the evidence, quantitative and qualitative data on both staff and students, which a department uses to measure the differential representation and progression of men and women, as the basis for action plans, to define its priorities, and to measure its success. This area also covers: the leadership, management, resources (people, time, and money) invested, accountability for action, the department organisational structure for action on women and science, its leadership and champions, the management and resourcing of its programmes and initiatives, and the way it reviews its success.

5.1.1 Evidence and Data

The best departments examine their staff and student profiles against a variety of benchmarking data and develop plans accordingly. However, it is perhaps surprising that many chemists, in common with colleagues in other numerate disciplines do not look at their own departmental data. For some, the responsibility for data was seen to rest with HR, or some central university body, or committee, but some discuss the data at full staff meetings,

> The university collects the data centrally, and makes it available to departmental Equality Officers; it is discussed at the faculty Equal Opportunities Committee and at full department staff meetings.

Data was often not seen as relevant to departmental management, or to academic planning. For others in departments with a low staff turnover, the opportunities to change the staff profile were limited.

Few departments mentioned planning, or links between their planned activities for women in SET and their academic plan. One that did states,

> Monitoring the staff profile by gender and grade is a firmly established part of the planning round, all departments get figures from the university to benchmark themselves against national figures, against the university as a whole, and against other departments.

Other departments saw planning as a useful contribution to the universities' push for Athena SWAN recognition,

> The university's SWAN assessment team identified the key challenges to the department from their review of statistics and the department set targets, with dates (on the percentages of students, female academics and graduate students), for which the Head of Department is responsible.

> Benchmarking the department's staff profile is part of the university's gender review, forms part of its gender equality scheme, and is part of the university's preparation of its submission for SWAN recognition.

So, much of what is happening is more by chance than by intention. Senior staff often talked about the importance of planning for a successful academic career, and taking informed career choices, but did not apply such critical rigour to their department's development.

Similarly, few departments had looked at their profile, the comparative proportions of women at undergraduate, postgraduate, post doctoral, and academic staff levels. Few were aware of the UK chemistry student and staff numbers, or of chemistry's attrition rate for women moving between doctoral and post doctoral levels. Similarly, few departments recognised the importance of their faculty reflecting the diversity of their student population.

However, one department was clear on this,

> Students with an Asian background make up about 40% of our student population, the department has a high percentage of local students, and because ethnic minorities are well represented in the student population, we attract a high number of non-local students from ethnic minorities.

In one case, the university calling departmental attention to their data was the trigger for action. Following on from questions from the university as to why the department had so few female academics, and when it last had a female external examiner, a second female academic and a female external examiner had been appointed.

5.1.2 Leadership, Management, Resources and Accountability

Some departments have transparent systems for appointing heads of department,

> For the last five years all HOD appointments have been internally advertised. The applicants have to make a statement on their objectives, and this gives a clear indication to the department of what to expect.

Heads of department recognised the importance of leadership by the university,

> The university diversity committee and related activities give a clear message to departments, that what the university wants is action.

Some departments had made a positive decision not to have a special 'women and science' committee and were working to mainstream the issue of women's career progression as a core departmental management issue.

Successful departments recognised the importance of senior management buy in and public engagement with the changes being made,

> None of what has been achieved would have been possible, and the changes would not have been sustained, had they not been reinforced by senior members of the school management team. Their active engagement has been critical.

Heads of department who were taking action were realistic about the investment and commitment needed. It takes time to make change happen,

> It is all too easy to lose it and slide back, and, without buy in from senior staff a lot of energy may be expended with little in the medium or longer term to show for it.

Involvement of the Head of Department with university equal opportunity (EO) activities varied,

> The Head of Department is chair of the university EO committee and the Athena SWAN working group.[9]

A few departments have their own EO officer charged with developing an EO plan,

> One of our female academics (a Royal Society URF) is the department's equal opportunities officer who is in the process of drawing up the department's EO action plan.

A few universities have women in science groups,

> There is an active university women in science group which holds lectures and seminars and lobbies successfully – it was responsible for the introduction of tax efficient day care voucher scheme.

5.2 Appointment and Promotion Processes

The focus of the second key performance area is (university and) departmental appointment and promotion processes, their transparency, openness and freedom from bias. Key issues include how the department prepares and supports its staff through the promotion process, how it monitors the processes and the way promotion links to appraisal. Issues also include how a department identifies candidates for promotion, how well junior staff understand the promotion system and how the system works.

5.2.1 Appointments

Some departments, particularly the highly successful ones, don't see the need for change; they have no problem recruiting. One such department saw the high cost of housing as more of a problem than the absence of women.

Departments do not distinguish between men and women when they go on the look out for good candidates.

> *All appointments are based on merit alone, nevertheless statistics show that if a women applies, she is more likely to be interviewed, and has a significantly greater chance of appointment.*

However, some departments will question shortlists that don't include at least one woman,

> *The HOD would now question a short list that did not have a woman on it.*

Some are getting it right but are not planning it that way,

> *We are much more interested in staff quality rather than gender, but this seems to result in expanding our female cohort, women keep applying, and they keep getting short listed, and they frequently get the job.*

Others emphasise that they use recruitment to encourage young staff,

> *Our research strategy is to encourage and develop young staff; we do not replace stars with senior appointments.*

Some recognise that it is important to emphasise family friendly policies and flexibility to attract a diverse range of candidates,

> *Advertisements for appointments always emphasis the department's family friendly policy with its opportunities for part time working and job shares.*

Most universities monitor department's appointment processes to make sure they conform to university equal opportunities requirements,

> *All staff involved in departmental recruitment must have attended the university's training on recruitment and selection.*

The downside of this can be that departments see monitoring as something for the university centrally, and nothing that they need to concern themselves with, particularly if they always have a strong field of (male) applicants from whom they can choose.

5.2.2 Promotions

Most departments who offer support and encouragement to staff do not distinguish between men and women and have in place internal processes as part of, or linked to, appraisal for considering readiness and preparation for promotion, and to encourage and support candidates in making their applications.

> *Potential candidates are encouraged to discuss their case with the HOD and/or head of research group.*

Such processes are likely to benefit a higher proportion of females than males; in general females are less likely to put themselves forward for promotion than males.

Departments also offer training and support for staff thinking about applying for promotion,

> *Promotions applications go though an internal committee, which helps candidates identify referees and in putting their applications together.*

A designated champion on the departmental personnel group provides promotion support with constructive criticism of draft CVs.

Sometimes training is offered specifically for women,

> *There is a university career development group for women, which offers training for women seeking promotion; its members have been remarkably successful recently.*

While others are proud of their policies in promoting young staff,

> *We have an active policy of appointing young members of staff and promoting them from within.*

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[9] In some universities the university's SWAN self assessment team which made the university's submission for a SWAN recognition award has been incorporated into the university's committee structure, sometimes as an advisory committee for the Vice Chancellor or Pro Vice Chancellor.

Departments also monitor the promotions process, and complete the cycle by offering support and feedback to unsuccessful candidates,

> *The department management committee now receives reports on each stage of the process.*

> *The HOD provides specific advice to unsuccessful applicants on how they can strengthen their case for promotion.*

> *The HOD gives feedback on promotions to all candidates to ensure that they are clear on the reasons for the decision being made, and to ensure that their expectations are realistic.*

5.3 Career Development

The third key area has two aspects. First, the career development arrangements, opportunities and programmes a department has in place (for example appraisal, career advice, and training), and their active management, so that staff are able to progress their careers. Second, the encouragement and support for staff to take up career development activities, such as mentoring, acting as role models and networking.

5.3.1 Managing Career Development

Staff on short term contracts can be unwilling to put themselves forward for promotion in case they price themselves out of their job. One department has made money available to cover this, and has initiated career planning sessions for post docs.

One department found that,

> *A previous initiative on supporting post docs had major shortcomings, the remit had been given to a senior academic who had insufficient time to undertake the role in the necessary proactive manner.*

The department now has appointed a specialist training officer who has produced a guide which sets out the respective roles and responsibilities of contract researchers and principal investigators.

Some departments were very positive,

> *The department's key achievement has been the change in culture. The change has ensured that staff are provided with the development and support they need in order to meet their full potential. Many of the obstacles to increasing the number of women in chemistry are disappearing.*

One department valued its good reputation for early career academics,

> *We have a good reputation for early career academics as a good place to have been, we have exported nine professors to 5 or 5* departments.*

Views varied on the quality and value of university career development provision, although most recognised its value.

> *Although the university has good staff development provision there is no encouragement from the department for staff to make use of what is offered. Indeed, the department gazes benignly on the university's initiatives on women's participation.*

Such comments were rare; however, a number of HODs were concerned about the attitude of senior staff to career development provision, particularly appraisal,

> *Junior staff take advantage of university courses but the old guard don't bother.*

> *Despite appraisers and appraisees all being trained, it's not entirely satisfactory, the heads of research sections run the appraisals, some do a good job, others don't take it seriously.*

Occasionally HODs take things into their own hands,

> *Our young academics are out in the relevant research groups, where senior staff are expected to support them, but as HOD I know this won't happen, so I or another colleague provide it.*

Although departments did recognise the value of the Postgraduate Certificate in Academic Practice (PGCAP) that new lecturers study for, sometimes this caused a conflict with policies on giving new staff a light work load,

The good university system for light teaching loads for new staff is rather spoilt by the time demands of the PGCAP course.

Appraisal is now almost universal, but the way in which the system is monitored and administrated does vary. Universities produce guidance on what the appraisal should cover,

Our staff appraisals look at whether staff are achieving their full potential, and progress towards promotion is part of this. We have a good appraisal which flags readiness for promotion and what is needed, for example, management experience.

All staff take part in performance review, career development is a key aspect. The guidance for the review of performance indicates that the discussion should include some or all of the following, courses/other training activities in the last year, whether departmental support/funding was forthcoming and whether the activities were beneficial, and the support provided within the department/research group/work environment and its effectiveness.

Some departments have limits on the number of appraisals staff should carry out. In general the paperwork comes to the HOD,

As Head of Department I see all the appraisal paperwork, when someone has done very well I may recommend a bonus, also if someone isn't performing well I have to manage that.

Most institutions offer training for appraisers,

All people undertaking appraisal are trained to do it, the department targets younger/less experienced academic staff who are the ones who will be appraising post docs.

A feature of several of the 'best' good practice departments was the awareness among departmental 'management' of the extent to which, despite the improvements for lecturers, they were still failing their post doctoral staff.

Research staff are encouraged to discuss career development with their PIs, but this doesn't happen widely.

Some viewed appraisals for post docs as an opportunity,

Many post docs think of themselves as students, having an appraisal scheme makes them think differently.

However, in many institutions appraisals are not compulsory for post docs,

The university appraisal system isn't brilliant, it's disregarded by the old guard, and it's not compulsory for post docs.

A number of departments were beginning to put in place support and advice for post docs,

The department has its own staff development officer for graduate students and post docs.

Long standing post docs are given the opportunity and encouraged to get PGCEs so that they have something to show from their period at the university.

Sometimes there are checks and balances to ensure that the post docs do get support, and some universities work to help post docs nearing the end of their contracts,

Post docs are supposed to be mentored and appraised by their boss, the academic manager checks this is happening and if it isn't, the HOD will have a word.

The university has a job seekers register which post docs towards the end of their contracts go onto. Principal investigators are obliged to check the register when they have jobs to fill.

Advice on CV writing, interview practice, job search information and contacts are provided for post docs, a post doctoral mentoring scheme has been set up, career planning meetings are held six months before the end of a contract, and there is a 'self' help group for long-term researchers.

5.3.2 Support for Development Activities

Generally there was an acceptance of the importance of development activities for the realisation of a successful academic career, for both men and women. However, there were exceptions,

The department sees its relationships with other departments in purely academic terms and would not look to them for role models or for mentoring their few women.

It is now almost universal for new staff to have a mentor. Some systems give staff more than one mentor,

All new staff have a mentor who helps them with their research proposals. New staff have two mentors, one non-chemist and one senior staff member.

Sometimes the department encourages its staff to become involved in mentoring,

Staff are encouraged (trained and provided with guidance) to become mentors, or mentees, including junior staff (to mentor researchers) and researchers (to mentor post docs).

Sometimes the induction programme includes information on mentoring students,

The induction programme for newly appointed lecturers includes information on mentoring PhDs and students.

At times experiments in novel approaches may have failed, but have had other beneficial outcomes,

A joint mentoring programme with a neighbouring university wasn't entirely successful but the networking that has resulted has been beneficial for individuals and for the department's research.

Some mentoring schemes try to ensure that staff are getting the external exposure they need,

The HOD makes sure that early career academics work with someone who can mentor them, and introduce them to the professional networks and the activities that are key to academic success.

More generally, departments try to ensure that staff are raising their profiles, through conference attendance, networking, and involvement in professional societies,

The department makes sure that younger staff, and anyone with another promotion in them, are encouraged to get out and to raise their profile at international conferences and events.

All staff are encouraged to network at appropriate levels, the university had both a women's and a men's development network.

We encourage staff to network, to get involved in professional societies, and go to conferences, we see it as win win, it's good for them and good in getting the department's name spread around.

5.4 Organisation and Culture

The elements which make up the fourth key area include fair and balanced systems for the allocation of workload and resources, and for sharing decision making roles and responsibilities, which take account of individual development needs, the common good, and the department's sustainability and success. Also included are the department's culture, organisational values, and communications which should be inclusive, recognise and reward everyone's contributions, and encourage staff to understand their individual responsibility for maintaining/ improving that culture.

5.4.1 Roles, Responsibilities, Decision Making and Workload

HODs are aware of the difficulties in changing established practice. One admitted,

The two senior women in the department have been there a long time, and probably are not aware how the world has moved on, we leave them carrying large administrative roles, because they do them well.

In the main, departments were well aware of the burden for some women of always sitting on panels. In one there was concern that,

The workload system doesn't take account of the fact that female staff pick up the shoulder to cry on role for male and female students as the department doesn't have a welfare officer.

Size makes a difference. Small departments see themselves as friendly, supportive and democratic. They view large departments negatively as 'managed', however, they recognise that smallness makes it more difficult for early career staff to have a light teaching load while they get their research going. Also, the informality of a small department can become a problem as it grows. It was generally recognised that as departments grow so does

the need for line management, as well as academic leadership.

For some departments there was a tension between sectional and departmental interests. Research group and section heads were seen as having their own interests which might well mean that the department's wellbeing and priorities were not given precedence.

> *The heads of section were not impartial, as members of the management group they worked for their sections or even for themselves.*

This was more problematic where section heads were permanent appointments, when all other posts, including the HOD rotated, and when all section heads were in the majority on the departmental management team.

There was a widespread reaction against macho culture,

> *When I was appointed HOD I tried to get rid of male macho posturing,*

and against the past domination of senior research scientists,

> *I hope our younger staff will avoid taking the OTT attitudes and reactions of some of their older peers.*

A number of departments now have management groups/senior management teams and this was generally seen as positive,

> *Power and responsibility go together, the changes we have made clearly identifies who are the management group, their responsibilities are clearly defined, and they are accountable to the staff of the department, previously group heads sounded off about things but did not have the responsibility for making things happen.*

All departments had some form of workload monitoring. The approaches varied: sometimes it was light touch,

> *Yes we have a workload model but what is most important is common sense and trust.*

Many systems were transparent,

> *The workload model is reviewed annually, and is circulated to everyone so that they know what their colleagues are doing.*

> *Lists of sectional workload, and individual's teaching and laboratory commitment are published on the departmental website.*

Some took a more quantitative approach,

> *The department publishes an anonymised profile with scores for individuals' activities.*

> *Workload is reviewed regularly, key posts are identified and discussed with the post holder and previous post holders to determine the hours allocation and it is all balanced out to plus or minus 10%.*

Others ensured that individuals' workloads were commensurate with an individual's salary,

> *In principle overall workload and responsibilities are proportional to salary.*

Departments do try to rotate administrative roles. Often the major jobs are treated differently,

> *The HOD tries to rotate posts, with the aim of having expertise across the range of administrative responsibilities. For major jobs we have a back up person who is appointed for a shadow period to learn the job.*

> *Apart from the real jobs into which people are appointed, the light jobs get handed around so we have lots of people with experience.*

Often the driver for job rotation is a recognition that it is important for staff to develop their roles and prepare for promotion,

> *We try to give jobs to match people's strengths, people need a balanced portfolio for promotion.*

> *The department is well aware of university's requirement for management experience for promotion, so staff coming up for promotion are given appropriate roles.*

A few departments recognise that the research of staff undertaking major roles may suffer,

Major roles are rotated, and when they finish staff are given help to get their research going again.

Expiry dates of departmental post are published.

Departments also review the membership of committees to ensure balance and, sometimes, to check that there is a gender balance,

We have women on all departmental committees; they are either nominated, or elected.

The structure and membership of departmental committees is regularly reviewed and young staff, men and women, are encouraged to get involved in committee work in order to develop their case for promotion.

5.4.2 Organisational Values, Communications and Inclusivity

Generally there was recognition that the age profile of the department had an influence on its culture.

Most of the staff are in their thirties and forties and this has changed things; of our four women, two are professors and both home grown.

Universities are encouraging change, in one university where the HOD is appointed by the university, there was only one nomination, so the present HOD was persuaded by the Dean of the Faculty to put himself forward, as the other 'possible' was something of a traditionalist. Mergers of departments also made for change,

The merger brought in some backwoodsmen who are still not housetrained, but they know that such attitudes and the bullying of younger staff is not tolerated.

Completing the checklist had given one department pause for thought,

As a department we have drive, enthusiasm and a can do attitude, which encourages success but we may not have stopped to think whether the few women we have are as comfortable as the male majority.

One department had something good to say about the RAE,

Although we recognise the negative effect of the RAE across the sector, for us it has been a way to pull ourselves up and raise our game.

Another department recognised that,

With the move to higher participation in HE, the student profile is more diverse, and the existing system for rewarding teaching and administration really doesn't provide the encouragement needed to meet the needs of the more challenging ability range.

The best departments were clear about the culture and image of their departments,

The department benefits from loyal support staff, our services are well managed, and the department is managed by people who care about people, when we talk about good practice we include the technical and admin staff.

It's just common sense and everyone trusting each other.

A number of departments were clear on their reasons for treating people fairly and discouraging selfishness,

The right way to treat people is not a matter of law, but because it produces the best results in terms of an individual's contributions.

The department doesn't encourage selfishness, if we agree we want a new post, the resources have to be allocated to it, so that the holder has the space and the resources to grow.

Basically its simple, the management culture of the department is to value people and their contributions at all levels, and if people know their concerns will be listened to, taken seriously and dealt with, they feel valued and contribute fully.

The culture is now one which values all staff for their contributions, measured more by output than by hours spent at the bench.

Most departments have a clear view on issues like bullying,

We take a rigorous view on bullying and people are aware of this.

Sometimes departments had had their friendly culture commented upon,

We know we are a welcoming, open, friendly department as it's a feature which is regularly commented on by, e.g., visiting lecturers and external examiners.

A number of departments were keen to attract more women students,

The department is keen to project a positive image of women in chemistry, to try and attract more female applicants, and this is underlined very clearly by the choice of images on our website. We invite women speakers at all levels. We always set our most recently appointed academic to organise our seminar programme based on colleagues' suggestions, I suppose we could give them a target for women speakers.

One department included diversity training as part of departmental induction.

Some departments commented on the importance of linking behaviour and rewards;

We don't encourage selfishness or 'sectional' behaviour. People's pay reflects their contribution to the department. Workload and responsibilities are reflected in salary, our key principle is to stop rewarding bad behaviour.

Departmental activities are acknowledged and rewarded in the university promotion and merit award scheme, which applies to research, teaching and administrative staff. Contributions are valued at all levels, with accelerated increments and one off bonuses.

Many departments took care in the allocation of resources,

The budget is held centrally, the research and management committees are involved in the allocation of resources, which takes power away from the barons. Studentships are now allocated by the research committee.

Departments organised staff communication and inclusivity in various ways. Some rely on groups,

Heads of groups are encouraged to discuss agenda items on department management group meetings and then to report back to them afterwards. We rely on group meetings to relay information so if staff don't turn up, they may feel isolated, we try and send out emails after major committee meetings.

Others use the web,

The department recognises that an open management style relies on effective communication of information to all staff. It currently disseminates information via the department website and a web based newsletter, but recently conducted a survey into how staff would prefer to receive departmental communications.

Departments use staff meetings and away days,

There are a variety of staff meetings, each section has its own staff meeting which feed onto the programme committees, which anyone can come to. We have full department meetings and 2-3 away days to discuss anything.

Increasingly departments are involving post docs and Royal Society Fellows in staff meetings,

As a new Head of Department, I was concerned that our post docs were surprised to receive invitation to our department open meetings - they never had before.

Royal Society University Research Fellows are appointed lecturers; they have a lighter teaching load but are fully involved in the department.

5.5 Work Life Balance: Flexibility across the Working Day, Working Year and Working Life

The final key performance area has two distinct parts. Arrangements for career breaks and flexible returns, which are 'managed' by a department to enable individuals to return successfully to research and laboratory-based work, and flexible departmental working arrangements which support sustainable, enjoyable and successful careers.

5.5.1 Career Breaks and Returning

Not all departments had experience of managing career breaks. One Head of Department summed it up well,

> *We also recognise that many male staff will need time out when their children arrive or there are domestic emergencies. This is no longer a matter solely for female staff, although they carry the brunt. It is the one area that I feel really needs care from a department. Research is not a job where one can really depart for six months and forget about it.*

For one department, the last RAE return proved to the department's satisfaction that career breaks and working less than full time had not had a negative impact. Interestingly, one department reported that it was against the university's (harassment) policy to contact staff on maternity or sick leave.

Departments were in the main pragmatic about how staff on career breaks kept in touch but tended to use students' second supervisors to keep an eye on laboratories while staff are away,

> *Staff on maternity leave do pick up their emails, but that's up to them, as is what happens to their research groups. Staff keep in touch with their research groups while on maternity leave. Some come into social events and research active staff to tend to continue to interact with their research groups, but it's up to them to arrange. All students have a second supervisor who will increase the attention they give them.*

Often the time away is planned,

> *The HOD discusses with the individual how their group can keep running while they are away.*

Universities had a variety of systems to allow returning staff to ease back into work,

> *There is an excellent university policy, a period free from administration for those returning in order to allow them to kick start their research.*

And some heads had taken action if they felt returners were overburdened,

> *I inherited a women returner who the previous 'old model' HOD had given an overload, which I have reduced and she is happier.*

Many HODs are now used to managing staff as their working patterns change,

> *My female staff have used all sorts of methods to cope with having a young child and running their groups, which seem to work well for them, and have allowed them to reintegrate into the department remarkably fluidly, when they come to the end of their leave of absence.*

> *A women who has been part time for a number of years is about to go on a year's study leave prior to returning to full time work by when her children will be in full time education.*

5.5.2 Flexible Working

Most Departments recognised the importance of flexibility but did not always have formalised arrangements,

> *Nothing formalised yet, the university now has a policy on flexible working, we have just had a first application from a male staff member, which we are talking about, and no senior staff have applied for formal flexible working, but the HOD like others sometimes works at home to fit in with child care arrangements.*

One department did not feel that it was appropriate to raise domestic arrangements with new staff but discussed issues as and when the need arose.

Other departments have a number of part time staff and are very open to staff changing their working patterns,

> *A number of staff work part time, it's not an issue if someone wants to go part time for a while, currently we have an RCUK Fellow returned after a career break on a three day week, people have problems and need to be helped through them.*

Many departments do recognise the importance of work life balance,

> *The department is young, half the staff are below 45, young staff both male and female need balanced lives but the aggressive older single minded scientists will not recognise the conflicting pressures.*

HODs also recognise that staff require informal flexibility within the working day,

> *We recognise that some people will need lunch times for shopping/caring. The use of the electronic diary allows people to block out private time without hassle.*

Departments are increasingly arranging meetings to fit in with external commitments like child care, and often publish dates and times of important meetings well in advance,

> *Committee meetings are usually timed to start at 10.15, 14.15, or 15.15, so that they fit into the usual working day. There is a timetable for important meetings. Major departmental meetings are scheduled a year in advance and published in an on line almanac to all staff, timing of these meetings tries to take account of family responsibilities and child care.*

In many departments staff occasionally leave early to pick up children from school,

> *The HOD has school age children, and a partner who is a GP, so has to be flexible and leaves early one afternoon a week to pick up the children. The HOD makes use of university policy on self directed time to work from home and monitors the use made of self directed time by other staff.*

Most departments are relaxed about staff working at home, as long as duties such as teaching are fulfilled,

> *The only inflexibility is that teaching has to be delivered. Provided that staff can organise things, then they can work at home and leave early, for example, to do the school run. Staff should be contactable and should preferably provide a landline contact number.*

Occasionally, staff who are spending too much time at home are spoken to,

> *As teaching loads aren't too high (the department has appointed teaching only staff which has helped this) they tend to work on an honesty system. Occasionally I have had to speak to staff who are spending more time at home than at work, they would have been OK if their productivity had increased.*

Some HODs will take action if they feel staff are working too hard,

> *Staff are told to go home if they are thought to have been working too long.*

Departments find that transparency and openness in holiday and conference bookings make the arrangement of cover easier,

> *There is great openness about people away, either on holiday, or at a conference, so arrangements to cover are easy, and staff announce when they are working at home.*

One department feels that the approach to flexible working is a mark of the culture change that has taken place,

> *The school's key achievement has been the change in culture. The resultant uptake of flexible working policies has put pay to the ideology that if you worked part-time or if you had a family you were not committed to your role.*

6.   Next Steps

On a UK wide basis there are improvements, for example, the proportions of women being appointed to lecturer positions, and being promoted into more senior grades. However, there are areas where little success has been achieved, for example, the provision of effective career development and career advice for post docs, and their continuing 'exclusion' from the academic life of departments.

What needs to be done, and can be done by departments who wish to become, or to retain their status as employers of choice for young academics (men and women), and what can UK's professional and learned societies do to support departments?

Athena Partnership

The Athena Partnership is a grouping of professional institutions and learned societies, including the Royal Society of Chemistry, and funders of STEM HE and research who are committed to fostering good practice in higher education and research (www.athenapartnership.org). The partnership is committed to producing a number of generic tools for use by the STEM community.

The RSC is committed to working with the Institute of Phisics (IOP), within the Athena Partnership, to develop a generic tool kit for use by other STEM societies. The first product, a generic checklist, appears at Appendix C.

The RSC is also working with the IOP to develop a generic site visit that can be adopted and used by other learned societies. The aim is to take the best features of the RSC and the IOP visit models, and to provide the department visited with a short write up of the day's findings, based on the five point framework. It is hoped that this new model will be available for uptake by other societies at the end of 2008.

RSC

The RSC is currently exploring the possibility of introducing its own Juno Code of Practice, inviting the departments who contributed to this review to sign up to the code of practice, and developing a streamlined process for the leading edge departments to be recognised as Juno Champions. Departments who apply for Juno recognition will get access to tools, advice and feedback.

The RSC will produce annual data digests for chemistry departments, which will enable departments to benchmark their staff and student profile against the UK position.

The RSC has recently produced a report *The Contribution of the Doctoral Study Experience to Female Attrition from Chemistry* (funded by UKRC) which reflects the concerns identified at the beginning of Chapter 4 that chemistry has no trouble attracting women at undergraduate, and postgraduate level, but that it falters in the transition from PhD student to postdoctoral researcher and beyond. Later in 2008 the RSC hopes to publish short good practice reports on improving the 'treatment' of chemistry PhDs and post docs based on the report, and reflecting the good practice which exists in some departments.

University STEM departments

It is hoped that departments will consider asking a working group, or the relevant departmental committee, to review this report, and to:

- See whether there is good practice that could with advantage be adopted by the department;

- Confirm where the department stands, against the best that is described here;

- Consider using the new checklist and measuring the results against the analysis at Appendix A;

- Look at their staff and student statistics against Chapter 4 of this report, and the more detailed data on the RSC website (www.rsc.org/diversity);

- Use the report and its findings as a means to open up debate on departmental processes;

- Contact their respective STEM professional body/learned society to ask what help they can give.

Professional and Learned Societies

Professional and learned societies should consider joining the Athena Partnership, which will give them access to help and advice, and to a number of tools which they can use in promoting and assessing good practice and diversity.

Development of Benchmarking

Work on benchmarking is being undertaken jointly by the RSC and the IOP. This will bring together, under the five point framework used in this report, the measures and activities to demonstrate progress that were identified in the 2004 report, the analysis of the checklist used for this report, findings from Athena's ASSET surveys, and a departmental benchmark tool being developed as part of the generic departmental visit. The Athena Partnership hopes to publish the results in 2009.

Dissemination Events

The RSC is committed to running afternoon dissemination events in chemistry departments. The events, which are generally held early or mid afternoon, normally comprise a presentation of the RSC's work on good practice together with presentations from a female academic and a female industrialist who talk about their careers and personal life rather than their science. The event is normally completed with a short reception.

Appendix A: Analysis of the Checklist and Comparisons with 2004

The following analysis is based on the responses to the checklist presented in Appendix B. The checklist was returned by 38 departments and, unless otherwise stated, the number of responses reported below are based on these 38 departments. In 2004, 25 departments responded and again, unless otherwise stated, the number of responses reported for the 2004 data are based on these 25 departments.

Section 1: A robust organisational framework for action that delivers equality of opportunity and reward in SET.

Gender monitoring of staff and students

The majority departments undertook some sort of gender monitoring of students and staff. 7 departments did not carry out any gender monitoring of students, and 11 did not monitor their staff by gender. Those who did not monitor students, also did not monitor their staff. 4 departments monitored students, but not staff. The proportion of departments monitoring gender has improved; in 2004 11 departments reported monitoring their staff profile.

Some departments, who monitored student numbers, did not do it directly; it was carried out at university level and fed down. Other departments were monitoring student numbers, but were not reporting them or acting on the data.

> Numbers are monitored on an annual basis by the department, but there is no formal reporting.

The same seemed to apply for staff,

> Monitoring of staff by gender and at all grades is firmly established and shared appropriately, it is not however formally reported on at departmental management committee level.

Other comments made were,

> Students are monitored by many ways in addition to gender.

> We are a relatively small department and therefore gender numbers in each grade are readily monitored, but statistical analysis of these small numbers is of only limited value. With relatively low turnover of staff in the various grades, opportunities to change these profiles do not regularly arise.

Monitoring appointment and promotion processes

Only 3 departments reported that they did not monitor their appointment and promotion processes/report back to the departmental management committee. From comments made by these departments, it was evident that monitoring was being carried out at University, rather than departmental level. A large number of departments mentioned promotion committees, while others detailed their procedures,

> This is monitored at the university level by the Personnel Department.

> This information is monitored at university level.

> We have a promotions committee consisting of senior staff including a female professor from another department.

> Details of the applications received, the procedure for reaching the shortlist, and how the shortlisted candidates were ranked at interview are recorded at the time of appointment, in case of appeal. Data is collected about various aspects of the applicants (gender, ethnicity, etc) but are analysed more at the college level rather than at the departmental level.

The checklist asked whether a "Women and SET" committee existed within the department, which takes responsibility for a "Women and SET" action plan. This question has been updated in the 2008 version of the checklist (Appendix C) as only 6 departments reported having such a committee and these were the biggest departments; a few departments did comment that such a committee existed at University level, and others felt that a committee like this would be unnecessary.

The department has not felt that such a committee is necessary. All staff are treated equally within the department, when considering allocations of resources and promotion. (As a result of this project, I will consult with colleagues to see if current feeling is different although my limited, informal soundings suggest not). Within the university, there is a Gender Equality Scheme Project Management Group recently been established by the Pro-Vice Chancellor. The Head of Department in chemistry is a member of the group. There is a strong corporate commitment to providing opportunities for all staff and the University's Gender Equality Scheme sets out aims and objectives that reflect this. Under the GES key areas for action across the university will be analysed and dealt with in departments as appropriate.

The university SWAN Group reviews opportunities, and an academic from chemistry is a member of this group. Feedback from the group is made via Science Faculty meetings and Faculty Planning and Resources Committee meetings.

Section 2: Appointment and promotion processes that encourage women and men to apply for academic posts at all levels

Encouraging and identifying candidates

All 38 departments encouraged men and women to apply for appointments and promotions when they were ready. 35 departments reported having this as an established/widely applied policy. In 2004 all 25 departments who took part also did this.

> *We have an open and transparent policy to academic promotion.*

> *We have an active policy of appointing young members of staff and promoting them from within.*

15 departments reported that when making new appointments they attempt to identify and attract appropriate female candidates, both internally and externally. This was also true for 15 departments in 2004. However, the comments made suggested that many departments answered "no/not applicable" as they attempt to identify both men and women.

All the following quotes come from departments that answered "no/not applicable":

> *We do not use positive discrimination.*

> *All applicants are treated equally.*

> *The best candidate is sought. The school does not discriminate. The proportion of female postgraduates and PDRAs has increased over the last few years and a woman is in charge of postgraduate recruitment.*

> *The Department attempts to identify and attract appropriate candidates irrespective of gender.*

> *The new appointments procedure for internal and external candidates is gender neutral and is entirely consistent with the University's Equal Opportunities policy. Appointments are made on the basis of the department's need to address a specific area in research/teaching.*

Open communication of appointment and promotion processes

35 departments had established policies, openly communicating and guiding potential candidates on the appointment and promotion processes. 2 departments had something informal in place, and 1 was aware that a review was required on this. This compares with 21 departments in 2004.

> *The Head of Department writes to all staff regarding the procedures they should go through if they wish to be nominated. In addition the Departmental Management Committee approaches individuals who it feels are ready for promotion. Potential candidates are encouraged to discuss their case with the Head of Department and or Heads of Research Groups. The procedures are published on the university's HR website.*

> *Well established, everything is published on the intranet and consultation with mentors and the Head of Department encouraged.*

Supporting candidates through the promotion process

33 departments supported women through the promotion process by mentoring, mock interviews etc., and of these 28 had established policies on this. In 2004 14 departments reported that this was the case. The comments in both years were similar, indicating that many treated men and women the same,

> *Women in the department are treated in the same way as men.*

> *There is no formal procedure for this; each case is considered individually. However in this year's procedures a female candidate felt that a mock interview would be helpful to her case and this was organised with the Head of Department. All possible assistance is given to all candidates wherever possible.*

> *All colleagues are supported through the promotions procedure by discussions with the academic head.*

> *Help also provided with seminar preparation through 'mock' seminars.*

Feedback to candidates

37 departments reported giving feedback on career development needs to unsuccessful internal candidates. One department indicated that this was under discussion. In 2004 17 departments reported doing this.

> *Brief feedback is given from the Promotions Committee to heads of department, who are responsible for passing the information on to unsuccessful candidates. The quality of this feedback is currently variable, but this is under review as part of the full review of academic promotions procedures.*

> *The department has a mentoring system for young members of staff and feedback is provided to unsuccessful candidates by the HOD and/or HR.*

Review and celebration of promotions

36 departments reviewed the outcome of promotions against criteria and celebrated success, compared with 20 in 2004.

> *Outcomes are certainly reviewed in terms of either preparing a better case for the candidate in future if promotion is not achieved, or seeing what can be learned for other candidates if promotion is achieved. Successes are celebrated, tempered of course in the light of unsuccessful applications by others.*

> *Outcomes are reviewed at the school level – but successes are celebrated both at the school and department level.*

35 departments reviewed their selection criteria for bias and ensured that they were clear and not greater than necessary, and another 2 departments indicated that this was under discussion. In 2004 24 departments indicated the same.

19 departments had a clear policy on how career breaks and part time working are considered at appointment and promotion and a further 11 had something informal in place. Only 4 departments had nothing in place, or under discussion or review.

> *All practices within the school are consistent with the university's policy on flexible working.*

> *This is a university matter which the university takes seriously through its Positive Working Environment initiative. Flexibility is often applied.*

Composition of selection panels

24 departments included at least one man, one woman and one lay/external person on their selection panels; this was a lower proportion than the 22 departments in 2004.

> *All staff with appropriate expertise are invited to contribute to the process of selection. Panels always include an external person. The department is always keen to bear in mind the increased administrative burden that would result from some women always sitting on panels, and is keen therefore to highlight that this is the case where relevant and appropriate.*

> *This is nearly always the case, but is not university policy.*

> *This is the case for all academic appointments but has not always been so for research appointments.*

12 departments marked the answer as "no/not applicable." Reasons given included:

Small size of department limits opportunities in this case.

Where possible, and certainly for positions of lecturer and above, but the department does not want to be unfair to the small number of women by continually calling upon their services to sit on panels.

Appointment panels will include members outside chemistry, in particular the Dean of Science or a nominee. There is no requirement that they should contain a woman.

Monitoring the representation of women at stages of selection process

Only 12 departments monitored the percentage of women and other under represented groups at each stage of the selection process; a lower proportion than the 10 departments in 2004.

Formal reports are not made to the Management Committee. However, since at least two members of the committee are likely to be involved in the detail of the recruitment process, there will be awareness of the relative percentages, for example, at short listing and at appointment.

Results are reported to HR but only at the end of the process.

24 departments reported they didn't monitor. Sometimes monitoring is occurring, but not at departmental level.

Role undertaken by personnel division across university.

The department appoints the best candidates and complies with employment laws and university best practice.

Promotion criteria procedure

34 departments reported that their promotion criteria were fair and transparent; the other 4 departments were reviewing their criteria. In 2004 19 reported that this was the case.

36 departments said their promotion procedures were clear, open, effectively communicated, reviewed and compared to others; this follows a similar pattern to that in 2004 when 21 reported this.

The university has clear criteria for this, which the department follows.

Promotions are handled by a central university committee, and the procedures to be adopted are laid down centrally. Part of this is that the Head of Department is required to communicate the procedures to all members of staff at the appropriate time.

University guidelines are followed and university policy is implemented - these are communicated to all staff by the university.

All staff are informed directly by personnel of the annual promotions procedures.

Section 3: Structures and systems that encourage and support the career progression of staff

Professional development training

All departments expected and encouraged their staff to participate in professional development programmes, with a good number encouraging staff to take up leave, not only internal, but external, programmes such as those offered by HEA and the RSC. In 2004 22 departments reported encouraging professional development.

Staff are encouraged to take part in staff development programmes at appropriate grades, for example, the courses offered by the Staff Development Unit. In addition appropriate members of staff have undertaken external staff development, for example that offered by the HEA, RSC or Leadership Foundation. The departmental budget includes a sum of money allocated to support these activities. More could perhaps be done to promote and emphasise these activities.

All staff within the department (including postdoctoral workers) are included in the College's/School's 'Performance Appraisal Scheme'. This scheme encourages staff to take responsibility and to reflect on how they can develop themselves further within their post. The annual appraisal interview with a senior academic and the Head of School provides an opportunity to discuss if there is relevant training/professional development activities that might help them achieve their aims.

Staff Development Services provide a range of courses; details circulated to all staff. Part funding available for other external courses. All academic and academic-related staff engaged in teaching are encouraged to attend the 2-year PGCAP course and to obtain membership of HEA.

Careers advice for junior staff

34 departments allocated the responsibility for providing junior staff with careers advice to specific individuals/post holders; in 2004 22 departments reported doing this. 3 departments answered that doing this was under discussion and one department answered "no/not applicable", however, this was because the responsibility was shared across the team rather than assigned to one individual.

Ultimately, the HOD carries responsibility for these matters. All newly appointment members of academic staff (and other grades as appropriate) are allocated a mentor on appointment. The mentor is selected from an appropriate member of senior staff within the department. In addition the heads of research groups, departmental administrator or technical manager are responsible for annual appraisal and career development of the staff who come within their areas of management responsibility. Appraisal has recently been extended to research fellows ("post docs") although the take up has thus far been patchy.

The department has a staff development officer.

Junior members of the academic staff have a mentor, and are in addition supported by the Head of Department through the probation process. Research staff are encouraged to discuss career development with their Principle investigator. However, this is not widely applied and the department recognises this is a cultural issue within the department that needs addressing.

Most departments (34) indicated that development opportunities were available to all staff and included entrepreneurship, IPR, people and financial management, and other transferable skills. In 2004 17 reported that these opportunities were available. 2 departments did comment that although offered, few choose to take the opportunities up.

Such courses exist in the university or can be arranged for staff elsewhere.

Activities in this area are featured within the Staff Development Programme offered by the University Staff Development Units. Appropriate staff (HODs, Technical Manager) have also undertaken more specialist development through the Leadership Foundation.

The college's Innovation and Enterprise Unit has a website to provide staff and students with information on areas such as intellectual property management, business plan development, research, consultancy, and knowledge and skills transfer. Its team of Business Development Managers will also provide support on commercialising College IP across all disciplines.

Yes, but few choose to take these opportunities up.

Appraisal

Departments were asked whether the responsibility for the career development of junior and research staff is included in appraisals. 34 departments said it was and the other 4 departments reported that it was either under discussion or a review was required.

Academics within the School are encouraged to foster a positive attitude towards professional development, as evidenced by the fact that in recent years members of the school have made extensive use of the college's staff development programme, particularly in the context of training courses for new academic staff. This positive attitude to professional development has been nurtured by the large percentage of staff either actively participating in the PGCAP programme, or who have successfully completed it.

University guidelines and best practice are followed in this respect.

29 departments reported appraising all staff regularly, 5 either had something informal/occasional in place for all staff, or appraised academic staff regularly and formally, but researchers informally. 4 departments answered that this was under review. Some departments commented that work was needed on increasing the take up of appraisal.

All staff have the opportunity of an annual appraisal. This was recently extended to staff on short term research contracts. All staff are encouraged to undertake appraisal, although take up is variable.

All academic staff have annual appraisal meetings with the academic head of chemistry. Experimental officers have appraisal meetings with the director of resources. Advanced research fellows and research fellows have an appraisal meeting with the academic head and the research supervisor.

We are implementing appraisals of research fellows.

The university has an annual appraisal programme for academic staff - researchers are appraised within their research groups on a regular basis.

Yes, all staff have the opportunity to take part in the university's Staff Review and Development Scheme. However, more needs to be done, both on the departmental level and centrally, to encourage full take up of the scheme.

Mentoring

35 departments encourage peer support and buddy systems with most mentioning mentoring systems as an example. In 2004 only 9 departments reported having such systems in place.

The university has a peer review mechanism for teaching staff but this is relatively informal and relies on individuals establishing their own support networks.

The department has an active individual mentoring system and support is also provided within research groups and teaching branches.

New staff are allocated an adviser during their probationary period to provide help and support.

30 departments encourage staff, either formally or informally, to become mentors or mentees, however, only 23 departments said they had either a formal or informal career development mentoring scheme, and 12 departments reported they did not have one. In 2004, 16 departments reported formally encouraging staff to act and train as mentors, and 17 departments made use of mentors and others to feedback on career progression issues.

Faculty do receive training on research student supervision and are mentored in this process all having joint supervision. Postdoctoral workers are not specifically trained to supervise although of course they do in an informal capacity. Mentors of junior faculty are not specifically trained – although all appraisers are and many mentors will also be appraisers.

Senior members of staff are appointed as mentors to junior members of staff, and,while they may seek advice and/or training from the Human Resources Department, there is no formal requirement to undertake.

Networking

33 departments encouraged and supported women to network at many levels. 3 departments said that this was under discussion. Most departments commented that all staff, including males, are also encouraged and supported. The wording of this question has been updated for the 2008 checklist and now refers to all staff rather than just to women. In 2004 all 25 departments reported encouraging men and women to network.

No more than for male staff, but such support and encouragement is freely given.

Everybody is encouraged not only women.

All staff are encouraged to network at appropriate levels. There is a Women's Development Network that is open to all women who work for the university. There is also a Men's Development Network which operates on the same basis.

Women are encouraged to attend external events, and given time off to do so.

The one department that answered "no/not applicable" did explain that,

Networking is not specifically discouraged.

32 departments acted on career progression issues raised,

> *Personnel committee is consulted on such issues.*

> *All members of staff can raise issues with their immediate line manager and/or the Head of Department at any time to discuss career progression issues.*

> *This is standard practice.*

> *The induction programme for newly appointed lecturers contains information on mentoring PhD students and postdocs.*

Role models

27 departments encouraged women to act as role models (including 8 informally); several departments commented that this applies to all staff. In 2004, 15 departments reported that this was done formally, and 7 reported that this was done on an informal/occasional basis.

> *All staff are encouraged to act as role models irrespective of gender.*

> *No specific encouragement is offered to women staff. All staff are encouraged to act as role models in whatever role they see appropriate.*

10 departments answered "no/not applicable" to this question; the reasons for this included,

> *No specific encouragement needed.*

> *Uncomfortable with the question in the sense that all staff are expected to act professionally at all times regardless of gender. Would not want any system which appears to 'force' staff to act as role models.*

> *Not enough women in the department.*

Section 4: Organisation and Culture

Workload allocation

33 departments regularly reviewed their teaching, research and administration workload allocation. Some had formal systems to do this, others less formal. Only 2 departments answered "no/not applicable". In 2004, 18 departments reported regularly reviewing work load allocation.

> *Distribution, particularly of teaching activities, is reviewed annually by heads of groups. The Head of Department maintains responsibility for the overall balance of administration and related jobs. This is also reviewed annually although many jobs carry a three year term of appointment. There is no question of sidelining anyone into jobs.*

> *The department has a transparent workload model and reviews workload distribution on an ongoing and annual basis. Gender is not an issue in workload distribution.*

> *Teaching and administrative duties are allocated by the academic head of chemistry, in consultation with the head of school to avoid, as far as is reasonably practicable, overload and to ensure that there is time available for research and professional development. Reviews are carried out periodically, to reflect change in the circumstances of academic staff. Teaching is often allocated according to areas of expertise and experience (e.g. new appointments would not be allocated large year1 service classes).*

Rotation of posts

36 departments rotated posts for staff to gain experience/exposure; it was not clear in all cases how systematic and open the process was. In 2004, posts were regularly rotated by 17 departments.

> *The membership of committees is reviewed and renewed on a regular basis.*

> *Most committee roles and appointments carry a three year term of membership although some, with the agreement of the member of staff involved, can last for different periods. Of course, not all staff wish to "gain experience/exposure" in this way but where they do, every effort is made to accommodate.*

> *We certainly try, but this is often an area where I have found female staff do not wish to take on onerous tasks like being director of undergraduate studies – not because they couldn't do it, but because they are busy enough*

doing teaching, research as well as having a family to take care of. This may be specific to our age profile and something that will alter as their children leave home.

Department openness

35 departments reported openness of departmental management, allocation of resources and communications, with differing degrees of formality; no department indicated this was not applicable. In 2004 18 departments reported this.

Guidelines for these issues are communicated to staff after discussion in the appropriate committees and a policy has been agreed. Important issues are discussed at staff meetings and a policy agreed.

Budgets are allocated within the school; information is freely available. Allocation of lab space is agreed within sub-disciplines of chemistry on the basis of need (e.g. size of research group, facilities required). Some limited research funding available on a competitive basis; procedures for application are disseminated to all.

There was a mixed reaction to the question on inclusivity, which included the involvement of part timers and researchers in departmental 'life' and keeping in touch with staff on maternity leave. 32 departments reported that they were inclusive; however some did not see this as an issue given the overall culture of the department. One institution specifically forbade contact whilst staff were on sick leave or maternity leave. 18 departments saw themselves as inclusive in 2004.

Everyone is encouraged to be involved.

There is a good inclusive social atmosphere amongst students and staff.

These issues have not arisen in the recent past and no action has been necessary - appropriate action would be taken depending on the circumstances to avoid discrimination.

Induction

36 departments indicated that they had departmental induction programmes; however, it was clear that in many cases these were not formalised. In 2004, the number was 16.

Something we are not good at. We muddle along!

Yes the induction programme for all staff within the school covers these issues.

Each member of staff undergoes a detailed induction programme at university level after appointment. A programme exists at departmental level but is much more informal and could be tightened up.

Mentors and the head of dept play a key role in this – but it is not formalised. There is a formal university level induction and training program in preparation for teaching leading to a PG cert over two years. This is compulsory for all teaching staff with less than 3 years prior experience.

Valuing staff contribution

35 departments reported that individuals' contributions to teaching and administration are valued and rewarded; 23 departments reported this in 2004.

Absolutely, the department endeavours to recognise contributions from all staff.

These aspects of academic work are highly valued and this is reflected in the departmental staff workload model.

They count in every aspect career development in very real terms (salary!).

Currently there are university procedures to reward staff to SL level with achievements in teaching/administration. However, with the movement towards higher participation of people in higher education (50%) that have more diverse profiles, encouragement is needed to develop the more challenging ability range and reward staff appropriately.

36 departments reported that their department's image (in publicity material, photographs, newsletters and job particulars) reflected the contribution of women to the department. Many made the point that men's contributions were similarly reflected. In 2004 21 departments indicated this.

We do not overtly try to – but they are!

The department's website reflects the positive contribution women make to the department, showing photographs predominantly of women as students, postdocs and staff.

We try to reflect the contribution of all our staff in our departmental publicity etc.

All members of staff are encouraged in these respects irrespective of gender.

Yes we are very proud of all their achievements and those of all our colleagues. We like to celebrate…..

Visibility of women

Two questions were asked on the visibility of junior women and both produced the response that men and women were treated equally. All 38 departments reported that junior women were encouraged to raise their profile externally (4 reported this was informal though); all 38 departments also reported that junior women were encouraged to contribute to departmental research seminars, and to present to research sponsors (5 reported this as informal).

The department strongly encourages all staff to undertake these activities.

All junior staff are encouraged to undertake these activities; women are not singled out for different treatment.

Just like everyone else. I think that in many cases our female colleagues are better on average at this than our male colleagues. I suspect that there is some level of self selection in those who apply here, but it also indicates a new generation of confident female scientists. I hope that this continues.

Invited speakers- monitoring gender balance

Only 12 departments reported that they monitored the gender balance of invited speakers to check whether it reflected the representation of women at post graduate and post doctoral levels. 7 of these only did it informally. Opinions were clearly mixed.

Not done at present. We aim to have a seminar programme to complement our research and teaching activities with leaders (established or potential) in their fields, irrespective of gender.

We aim to invite speakers with a range of research interests to keep our students (final year undergraduates and postgraduates) and staff well informed of recent developments in the field. The best speakers are invited and this will regularly be a female speaker but the department does not discriminate and monitoring is not undertaken.

The main criteria for choosing speakers are associated with their area of research and their ability to present this in an interesting way but efforts are made to ensure that females are well represented.

We are delighted to welcome speakers/visitors of either gender. In our main areas of research interest, there are simply not enough women out there!

We do not do this, nor would we wish to.

Section 5: Flexibility across the working day, the working year and working life that maximises individuals' participation in SET at all life and career stages

Career Break Returners

28 departments provided support for those returning from a career break (for 7 of these departments it was informal), 9 departments responded "no/not applicable". However, this was often because the need for a member of staff to take a career break had never occurred/not within the current Head of Department's period of office.

This situation has not arisen within the department but were it to occur in the future, each individual would negotiate with the Head of Department the circumstances under which they return to work.

There is an excellent university policy here. A period free from administration is allowed to those returning in order to allow them to kick-start their research.

These issues have not arisen in the recent past and no action has been necessary - appropriate action would be taken depending on the circumstances to avoid discrimination.

Flexible working policies

21 departments had transparent flexible working policies, which were promoted to all staff, with another 12 having something informal in place. Several departments answered that this was under discussion. Only one department answered "no/not applicable" citing that it has not yet been an issue.

> *The department encourages flexible working.*

> *A new flexible working policy is being introduced and has been communicated to all staff. One member of staff has applied to undertake flexible working and discussions are currently under way as to the best way of achieving this.*

> *The department does not have a clear policy on this, but does have an informal one. It is particularly supportive of all staff who have caring responsibilities, and works hard to ensure they are fully supported.'*

> *There are no formal policies however working from home is done and is allowed.*

30 departments agreed that the Head of Department supports flexible working and this is shown through personal take up. 2 departments didn't answer the question and 6 departments answered "no/not applicable".

> *The Head of Department sometimes works at home to fit in with childcare arrangements.*

> *Flexible working is encouraged and welcomed - it is standard practice.*

> *The university has a Flexible Working Policy; in reality little use has been made of it by either male or female academic staff to date. It seems to have more popularity among administrative or support staff.*

> *The department was too small to carry out flexible working.*

33 departments discuss work allocation with new staff and in appraisals to pick up on any work life balance issues. In 2004 this applied to 18 departments.

> *These matters would be discussed as a matter of course with heads of groups and/or Head of Department in deciding which tasks would be allocated to particular members of staff.*

> *This is an integral part of the appraisal process.*

> *This is certainly where staff should bring these issues up. I have seen it with male, but not female colleagues so far.*

> *Workloads are discussed on appointment. New appointees can expect a gradual increase up to a full load over a period of about 3 years. Some consideration is generally given to level of research activity.*

Only 1 department responded "no/not applicable" and commented,

> *University talks a lot about work/life balance but does not know how to implement it with continuing increases in targets.*

30 departments time their meetings to take account of caring/family responsibilities 8 departments did not.

> *Meetings are usually organised to start at 10.15, 14.15 or 15.15 so that they fit into the usual working day. As far as I am aware, no member of staff has ever said that they are unable to attend a meeting for these reasons. If I was to be made aware then I would consider changing, if this could conveniently be done.*

> *There is no evidence, from the recent attendances at meetings, that individuals are regularly being unable to attend important meetings due to caring or family responsibilities, but meetings are timed so they finish by 5pm to allow all staff (both male and female) to collect children from the nursery.*

> *As far as is reasonably practicable, teaching duties and departmental meetings are not scheduled at unfavourable times for academic members who have responsibilities for young children.*

Reasons for not doing so were given as follows,

> *So far this has not been an issue.*

> *We do not have the timetable flexibility for this. It is understood that staff may absent themselves from meetings for these reasons. Their views can be relayed to the meeting and they have web access to the minutes.*

> *The response (not to time meetings to take account of caring responsibilities etc.) applies to major departmental meetings only.*

The following checklist was used to collect data for this report. It is a modified version of the checklist used in the 2003 to collect data for the first report *"Good Practice"* report.

RSC | Advancing the Chemical Sciences

ATHENA PROJECT

Academic Chemistry and Related Departments Good Practice Checklist

April 2007

THE CHECKLIST

For return by Chemistry and related Departments for inclusion in the Athena Project/Royal Society of Chemistry review of good practice in university chemistry departments. The report will be published in December 2007.

Please complete the checklist by marking the appropriate box and then adding any comments that you wish to make.

NOTES:

1. Please email completed checklists to Sarah Dickinson (dickinsons@rsc.org) no later than 4th May 2007.

2. Please complete forms in Microsoft Word: Arial 10 point or larger.

3. Where relevant additional supporting material can be attached electronically, submitted in hard copy (Sarah Dickinson, Royal Society of Chemistry, Burlington House, Piccadilly, London W1J 0BA) or the web address provided.

4. The names of the departments that complete the checklist will be published.

HEI:

School/Faculty:

Department:

Departmental Contact *

Name:

Designation:

Email:

Telephone:

Postal address:

* NOTE If the person completing the return is not going to be available for a telephone follow up during May and June please provide an alternative email contact.

All text relating to an identified/identifiable department will be checked for interpretation/accuracy prior to publication

Departmental Description

Please provide a brief description (50 - 200 words) of the department making the return, including FTE and headcount numbers of women and men at each grade (please include post doctoral researchers), and the numbers of male and female undergraduate and postgraduate students.

Please include here any relevant special initiatives/programmes/ plans which do not fit into the checklist

Queries

Any queries on the information to be provided / requests for clarification should be emailed as soon as possible to Sean McWhinnie (mcwhinnies@rsc.org).

A = established/widely applied **B** = occasional/informal/pilot **C** = under discussion **D** = review required **E** = no/not applicable							
1	Old Question Number	**KPI 1: A robust organisational framework for action that delivers equality of opportunity and reward in SET**	A	B	C	D	E
1.01	2.2.1	**Student profile:** the department monitors and reports on the number of undergraduate and post graduate students by gender					
		Comment:					
1.02	3.2.6	**Departmental staff profile:** head count and FTEs are monitored by gender and at all grades and reported at departmental management committee level					
		Comment:					
1.03		**The staff profile** of the department is benchmarked against UK figures and cognate disciplines within the university					
		Comment:					
1.04		**Monitoring appointments and promotions:** the stages and outcomes of appointment and promotion processes are monitored and reported at departmental management committee level					
		Comment:					
1.05		**Women and SET committee:** there is a departmental 'committee' responsible for a 'women and SET action plan' based on their analysis of the staff profile and the identification of key areas for action					
		Comment:					
A = established/widely applied **B** = occasional/informal/pilot **C** = under discussion **D** = review required **E** = no/not applicable							
2	Old Question Number	**KPI 2: Appointment and promotion processes that encourage women and men to apply for academic posts at all levels**	A	B	C	D	E
2.01	2.1.1	**Encouraging applications:** the department encourages women and men to apply for appointment and promotion when they are ready					
		Comment:					

2.02	2.2.1	**Encouraging applications:** when making new appointments, the department attempts to identify and attract appropriate women candidates both internal and external					
		Comment:					
2.03	2.1.4	**Appointments and promotions procedures** are openly communicated and guidance is provided to potential candidates					
		Comment:					
2.04	2.1.2	**Promotion process:** women in the department are supported through procedures with, e.g., mentoring mock interview and feed-back					
		Comment:					
2.05	2.1.3	**Feedback** is given on, e.g., career development needs for unsuccessful internal applicants for appointments and promotion					
		Comment:					
2.06	2.3.3	**Promotion outcomes** are reviewed by the department against criteria (teaching, research, administrative contributions) and successes are celebrated					
		Comment:					
2.07	2.2.2	**Selection criteria** are reviewed for bias and to ensure that selection criteria are not greater than is strictly necessary and are clear					
		Comment:					
2.08		**Career breaks and part time working:** the department has a clear policy on how career breaks and part time working are considered at appointment and promotion					
		Comment:					
2.09	2.2.3	**Selection panels** always include at least one man and one woman and one external/lay person					
		Comment:					

2.10	2.2.4	**Monitoring recruitment:** reports are made to the departmental management committee on the percentage of women and other under represented groups at each stage of the selection process					
		Comment:					
2.11	2.3.1	**Promotion criteria:** the department's criteria for nominating and supporting candidates for promotion are consistently fair in application and are transparent					
		Comment:					
2.12	2.3.2	**Promotion procedures:** departmental promotion procedures are clear, open, effectively communicated to all, and are reviewed and compared to others					
		Comment:					
A = established/widely applied **B** = occasional/informal/pilot **C** = under discussion **D** = review required **E** = no/not applicable							
3	Old Question Number	**KPI 3 - Structures and systems that encourage and support the career progression of staff**	A	B	C	D	E
3.01	1.1.1	**Professional development:** all staff are expected and encouraged to participate in professional development programmes					
		Comment:					
3.02	1.1.3	**Career development/advice:** specific individuals/post holders are made responsible for career development and career advice for junior and research staff					
		Comment:					
3.03	1.1.2	**Career development:** the development opportunities available to staff include entrepreneurship, IPR, people and financial management, other transferable skills					
		Comment:					
3.04	1.1.4	**Appraisal:** responsibilities for the career development of junior and research staff are included in appraisals					
		Comment:					

3.05		**Appraisal:** all staff, including researchers and research fellows, are regularly appraised					
		Comment:					
3.06	1.2.1	**Support systems:** peer support and buddy systems are encouraged					
		Comment:					
3.07	1.2.2	**Networking:** women are encouraged and supported to network at faculty, university, regional and national levels					
		Comment:					
3.08	1.2.3	**Action on career progression:** the department listens to and acts on career progression issues raised by mentoring networking and role model activities					
		Comment:					
3.09	1.3.3	**Mentoring:** staff are encouraged (trained and provided with guidance) to become mentors or mentees including junior staff to mentor researchers, and researchers to mentor postgraduates					
		Comment:					
3.10	1.3.1	**Mentoring:** the department has a career development mentoring scheme (additional to any mentoring provided as part of induction or probation schemes)					
		Comment:					
3.11	1.3.4	**Role models:** women staff are encouraged to act as role models by the department and university externally at regional and national levels					
		Comment:					

A = established/widely applied **B** = occasional/informal/pilot **C** = under discussion **D** = review required E = no/not applicable							
4	Old Question Number	**KPI 4 - Organisational arrangements and cultures that are open , inclusive, and transparent and engage all staff**	A	B	C	D	E
4.01	3.1.2	**Work load allocation:** the work load balance of administration, research, and teaching is reviewed regularly and women are not sidelined in atypical jobs / not able to develop their CVs / unable to take up development opportunities					
		Comment:					
4.02	3.1.3	**Departmental roles and responsibilities** and committee memberships are rotated for staff to gain experience / exposure					
		Comment:					
4.03	3.2.1	**Open allocation of resources:** there is openness in departmental management & communication & in, e.g., the allocation of resources, such as space, funding and research support					
		Comment:					
4.04	3.2.2	**Inclusivity:** inclusive social activities are promoted and the department involves research staff and part timers in the 'life' of the department, keeps in touch with staff on sabbaticals, career breaks, long sick leave and maternity leave					
		Comment:					
4.05	3.2.4	**Workplace practices:** induction programmes include 'how we do things round here' at the department, laboratory and individual role levels					
		Comment:					
4.06	3.1.4	**Valuing contributions:** individuals' contributions to departmental administration, and teaching are recognised, valued and rewarded					
		Comment:					

4.07	3.2.9	**Departmental image:** the departmental image (publicity, photographs, newsletters, job particulars) reflects the contribution of women to the department					
		Comment:					
4.08	1.1.6	**Visibility:** junior women, including researchers, are encouraged to raise their profile externally, e.g., by participating in professional society activities, attending and presenting at conferences					
		Comment:					
4.09	1.1.5	**Visability:** junior women, including researchers, are encouraged to contribute to departmental research seminars and to present to research sponsors					
		Comment:					
4.10		**Visibility:** gender monitoring of invited speaker at, e.g., departmental seminar programmes and visiting academics to check whether they reflect the percentage of women post grads / researchers					
		Comment:					

A = established/widely applied **B** = occasional/informal/pilot **C** = under discussion **D** = review required
E = no/not applicable

5	Old Question Number	**KPI5 - Flexibility across the working day, the working year and working life that maximises individuals participation in SET at all life and career stages**	A	B	C	D	E
5.01		**Returners:** support is provided for those returning from a career break, e.g., to enable individuals to focus on their research					
		Comment:					
5.02		**Flexible working** policy and practice is transparent and consistently applied and its benefits for men and women are promoted					
		Comment:					
5.03	3.2.3	**Flexible working:** there is clear support from the Head of Department for flexible working, evidenced by personal take up by HOD and senior staff					
		Comment:					

5.04	3.1.1	**Care responsibilities:** work allocation discussions are held with new staff to pick up work life balance issues and are covered in appraisals					
		Comment:					
5.05	3.2.8	**Timing of meetings:** department meetings are timed to take account of caring / family responsibilities					
		Comment:					

Appendix C: The Revised Good Practice Checklist

The following checklist is a further refinement based on the experience of departments completing the checklist, and in analysing the results of the 2007 checklist

It is the part of the Athena Partnership Tool Kit

PDF and word versions are available on the RSC and Athena Partnership websites. Chemistry departments who would like to complete the checklist and who want feedback from the RSC should contact Sarah Dickinson (dickinsons@rsc.org).

Academic Departments Good Practice Checklist

For further information about use of the Checklist contact either Sean McWhinnie (mcwhinnies@rsc.org) or Sarah Dickinson (dickinsons@rsc.org) at the Royal Society of Chemistry/Athena Partnership.

April 2008

Academic Chemistry Good Practice Checklist

The attached Good Practice Checklist has been produced by the Royal Society of Chemistry (RSC) and the Athena Project as a tool for use by members of the Athena Partnership.

This approach has been developed on the basis of careful research on the factors affecting female chemists' career choices and their career progression. Evidence of the success of the RSC's work is that the first university department to win an Athena SWAN recognition award was Edinburgh chemistry and the first to win a gold award was York chemistry.

The checklist was first used in 2004 to collect information on working practices in chemistry departments, and, in particular, to identify examples of good practice. The good practice identified was published in 2004 in *"Good Practice in University Chemistry Departments".* The checklist was revised in 2007, organised around 5 key principles; this was used to collect data for the second edition of the Good Practice report which will be published later in 2008.

Although the RSC's work concentrated on chemistry departments, the checklist itself was generic. In consequence, this version, which was revised to take on board feedback from chemistry departments, is being made available for the community's use.

The checklist may be used in a number of ways. An individual (ideally the Head of Department or a senior staff member), or a small group of individuals, can complete the checklist. Maximum value will be gained if comments are added to qualify, or clarify, the tick response.

Alternatively, the checklist may be distributed to all staff (including post doctoral researchers) and their individual ticked responses and comments can be collated onto a single copy of the checklist. A commentary may be added by a senior staff member.

Either way, the completed checklist can then be used by the department to identify areas for action, as part of a diversity/gender action plan, and could be used in preparation for a submission for an Athena SWAN recognition award.

The checklist is also an essential preparation by the departments who are taking part in the Athena Partnership Good Practice Departmental Visit and Benchmarking initiative which the RSC and IOP are jointly piloting in 2008.

Finally the checklist can also act as a prompt on things that can be done in departments. Examples of Good Practice can be found in the RSC's 2004 report, in the IOP's 2006 report *"Women in University Physics Departments"* and in the Athena Project good practice reports and case studies.

If you have any queries about the use of the checklist please contact either Sean McWhinnie (mcwhinnies@rsc.org) or Sarah Dickinson (dickinsons@rsc.org) at the Royal Society of Chemistry/Athena Partnership.

The RSC's *"Good Practice in University Chemistry Departments"* may be downloaded from: http://www.rsc.org/ScienceAndTechnology/Policy/Documents/GoodPracticeinUCD.asp

The IOP's *"Women in University Physics Departments"* may be downloaded from: http://www.iop.org/activity/diversity/Gender/Diversity_and_academia/University_site_visits/page_25130.html and details of the Juno Code of Practice may be found at http://www.iop.org/activity/diversity/Gender/Diversity_and_academia/Juno_Code_of_Practice/page_25144.html

The Athena Project Reports may be downloaded from: www.athenaproject.org.uk

Further information about Athena SWAN may be found at: www.athenaswan.org.uk

THE CHECKLIST

Please complete the checklist by marking the appropriate box and then adding any comments that you wish to make.

NOTES:

5. Please email completed checklists to……………no later than…………..

6. Please complete forms in Microsoft Word: Arial 10 point or larger.

7. Where relevant, additional supporting material can be attached electronically or submitted in hard copy

8. For the sake of space in the checklist we have abbreviated the categories, here they are in full:

A = regular, required, resourced, reviewed, reported

B = accepted, expected, structured (but lacks one or more features of A)

C = building/developing systems, understanding, practices, processes

D = informed, interested, aware, individual initiatives, testing approaches

E = not on track, unaware, not yet

HEI:

School/Faculty:

Department:

Departmental Contact *

Name:

Designation:

Email:

Telephone:

Postal address:

Departmental Data

Students	Male	Female	Total
Undergraduates			
Masters students			
Doctoral students			

Staff	Full Time			Less than Full Time		
	Male	Female	Total	Male	Female	Total
Technical staff						
Experimental Officers						
Post Doctoral Researchers						
Lecturers (Senior Lecturers post '92 Universities)						
Senior Lecturers (Principal Lecturers post '92 Universities)						
Readers						
Professors						
Other staff - including teaching staff (please insert description)						

Departmental Description

Please provide a brief description (50 - 200 words) of the department making the return, including numbers of women and men at each grade (please include post doctoral researchers), and the numbers of male and female undergraduate and postgraduate students.

Please include here any relevant special initiatives/programmes/ plans which do not fit into the checklist.

A = required/reviewed/reported B = expected/structured C = building/developing systems D = informed/interested E = Not on track						
1	KPI 1: A robust organisational framework for action that delivers equality of opportunity and reward in STEM	A	B	C	D	E
1.01	Student profile: the department monitors and reports on the number of undergraduate and postgraduate students by gender					
	Comment:					
1.02	Departmental staff profile is monitored by gender at all grades for both FT and LFT (less than full time) and reported/communicated within the department and benchmarked against UK figures and against cognate disciplines within the university					
	Comment:					
1.03	Staff and student monitoring: the staff and student data is used as the basis of an action plan which links to the overall departmental/school/ faculty academic strategy					
	Comment:					
1.04	Leadership: The Head of Department or a senior academic leads and champions good practice					
	Comment					
1.05	Taking action: members of staff are identified (departmental post holders/individual members of staff) who are responsible for taking action, reporting progress and communicating within the department					
	Comment					
A = required/reviewed/reported B = expected/structured C = building/developing systems D = informed/interested E = Not on track						
2	KPI 2: Appointment and promotion processes that encourage women and men to apply for academic posts at all levels	A	B	C	D	E
2.01	Encouraging applications: internally the department encourages women and men to apply for appointment and promotion when they are ready					
	Comment:					
2.02	Encouraging applications: when making new appointments, the department attempts to identify and attract appropriate external male and female candidates					
	Comment:					
2.03	Appointments and promotions procedures are openly communicated and guidance is provided to potential candidates					
	Comment:					

2.04	Promotion process: staff in the department are supported through the process with, e.g., help in the preparation of the application and mock interviews					
	Comment:					
2.05	Feedback is given on, e.g., career development needs for unsuccessful internal applicants for appointments and promotion					
	Comment:					
2.06	Selection panels always include at least one man and one woman and one external/lay person					
	Comment:					
2.07	Recruitment and promotion outcomes are monitored and reports are made on the percentage of women and other under represented groups at each stage					
	Comment:					
2.08	Promotion criteria: the department's promotion processes and criteria for nominating and supporting candidates for promotion are well communicated, consistent, fair in application and transparent					
	Comment:					

A = required/reviewed/reported B = expected/structured C = building/developing systems
D = informed/interested E = Not on track

		A	B	C	D	E
3	KPI 3 - Structures and systems that encourage and support the career progression of staff	A	B	C	D	E
3.01	Professional and career development: all staff including postdoctoral researchers are expected and encouraged to participate in programmes and activities which include, e.g., entrepreneurship, IPR, people and financial management, science communication, other transferable skills					
	Comment:					
3.02	Career development/advice: specific individuals/post holders are made responsible for career development and career advice for early career and all research staff, including post doctoral researchers					
	Comment:					
3.03	Appraisal: all staff, including post doctoral researchers and research fellows, are regularly appraised					
	Comment:					
3.04	Appraisal: all appraisals include a discussion of the appraisee's own responsibilities for the career development of their staff including post doctoral researchers					

		Comment:					
3.05	Networking: staff are encouraged and supported to network at faculty, university, regional and national levels						
		Comment:					
3.06	Mentoring: the department has a career development/mentoring scheme (additional to any mentoring provided as part of induction or probation schemes)						
		Comment:					
3.07	Mentoring: staff are encouraged (trained and provided with guidance) to become mentors or mentees (including early career staff), to mentor researchers, and researchers are encouraged to mentor postgraduates						
		Comment:					
3.08	Role models: women and members of other under represented groups are encouraged to act as role models by the department externally at regional and national levels						
		Comment:					

A = required/reviewed/reported B = expected/structured C = building/developing systems
D = informed/interested E = Not on track

4	KPI 4 - Organisational arrangements and cultures that are open , inclusive, and transparent and engage all staff	A	B	C	D	E
4.01	Work load allocation: the work load balance of administration, research, teaching, and other activities (e.g. outreach) is reviewed regularly					
	Comment:					
4.02	Departmental roles and responsibilities, including committee memberships, are rotated for staff to gain experience / exposure					
	Comment:					
4.03	Openness and communication: there is openness in departmental management and in, e.g., the allocation of resources, such as space, funding and research support					
	Comment:					
4.04	Inclusivity: social activities are encouraged and involve all staff including less than full time and non-academic staff as well as staff on sabbaticals, career breaks, long term sick leave and maternity leave					
	Comment:					

4.05	Departmental induction: there is a departmental induction programme which introduces departmental practices and procedures to all staff including post doctoral researchers					
	Comment:					
4.06	Departmental image: the departmental image (publicity, photographs, newsletters, job particulars) reflects the contribution to the department of women and under represented groups					
	Comment:					
4.07	Visibility: junior women and under represented groups, including post doctoral researchers, are encouraged to raise their profile externally, e.g., by participating in professional society activities, attending and presenting at conferences, contributing to departmental research seminars and presenting to research sponsors					
	Comment:					
4.08	Visibility: gender monitoring of departmental attendance at external conferences, invited speakers in departmental seminar programmes, and of visiting academics to check how far the figures reflect the profile of the discipline					
	Comment:					
4.09	Valuing contributions: individuals' contributions to departmental administration and teaching are recognised, valued and rewarded					
	Comment:					
A = required/reviewed/reported B = expected/structured C = building/developing systems D = informed/interested E = Not on track						
5	KPI5 - Flexibility across the working day, the working year and working life that maximises individuals' participation in STEM at all life and career stages	A	B	C	D	E
5.01	Career breaks and less than full time working: the department has a clear policy on how career breaks and LFT working are considered in relation to appointment and promotion					
	Comment:					
5.02	Managing return after a career break: the return of staff after a career break is managed by e.g., enabling individuals to focus on their research or work less than full time initially					
	Comment:					

5.03	Flexible working policy and practice is transparent and consistently applied and its benefits for the individual and the department are promoted					
	Comment:					
5.04	Flexible working: there is clear support from the Head of Department for flexible working, evidenced by personal take up by HOD and senior staff					
	Comment:					
5.05	Care responsibilities: work allocation discussions are held with new staff to pick up work life balance issues, and changes in responsibilities, e.g., the need to care for a partner or relative, are dealt with in a supportive and practical way					
	Comment:					
5.06	Timing of meetings: department meetings are timed to take account of caring / family responsibilities					
	Comment:					

Appendix D: Utopia or Reality

The following article was originally published in the RSC's Policy Bulletin in Autumn 2005

As part of its continuing work on diversity in chemistry, the RSC recently published a report on *Good Practice in University Chemistry Departments*. The report describes the culture needed to support academic staff of all genders and backgrounds using analysis from a broad range of UK chemistry departments.

Gender imbalance in chemistry

Gender balance in chemistry compares well with other science, engineering and technology (SET) subjects at undergraduate and postgraduate levels; approximately 42% graduating at undergraduate level are female (compared to a sector average of 56%). However the proportion of women at post doctoral level falls to around 25%. As Professor Julia Higgins stated in the RSC's 2003 report, Recruitment and Retention of Women in Academic Chemistry, 'if these young women are leaving chemistry completely, the waste that this represents for chemistry and for the women themselves is unforgivable.'

The situation in chemistry has improved, but there is still a long way to go. The most recent figures show that 4% of chemistry professors are female compared with 14% for the whole HE sector.

Previous work by the RSC suggests that whereas both men and women benefit from 'good practice', women in particular are adversely affected by 'bad practice'. The current report, showcases the good practice found in many UK chemistry departments via a description of the chemistry department at the University of Utopia.…

The University of Utopia

The University of Utopia campus is in a pleasant part of the city, well-served by public transport, with open views and plenty of trees. The campus is a few minutes by car from some of the best local authority primary and secondary schools and has its own well-regarded day nursery.

The chemistry department occupies a much adapted building with a welcoming entrance hall. Staff pigeonholes are located outside the recently refurbished common room whose comfortable chairs and free tea and coffee assure good use. The notice board in the entrance hall is kept up to date with photographs and contact details for all staff, including an indication of days worked by part-time staff and job-sharers.

Photographs in departmental publications reinforce and recognise the success of women at all levels; from the mature second year student featured in the undergraduate prospectus, to the photograph of the mixed department cricket team on the corridor wall. The department's annual report gives pride of place to a feature on their female professor who was recently awarded an FRS.

Management changes

Change at the University of Utopia took time. A review in the late 80s recommended the merger of inorganic, organic, physical and theoretical chemistry sections but no action was taken until the university forced the department to make management changes ten years later. Previous departmental heads had the job for life, but now the headship rotates every three years.

The rotation of senior management posts now means that there are at least two academics with experience from whom a new Head of Department can be appointed. Bearing in mind the coming pattern of retirements, younger members of staff are also being given administration experience. The department now has an open review and reallocation of duties at the beginning of each academic year.

The results of the last RAE were an unpleasant shock to the department and the university alike, but this has proved to be the catalyst for action, bringing together the department's young academics in a campaign for team success. The lower than expected RAE score focused everyone's attention on problems and constraints and what could be done to turn things around.

Transparency in promotions

Issues surrounding promotions within the department have been difficult in the past. Recently the Head of Department tackled this issue by producing detailed information on recent promotions and the criteria these candidates met, including publications, teaching, grant applications and other successes. This information is now available on the department website alongside the university promotion criteria and is featured in the annual open meeting for staff which the Head of Department holds before the start of each promotion round.

Supporting staff

The department is big enough for good science but not so big that people don't know each other. The younger academics are given a lot of support but feel they are fulfilling the role of an independent academic. They are encouraged to make decisions and are allowed to make small mistakes. The department gives new lecturers a postgraduate studentship and a start-up grant of £20K over three years.

The recent job-share in one of the administration posts took time to settle down but the department can now see the benefits of having two people with different skill sets. Rather than burden the small number of women academics on the staff, the department sent one of their senior administrative staff on a counselling course so that she can support the department's welfare tutor.

Recently one female academic has chosen to go part-time but the financial saving has been left with her research group to support any difficulties experienced and to allow her to return to full-time in the future. The Head of Department works from home when necessary so he can take his share of child care duties. The age-range of the department and their offspring have prompted a thriving cottage industry in baby-sitting!

Utopia or reality?

The University of Utopia may not exist exactly as described, but it does represent some of the progressive 'good practice' implemented by a number of UK chemistry departments. The RSC hopes that its report will help to spread this 'good practice' to all universities.