WiSETI

Women in Science, Engineering and Technology Initiative

Report 2010
Introduction

WiSETI has become a prominent presence within the University (and has wider recognition throughout the UK’s Higher Education sector), leading initiatives aimed at encouraging female scientists at all stages of their careers and working to redress the significant imbalance in numbers of women in SET departments. The activities it runs – ranging from the annual lecture by a high profile and senior woman scientist, through early career workshops, to CV mentoring in applications for promotion for mid-career scientists – not only offer support and encouragement to female researchers, but also remind the decision-making bodies within the University that much work remains to be done to ensure that we use all our talents effectively.

Links with Schlumberger, started by their generous sponsorship of the annual lecture, have now been extended to the skills-based workshops which are run jointly. There are many benefits in this engagement with local industry, and the workshops have been tremendously successful in facilitating networking amongst early career researchers, as well as providing formal skills training.

WiSETI has also encouraged and supported the participation of many staff, male and female, in the ASSET survey whose results will provide insight into how the Cambridge working environment is perceived by staff. The picture that emerges at department level will enable local analysis of strengths and weaknesses.

I am particularly pleased that Cambridge has received national recognition for work carried out under the auspices of WiSETI: we successfully applied for a renewal of our University Bronze Athena SWAN Award and WiSETI worked with the Department of Physics in their recent successful bid for a Departmental Silver Athena SWAN Award, our first department to secure this high level of recognition, as well as an Institute of Physics Juno Champion Award.

This Report demonstrates WiSETI’s great achievements, and I congratulate the Director, staff and all those who have participated in the activities described here.

Professor Dame Alison Richard
Vice-Chancellor, 2003-10
Executive Summary

WiSETI is a positive action initiative at the University of Cambridge that promotes and supports women from undergraduate level to Professor, in the Science (including Clinical Sciences), Technology, Engineering and Mathematics (STEM) subject areas.

WiSETI is governed by a Steering Group made up of senior academics from across the University and representing the different STEM Schools of Biological Sciences, Physical Sciences and the School of Medicine.

The Group is chaired by Professor Jeremy Sanders, Head of the School of Physical Sciences, and overseen by the WiSETI Director, Professor Dame Athene Donald, Deputy Vice-Chancellor and Gender Equality Champion for the University of Cambridge.

Delivery and management of the Project is undertaken by the part-time WiSETI Project Officer who is a member of the University’s Equality and Diversity (E&D) section.

WiSETI is also supported by a network of WiSETI representatives from STEM Departments within the University.

WiSETI’s activities in 2009-10 included:

WiSETI / Schlumberger Annual Lecture
Sponsored by Schlumberger Cambridge Research, this event features a distinguished woman scientist who highlights the issues that affect women in STEM.

The 2009-10 speaker was Professor Julia King, CBE FREng, Vice-Chancellor of Aston University.

Career Development Seminars for Early Career Women Scientists
Delivered jointly with Schlumberger, these skills based seminars are for early stage independent women scientists from both the University of Cambridge and Schlumberger. Two seminars were held in 2009-10, on ‘Working Smarter, not Harder’ and ‘Confidence Building in the Workplace’.

Cake and Careers
The ‘Cake and Careers’ seminars are aimed at PhDs and postdocs and include speakers who are only a few career stages ahead of the audience, featuring a mix of different careers e.g. science policy, industry and academia, as well as cake!

CV Mentoring Scheme
This Scheme matches female University Lecturers, Senior Lecturers and Readers who are thinking of applying for promotion, with senior academics who have extensive experience of the University’s Senior Academic Promotions procedures. The Scheme is open to women wishing to apply for promotion in the next or subsequent promotion rounds.

Postdoc Bookmark
In 2010, WiSETI worked with the Athena Forum to produce a bookmark for postdocs at the University of Cambridge. Listed are ten questions that they are encouraged to ask themselves about their future in science, as well as resources available from the University to support planning and developing career pathways.

Supporting Good Practice in Science
In 2009, WiSETI led the renewal of the University of Cambridge’s University Bronze Athena SWAN award which recognises and celebrates good practice in recruiting, retaining and promoting women in SET within Higher Education. WiSETI also supported the Department of Physics with its successful submissions for an Athena SWAN Departmental Silver award and an Institute of Physics (IOP) Juno Champion award, which is similar to an Athena SWAN Silver Award but specifically for physics departments.

Maintaining and Creating New External Contacts
WiSETI develops relationships with relevant external organisations in order to support women in accessing resources, and linking the Initiative into national policy development for women in STEM. WiSETI has strong links with several professional societies and is a core partner in the UK Resource Centre for Women in Science, Engineering and Technology (SET) (UKRC), which is the Government’s lead organisation for the provision of advice, services and policy consultation regarding the under-representation of women in SET.

“It is vital that the UK continues to invest in and support its women scientists.”

“...and support its women scientists, engineers and technologists to deliver economic success as well as equality. Within the University we have an equal responsibility to provide support and career development for all, and we must work hard to ensure women are not deterred by inadvertent institutional cultural factors or a sense of isolation.”

Professor Dame Athene Donald, Director of WiSETI
Background to WiSETI

WiSETI is a positive action initiative that promotes and supports women from undergraduate level to Professor.

Since its beginning, WiSETI activities have included the introduction of the University’s Springboard and Navigator personal and professional development programmes for Undergraduates; delivery of unconscious bias workshops for staff involved in recruitment, selection and appraisal; organisation of annual high profile lectures hosted by the Vice-Chancellor to showcase significant women of scientific achievement; the introduction of a CV Mentoring Scheme, and working internationally with MentorNet, who run an e-mentoring scheme for women students and Postdoctoral researchers.

To support this work, WiSETI has played a key role for the University in gathering and analysing specialist statistics and expertise relevant to the project’s aims, sharing these with internal and external stakeholders in order to benchmark progress.

WiSETI Structure

WiSETI is governed by a Steering Group made up of senior academics from across the University and representing the different STEM Schools of Biological Sciences, Physical Sciences and the School of Medicine. The Steering Group is chaired by Professor Jeremy Sanders, Head of the School of Physical Sciences, and overseen by the WiSETI Director, currently Professor Dame Athene Donald, Deputy Vice-Chancellor, Professor of Experimental Physics and Gender Equality Champion for the University of Cambridge. The Steering Group meets once a term to discuss WiSETI’s project plan and to consider the progress of its objectives.

Delivery and management of the project is undertaken by the part-time WiSETI Project Officer who is a member of the University’s Equality and Diversity (E&D) section. The E&D section is responsible for the development of policy and practice relating to compliance with equalities law and the promotion of good practice. This arrangement links WiSETI with wider equality and diversity objectives within the University as a whole. The E&D section sits within the Human Resources Division and this provides the project with a clear reporting pathway to the University’s highest decision making bodies via the Equality & Diversity and Human Resources Committees, as well as through its own Steering Group.

Background

WiSETI was established in 1999. The project aims to increase the representation of women scientists, both staff and students, at all levels within the University of Cambridge, and has introduced important initiatives to raise awareness of and gain support for the University’s commitment to addressing gender inequalities in STEM areas. These include the development of a network of WiSETI representatives from STEM Departments within the University; facilitating regular events and building networks. These activities have supported the University in securing a Bronze Athena SWAN award and have helped the Department of Physics to be successful in obtaining a departmental Silver Athena SWAN award and Juno Champion for promoting women in science.

The University of Cambridge Women in Science, Engineering and Technology Initiative (WiSETI) is a positive action initiative that promotes and supports women from Undergraduate level to Professor, in the Science (including Clinical Sciences), Technology, Engineering and Mathematics (STEM) subject areas. It aims to redress an under-representation of women in employment and career progression in these disciplines at the University of Cambridge.
Women are undoubtedly far better represented in Science, Technology, Engineering and Maths (STEM) in the twenty-first century than the women of previous generations; greater numbers of women now have access to, and achieve a high level of, STEM education. However, women are still not present in the proportions that might be expected given the numbers that are qualifying in STEM, and current levels of female participation in the labour force as a whole. Certain areas of scientific employment remain acutely ‘male-dominated’, with women especially under-represented in particular disciplines and sub-disciplines, and in positions of leadership.

The latest data on the UK indicate that only 25% of female SET graduates are employed in SET occupations compared with 40% of men. The situation, which contributes to the relative lack of women in senior positions in SET professions, is sometimes described as "the leaky pipeline"; as scientists flow along the science career pipeline – a notional path representing training and advancement – they "leak out" and are lost to science. The tendency for mothers, rather than fathers, to take time out of the labour market to care for the children is undoubtedly a contributing factor, but it appears that it is not the only one. Research has found that women without children are also less likely than men to remain in STEM.

Female retention in STEM is an important issue with economic and equality implications. The University is committed to supporting the career development of all staff and students and WiSETI is a vital tool to help it achieve this.

"Women hold only 9% of board directorships in SET FTSE 100 companies, and exclusively male boards still exist in 35% of SET companies and only 9.3% of all full-time STEM professors are female."  

The Annual Lecture is WiSETI’s flagship event where a distinguished woman scientist is invited to speak about her life and work. One of the aims of the Lecture is to highlight the issues that particularly affect women in STEM and contribute to low retention rates in these subjects. The Annual Lecture speakers explore how these issues impacted on them personally and discuss approaches to managing obstacles and succeeding.

It is a popular and well attended annual event which is hosted by the Vice-Chancellor. The WiSETI Lecture is sponsored by Schlumberger Cambridge Research which is a leading oilfield services provider with many sites around the world.

The 2009-10 lecture was held on 9th March 2010 which coincided with the University’s programme of events for International Women’s Day (8th March) and the Cambridge Science Festival. As a result, the WiSETI Lecture was featured in a wide range of local and national publicity. The speaker was Professor Julia King, CBE FREng, Vice-Chancellor of Aston University, who spoke of her diverse career in both academia and industry and her personal and professional achievements.

This year’s Lecture was a notable successful with over 100 attendees, and included a good number of local sixth form female students studying science.
In the 2010 Senior Academic Promotions round 80% of those women who applied for professorships were successful.

CV Mentoring Scheme

This CV Mentoring Scheme matches female University Lecturers, Senior Lecturers and Readers who are thinking of applying for promotion, with senior academics who have extensive experience of the University’s Senior Academic Promotions procedures.

The Scheme is open to women wishing to apply for promotion in the next or subsequent promotion rounds. The senior academics who participate in the Scheme review the CVs and promotion paperwork of the mentees. They provide guidance, insight and advice and thus help to strengthen participants’ applications. The Scheme has helped to increase women’s confidence in applying for promotion particularly for those who might not have done so previously.

Evaluation of the 2009-10 scheme found that it was not only helpful to those women wishing to apply for the 2010 promotion round, but also for those who were planning to applying for future rounds. One participant commented:

“The scheme is great, thank you ever so much for putting it together! I appreciated the opportunity to discuss my professional progression with a senior academic outside of my field, who really provided me with a fresh view of the promotion process in Cambridge.”

Almost all the participants felt that the Scheme had helped them to make the decision whether or not to apply for promotion, and all believed that the advice they received helped improve the presentation of their CVs.

Another participant commented that:

“I very much needed the confidence of being told (by an independent adviser) that an application WAS appropriate. This is where I’ve ‘wimped out’ in previous years, despite colleagues suggesting that I should apply.”

As part of the review of the 2009-10 scheme, it was found that some women who had registered did not make contact with their mentor. Feedback indicated that this was because they lacked the confidence to make the initial contact.

“For me, it was all about the confidence to do something: I needed to be told that it was appropriate for me to apply for promotion, but last year (i.e. October 2008) I lost the confidence to even ask! In 2008 I was offered a CV checker, but then didn’t take it up; and the same very nearly happened this time around. This was because it felt intimidating for me to make contact with a very senior, male adviser.”

Based on this feedback from the evaluation of the Scheme, changes have been made to its operation for the 2010-11 promotion rounds. In particular, it was decided that the WISETI Project Officer would send participants’ details to the Mentors, who have agreed to initiate the contact with participants. The 2010-11 Scheme is still underway and these new processes will be evaluated in the Lent term 2011.
As of 2008, some 620,000 women in the UK are graduates in SET. However, 70.2 per cent of these don’t work in STEM. 

Career Development Workshops for Early Career Women Scientists

These workshops are delivered jointly with Schlumberger Cambridge Research and are for early stage independent women scientists (e.g. research fellows) from both the University of Cambridge and Schlumberger Cambridge Research. The aims of the workshops are to foster links between the two organisations and encourage discussion of common career issues for women. These workshops were introduced in the 2008-09 academic year. The original format of the seminars addressed issues raised by participants and included discussions on leadership, managing personal and professional impact, assertiveness and balancing career and family.

In 2009-10, the format changed to skills based workshops; this was as a result of the feedback from previous seminars requesting this new structure. The format evolved from a successful workshop held in 2008-09, entitled ‘Speaking up and Saying No’, which was facilitated by a professional trainer. The two workshops held in 2009-10 were similarly facilitated by professional trainers and life coaches, and included time for networking.

The first workshop, held in Lent term of 2009, was on ‘Working Smarter, Not Harder’, and facilitated by Dr Suzanne Doyle-Morris who specialises in training women in traditionally male dominated fields.

Feedback from that workshop was positive and included:

“Interesting workshop, good to be able to think about planning/career goals/time management etc.”

“Helpful, made me think about how silly my objections to delegating work to other people are! I need to prioritise better too. Think I will be able to put this into practice.”

The second workshop was held in the Easter term entitled ‘Building Confidence in the Workplace’ and was facilitated by Madeleine Morgan. The aim of the workshop was to provide participants with the skills to look, sound and feel more confident in the workplace and was designed for early career women scientists to help develop confidence and motivation to seek promotion, progress in an organisation and be assertive.

Feedback from that workshop was also very well received with comments including:

“It was really interesting. Hopefully it will help me to focus on the positive aspect of things and be more confident.”

“Very helpful presentation.”

“I think the workshop was really good, but it could have been a bit longer, since many issues, relevant issues, have been raised. Another possibility could be to organise a similar event soon.”

This feedback has influenced the programme for next year, instigating discussions with Schlumberger Cambridge Research about the possibility of running further similar sessions in the 2010-11 academic year.

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The ‘Cake and Careers’ seminars were a new addition to the WiSETI project in 2009-10. They were created as a result of a request from the Vice-Chancellor that WiSETI offer something specifically targeted at PhD students and postdocs. The format of the seminars was developed and designed based on consultation with student groups studying in the Materials Department in the School of Physical Sciences at the University of Cambridge. The student groups were accessed with the help of the WiSETI representative in the Materials Department. Feedback included having speakers a few career stages ahead of the students; having a mix of speakers from different careers and not just from academia, and, interestingly, having cake - inspiring the ‘Cake and Careers’ title.

Because there is a difference between the careers of physical and biological science students, and because the Physical Science Departments in Cambridge are quite dispersed, with a number being centrally located (e.g. Chemistry and Materials Science) and others being located in West Cambridge (e.g. Physics and Astronomy), the WiSETI Steering Group decided to run three ‘Cake and Careers’ seminars. Two were targeted at physical science students (one in central Cambridge and one in west Cambridge) and one at biological science students.

The first ‘Cake and Careers’ seminar was held in the Chemistry Department in June 2010, and included talks from four women scientists (all with PhDs) currently working in the fields of science policy, industry and academia. Two of the speakers had only finished their PhD within the last three years, whilst the other two had completed their PhDs between eight and ten years ago. The aim of the session was to give the audience information about different careers options available to them and information about the work involved in these fields, including details about specific jobs, what is appealing about them and why the speakers chose their particular role.

The event was successful and the lecture theatre reached full capacity. Feedback from the event included:

“Very inspiring actually! Was helpful in getting an idea about various avenues to venture into.”

“Very encouraging and inspiring. A good variety of different talks and speakers.”

“Happy to have lots of speakers from a spread of work environments and really happy they were impressive people that I trusted, found inspiring and were interesting to hear from.”

The next Cake and Careers event is planned for Easter term 2010-11 and will be held in the Biochemistry Department.

“The overall retention rate of female SET graduates is far lower than that of males, 25% compared with 40%.”
In January 2010, the Athena Forum launched its Signposting Career Paths for Post Doctoral Researchers Guide and Bookmark. The initiative was championed by the Vice-Chancellor of the University of Cambridge. WiSETI played an important role in the design of the Bookmark and the launch of both the Guide and the Bookmark. The University of Cambridge was also one of the first two Universities to have its own Bookmark.

The aim of the Guide is to fill the gap between the wealth of strategy and policy papers on early career staff and their progression, and the lack of accessible, useful and practical advice for individuals starting their careers. The Bookmark complements the Guide and lists ten questions that postdocs are encouraged to ask themselves. Each Bookmark is designed to be customised and the University of Cambridge's Bookmark points postdocs to WiSETI as a resource available to support them in planning and developing their career pathways.

The Bookmark is available in most STEM departments within the University, and is also being distributed by the Careers Service. In addition, WiSETI is aiming to ensure that all new postdocs joining the University of Cambridge receive a Bookmark with their introductory material.

Both the Bookmark design and web Guide can be found at:

www.athenaforum.org.uk/forum%20
bookmark%20web%20text091222-1.pdf
www.athenaforum.org.uk/Athenabookmark.pdf
WiSETI and Benchmarking

Athena SWAN and Project Juno

In 2009, WiSETI led the process to renew the University of Cambridge’s University Bronze Athena SWAN award. The Athena SWAN awards recognise and celebrate good practice in recruiting, retaining and promoting women in SET within Higher Education. Athena SWAN awards are available at University and Departmental levels, this recognises that there may be localised practice which is different to that of the institution overall. However, before individual departments can apply for recognition at Silver level in their own right, the University must achieve a Bronze award. To progress to Silver or Gold at University level, a substantial number of departments must hold individual awards at these levels.

The University of Cambridge was amongst the first universities in the UK to receive a Bronze award when it did so in March 2006 in the inaugural round of the awards. Out of the 20 Russell Group universities, 17 are members of Athena SWAN. 16 institutions have been awarded a University Bronze award and one has obtained a University Silver award.

During the 2009-10 academic year, WiSETI supported the Department of Physics with its submissions for an Athena SWAN Departmental Silver award and an Institute of Physics (IOP) Juno Champion award. The aim of Juno, which is similar to Athena SWAN, is to recognise and reward departments that can demonstrate they have taken action to address the under-representation of women in university physics and to encourage better practice for both women and men. The aims of Project Juno are complementary to the Athena SWAN Silver for UK institutions, and it is possible that the award of one can fast-track the award of the other.

Part of WiSETI's contribution to the Athena SWAN Silver and Juno Champion application processes was to run a departmental staff survey in the Department of Physics which asked, amongst other things, about the culture of the Department, flexible working policies and transparency of promotion. In addition, WiSETI held a focus group with postdoc students.

The Department of Physics was successful in its bids for both these awards and the next step for the Department is to apply for an Athena Gold Award. At present, nationally, only one Department has this prestigious award but many are working towards achieving this accolade of good practice. WiSETI will be actively supporting the Department of Physics in aiming for this award.

“"At the current rate of increase, in 2030 just over 28.3 per cent of full-time STEM professors will be female.""

www.iop.org/activity/diversity/initiatives/juno/page_31619.html
www.athenaswan.org.uk/html/athena-swan/
The Athena Survey of Science Engineering and Technology (ASSET) is a low cost, open access, web-based survey of career progression in STEMM (Science, Technology, Engineering, Medicine and Mathematics) in Higher Education. It is designed to:

• raise awareness of the differences in male and female career progression (approaches, expectations, perceptions, and outcomes)
• increase awareness of the good practice policies and processes which support and encourage sustainable and rewarding careers for women and men
• enable universities, HE and research funders, and STEMM policy makers to benchmark progress, and the impact of changes, over time.

Previous ASSET surveys ran in 2003, 2004, and 2006, which between them covered over 7,500 male and female respondents, from more than 70 universities.

The most recent survey ran from 19 January until 26 February 2010; 7093 academic and research staff employed in the STEMM subject areas in 83 UK universities completed and submitted the online survey questionnaire, including the University of Cambridge.

WiSETI actively promoted and encouraged departments to participate in the ASSET survey, and the University received a summary of their results in spring 2010, achieving a ranking in the top 5 of university respondents. WiSETI helped analyse the findings and specifically reviewed the Department of Physics results in comparison with other areas, to highlight possible differences in working practice to include as part of the Department’s Athena SWAN and Juno applications.

www.athensurvey.org.uk/asset3.htm
An important aspect of WiSETI’s work is developing relationships with relevant external organisations in order to support women in accessing resources and linking the Initiative into national policy development for women in STEM. WiSETI has strong links with the learned societies including the Royal Society of Chemistry (RSC), the Institute of Physics (IOP) and the Royal Academy of Engineering (RAEng).

During the 2009-10 academic year, the WiSETI Project Officer has been a member of the Steering Committee for a joint RSC/IOP project funded by the UKRC, surveying the career intentions and experiences of Chemistry and Physics postdoctoral researchers. The UKRC donated £2,000 in 2009-10 to WiSETI to support the University of Cambridge’s input.

WiSETI also has well established links with Athena SWAN and is a core partner in the UKRC. The UKRC is the Government’s lead organisation for the provision of advice, services and policy consultation regarding the under-representation of women in SET.

WiSETI and National Organisations

WiSETI also has strong links with the national Athena Forum which consists of a group of dedicated, influential scientists whose mission is to disseminate best practice for female scientists in the HE sector, with the WiSETI Director serving as the Chair of the Athena Forum.
The University of Cambridge is committed in its pursuit of academic excellence and to a pro-active and inclusive approach to equality.

The most significant legal development in 2009-10 was the enactment of the Equality Act 2010. This Act consolidates 40 years of equalities law into a single Act, harmonises provisions in relation to discrimination and introduces new protections. It introduces the concept of ‘protected characteristics’ which are the grounds on which discrimination is prohibited; these are Age, Disability, Gender Reassignment, Marriage and Civil Partnership, Race, Religion or Belief, Sex and Sexual Orientation. These external legal developments have been reflected in the policy development of the University.

It has also supported various initiatives that focus on gender equality in particular WISETI. Additionally since 2008 the University has undertaken Equal Pay Reviews which have helped to identify key issues - for example the low levels of women at professorial level. The 2009 Equal Pay Review recommended that the University establish a Gender Equality Group. This Group is chaired by Professor Dame Athene Donald, Director of WISETI, Deputy Vice-Chancellor and the University’s Gender Equality Champion.

Between 1999 and 2008 the principal source of funding was donations from the Citi Foundation. Since then, the Initiative has been funded through a combination of the project’s reserves, a grant from the Strategic Planning Fund and through external funding from Schlumberger and UKRC.

For 2010-11, WISETI’s sources of funding will be the donation received from Schlumberger for the running of workshops for early career women scientists and to host the Annual Lecture; the fee from UKRC which is received for being a core partner, and staff costs will be managed by the University of Cambridge’s Unified Administrative Services (UAS) on the instruction of the Registrary. The longer term aim of WISETI and its Steering Group is to secure sufficient funding to support the Initiative into the future.
“The longer term aim of WISETI and its Steering Group is to secure sufficient funding to support the Initiative into the future.”

Footnotes

1. www.athenaswan.org.uk/html/athena-swan
3. www.admin.cam.ac.uk/offices/hr/equality/programmes/springboard
8. www.theukrc.org/resources/key-facts-and-figures/leadership
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10. www.slb.com
11. www.admin.cam.ac.uk/sciencefestival
13. www.royalsociety.org/Rosalind-Franklin-Award
14. University of Cambridge
15. www.theukrc.org/resources/key-facts-and-figures/leaky-pipeline
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22. www.athenasurvey.org.uk/index.html
23. www.iop.org/policy/diversity/initiatives/iop_rsc/page_42674.html
24. University of Cambridge Statutes and Ordinances
25. Section 4 Equality Act 2010
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