

Athena SWAN Bronze and Silver Department award application

Name of institution: Queen Mary, University of London
Date of application: 30th April 2012

Department: School of Electronic Engineering and Computer Science

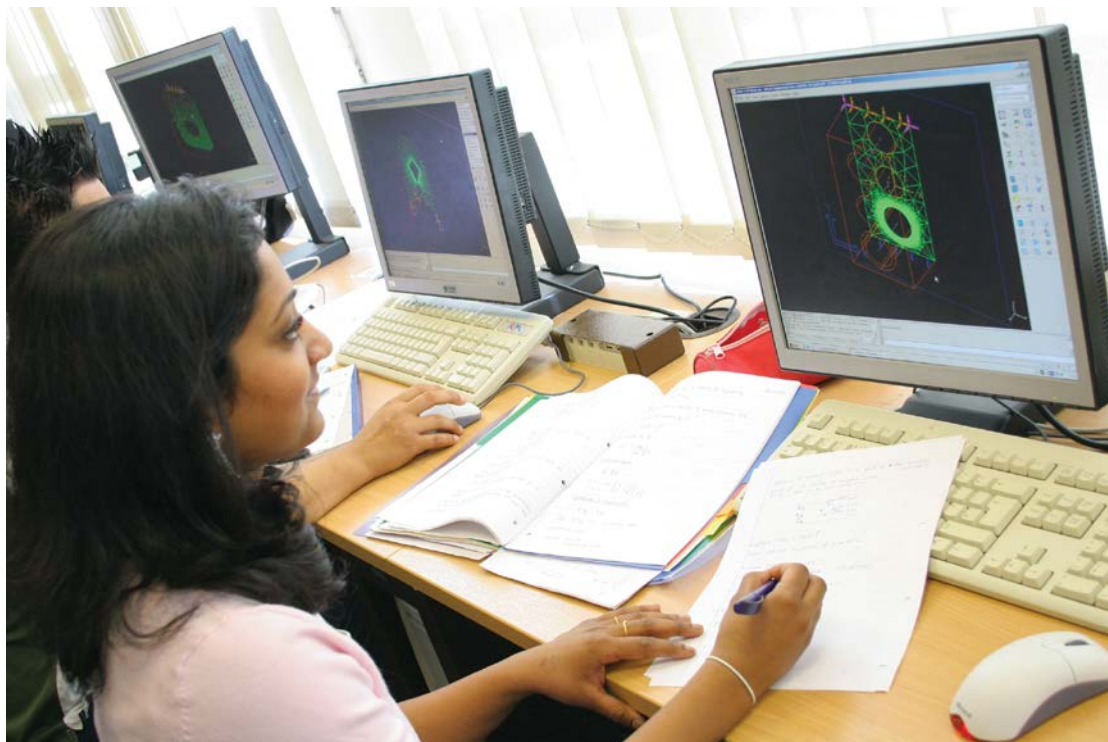
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Date of university Bronze SWAN award: 2010

Level of award applied for: Silver



25 April 2012

It gives me great pleasure to write this letter in support of the School of Electronic Engineering and Computer Science in its bid to attain an Athena Swan Silver award. As the data in the application indicate, the School has made significant advances in increasing the number of women, both here and in China on our joint degree programmes, who are enrolling as undergraduate and postgraduates. This autumn sees the start of a new taught undergraduate programme that marries technology with the creative arts and media: Multimedia and Arts Technology which should support the continued rise in these numbers. At the same time we recognise that we still have much to do to improve the situation for female staff and the action plan describes our intentions.

The School was formed in 2008, by the merger of the departments of Computer Science and of Electronic Engineering. Each had its own ethos, and different employment patterns for women and it is one of my main personal ambitions, having taken over as Head of School in 2010, to ensure that we take the best from both, ensuring a single approach to gender equality. Importantly, the process of applying for Athena Swan has enabled the whole School to have open discussions about its future policies, support for mentorship and promotion and has allowed us to ensure that we have consistently high quality practices for all staff, male and female, in all our groups.

There are national difficulties in recruiting and promoting women in both Computer Science and Electronic Engineering. We are tackling this by emphasising the College's Athena Swan bronze award in our recruitment literature and ensuring that we offer attractive working conditions for applicants with family commitments, both female and male. The School has a well-rehearsed process for maternity (and paternity) leave and cover, at all levels of employment. This includes support and mentorship for re-integrating into the School on return from leave. We are also able to emphasise that one of our Professors, Ursula Martin was recently awarded a CBE for her work with women and Computer Science. The strongest sign of the success of our efforts is the recent appointment of three women to the staff, including a professor.

As a working, single parent myself, I fully appreciate the difficulties in balancing a career with few boundaries in the sense of eating into home life, with that very home life. We have several members of staff (academic and non-academic, male and female) who choose to work part-time in order contribute to their children's upbringing and where needed, flexible working is encouraged rather than discouraged: this is something I am personally very pleased about, and proud that this School is able to accomplish.

The team that have put this application together with me have worked hard and are committed to carrying through the actions that we are proposing. I commend it to the committee.

Thank you for your consideration.

Yours sincerely,



Professor Mark Sandler

Patron: Her Majesty the Queen

Incorporated by Royal Charter as
Queen Mary & Westfield College,
University of London

2. The self-assessment process

a) Description of the self assessment team (SAT)

The self assessment team is composed of 11 members from the School of Electronic Engineering and Computer Science (EECS). They were selected to represent the different experiences both professionally (different level of seniority) and personally. The Chair of Self Assessment Team (SAT) is Dr Lourdes Agapito who is also the School Athena SWAN Champion at College level. Pen portraits are provided below:

Dr Lourdes Agapito is a Reader in EECS with a European Research Council Starting Independent Researcher Grant. She has three young children aged 6, 4 and 2 and her husband is also an academic. She has taken three periods of maternity leave between 2004 and 2008. Since 2007 she has worked part time (80%) to spend more time with her children.

Dr Yue Chen is the Director of Offshore Operations in EECS. She is the deputy director of the Beijing University of Posts and Telecommunications (BUPT) Joint Degree Programme with QM. Originally from China, Yue came to study her PhD at QM in 2000 and has worked there since 2003. In 2005, Yue was the runner-up in the Young Achiever of the Year category, Asian Women of Achievement awards. Yue has 2 young children of 4 and 5. She has taken two periods of maternity leave and works full time.

Professor Elaine Chew is a recently appointed Professor of Digital Media in EECS. Elaine is Director of Music Initiatives for Centre for Digital Music and Advisory Board Member of the RCUK Doctoral Training Centre in Media and Arts Technology. She has a 3 year old child, is in two-career family, was on maternity leave in Fall 2009, and recently moved with her family from the US to the UK.

Dr Paul Curzon is a Reader and QMUL Principal Investigator on one of the School's largest EPSRC programme grants. He leads the school's public engagement work including writing/editing 3 magazines (cs4fn, ee4fn, Audio!), giving school talks around once per week during term and speaking at teachers' conferences. Paul currently works part time (80%) to look after his children. Paul took 2 weeks paternity leave when his children were born.

Dr Hatice Gunes joined EECS as a Lecturer in October 2011. Raised in Bulgaria and Turkey, she spent about 7 years in Australia, studying and working, before moving to London. She has dedicated much time to community work, including teaching Aboriginal children how to use computers.

Xiuxian Lao is a full time PhD student in the School's Network group.

Professor Mark Sandler is Head of School, Director of qMedia, Director of the RCUK Centre for Doctoral Training in Media and Arts Technology, and Chief Scientist for the Centre for Digital Music. As a divorcee with 50% care of 3 children, he is very aware of the demands on academics to balance work and life, and the need for flexibility in working hours. Since becoming Head, this flexibility translates into working from home one day a week.

Dr Karen Shoop is a Teaching Fellow in EECS, where she has worked since completing her doctorate in 2005. Karen is a single mother with an 11-year-old son.

Professor Caroline Wardle is a Visiting Professor in EECS. She has held academic staff positions at several American Universities and was Head of the CS Department at Boston University. Previously, whilst working at the National Science Foundation in Washington DC, she headed a national effort to increase opportunities for women in computing. Caroline is the single parent of an adopted daughter.

Professor Geraint Wiggins took the post of Professor of Computational Creativity in EECS in November 2011. A researcher, he is also a composer, and his works have been performed in Scotland and America. As a gay man, Geraint has a particular interest in matters of equality.

Sonia Wilkie is a PhD student in the Centre for Digital Music from Australia. She chose EECS because of its engagement with the community and industries, and its support for female students.

Dr Graham White is a lecturer in EECS. He is Senior PhD tutor and the contact for the School's joint honours degree with Mathematics. Graham is also a Director of the Union Chapel Charity (both a music venue and homelessness support charity).

b) Self assessment process

Following the successful renewal of QM's bronze award in 2010, the College's Athena Swan Committee, on which Lourdes Agapito and Caroline Wardle sit, has kept close track of the progress at School level. In 2011 the Committee noted the significant work that has led to a substantial rise in female undergraduate and postgraduate research students in EECS and the School's reflective, pro-active approach to female staff development. It encouraged this Silver application. In 2011-12, the School SAT was formed, which has met throughout the academic year. The Head of School was in regular attendance and the Vice-Principal for Research and International Affairs, Evelyn Welch (who chairs the College's Athena SWAN committee) attended in an ex-officio capacity at the start and conclusion of the self-assessment process to provide overall QM support.

One of the key role of the School SAT was to analyse staff and student data and identify actions had resulted in progress and what further activities were needed to ensure that the School remained above national average in terms

of female student representation, particularly at PhD level. The SAT also identified issues (common nationally) about the problems of recruitment and promotion of female staff. It has looked closely at what points in academic careers additional action is necessary and the forms of support that this should take.

c) The Future of the SAT

Athena Swan is now a standing item on the School's agenda, ensuring that it is core business. The SAT will meet every semester to ensure the proposed actions are implemented. It will continue to report to the College's Athena SWAN committee who will monitor progress against the attached action plan.

Word count: 979

3. A picture of the department

a) Pen-picture of the department.

The School is part of the Faculty of Science and Engineering and was created by the merger of the Department of Computer Science and the Department of Electronic Engineering in 2007-8. Four years later, the two groups have been fully integrated allowing for interdisciplinary research and teaching. The School is made up of 5 research groups: Antennas and Electromagnetics; Computer Vision; Networks; Risk and Information Management; Theoretical Computer Science. It also has qMedia which hosts a further 4 research areas: Centre for Digital Music; Interaction and Media Communication; Multi-Media Vision and Media & Arts Technology.

The School has 175 academic and research staff, of which 33 are female. It runs 18 joint and single undergraduate honours programmes. In 2012-13, the School will start 2 new BSc (Eng) programmes in Multimedia & Arts Technology which, based on the postgraduate experience, should be very attractive to female applicants. The School has 9 Postgraduate taught Masters, over 150 PhD students and 60 Postdoctoral researchers. EECS hosts a national RCUK Doctoral Training Centre (DTC) in [Media and Arts Technology](#); and runs an award winning degree programmes with [BUPT](#) in China. A substantial proportion of its students are taught in Beijing; this has led to active discussions about the different forms of stereotyping of women engineers both internationally and nationally.

b) Student and Staff data

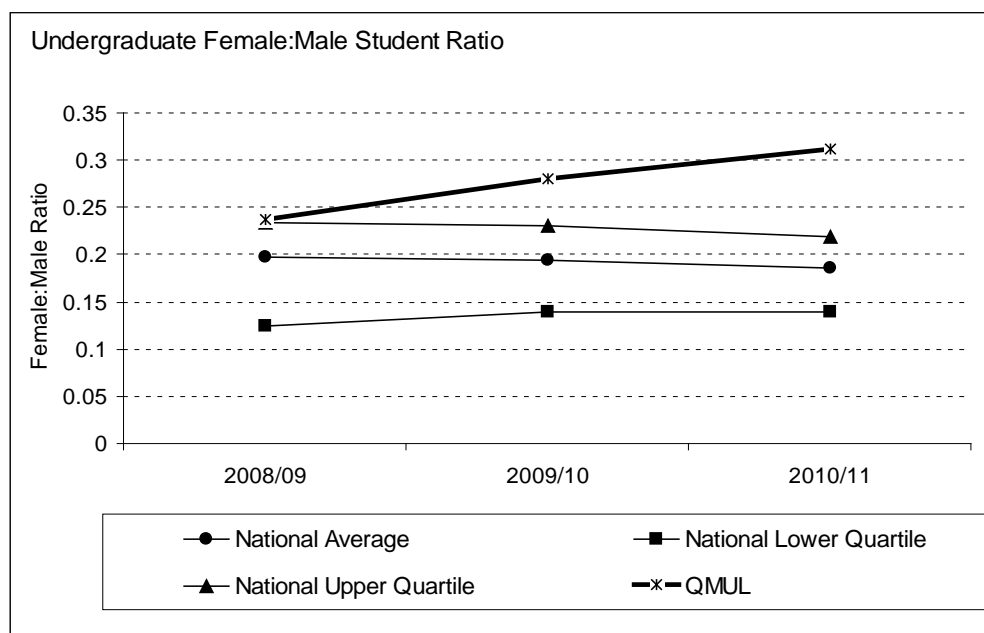
EECS Student data

(i) Numbers of males and females on access or foundation courses

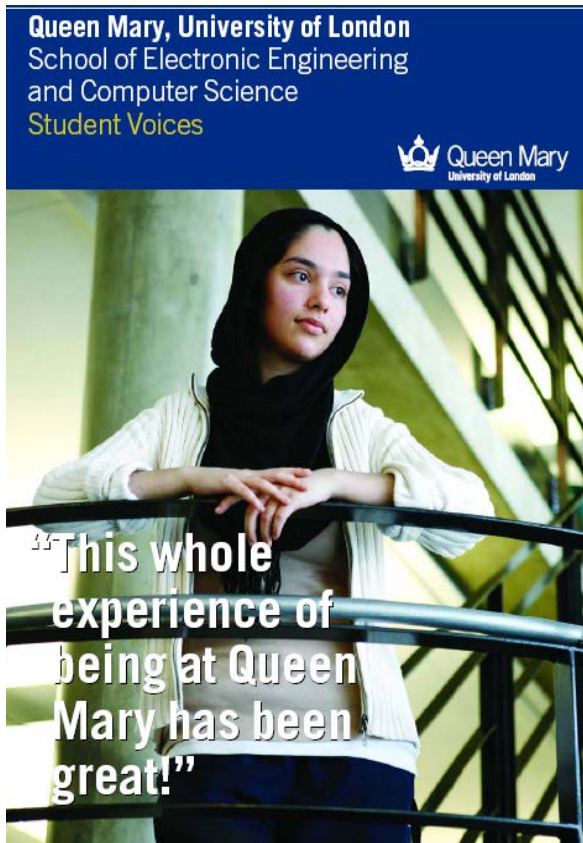
The School does not offer foundation courses.

(ii) Undergraduate male and female numbers

Student numbers : undergraduate						
	Female	Male	Female: Male ratio			
	EECS – QM		national upper quartile	national average	national lower quartile	
2008/09	143	604	0.24:1	0.23:1	0.20:1	
2009/10	167	596	0.28:1	0.23:1	0.19:1	
2010/11	188	602	0.31:1	0.22:1	0.19:1	



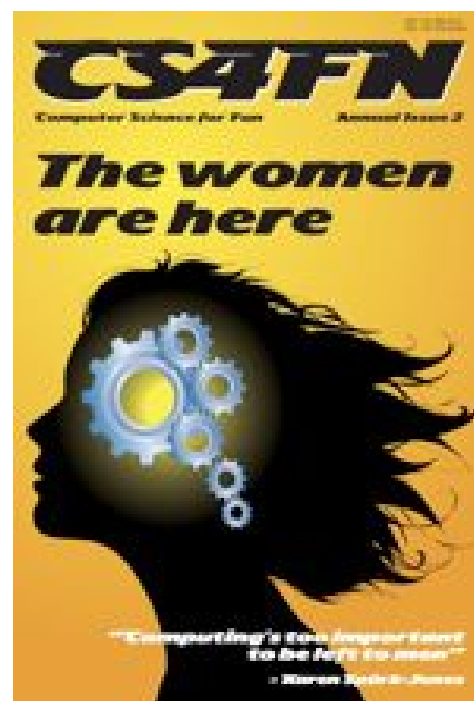
Numbers of female undergraduates have shown a strong positive trend increasing from 143 in 2008/09 to 188 in 2010/11, a 31% growth in female students over the three years. QM EECS female: male ratio has risen from 24% (1:4) in 2008/09 to 31% (1:3) in 2010/11. This is due mainly to female numbers increasing rather than a decrease in male enrolment. This is well above the national average of 19% (1:5) in 2010/11 and places the School amongst the top performing institutions nationally.



To achieve this, the School does a minimum of 40 outreach events in schools per year, 20% of these specifically target female pupils. EECS ensures that female academic staff and students are present at outreach events. EECS offers a list of topics to schools including women in Electronic Engineering and women in Computer Science. These cover the history of women in these subjects and their outstanding contribution to these fields of research. The School similarly prioritises female student representation in recruitment literature and other brochures. We have created a 'Student voices' booklet, which provides testimonials from current students, to showcase female positive role models for potential applicants.

We have produced three magazines aimed at school-children to promote the School in the areas of Computer Science, Electronic Engineering and Audio Engineering. [CS4Fun](#), which has published a special edition about women in CS, is an award-winning National level Public Engagement project. The School also produces [EE4Fun](#) for Electronic Engineering and "Audio!" covering Audio Engineering and Music Technology research.

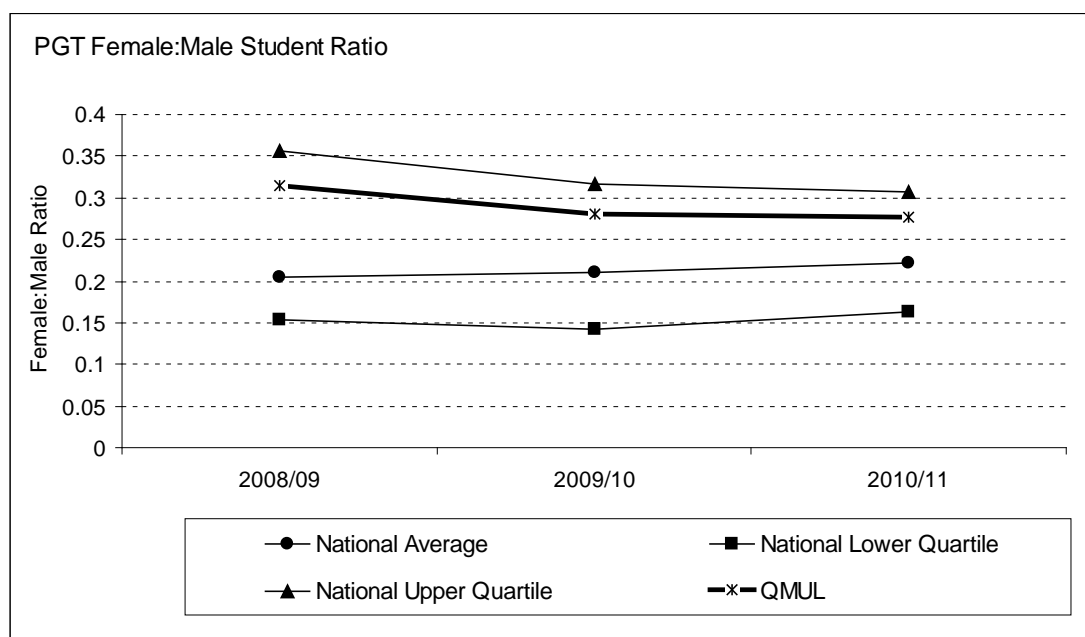
All three magazines share the same philosophy and approach. This includes promoting positive gender role models and emphasizing the contribution of women to research and professional life. These publications are currently disseminated during school events, and in at least 90 countries as well as through the School website which also has a link to Women in Technology and a dedicated page for [Women in Computing](#).



Our experience is that this wider approach to Public Engagement and student recruitment combined with a targeted focus on potential female applicants and the provision of prominent, highly visible female role models at open days, recruitment events and materials has worked well. Despite diminishing Research Council funding for Public Engagement, EECS will continue these activities by working with Queen Mary's newly established Centre for Public Engagement, on wider interdisciplinary Science and Technology outreach activities and dedicated EECS initiatives.

(iii) Postgraduate male and female numbers completing taught courses (PGT)

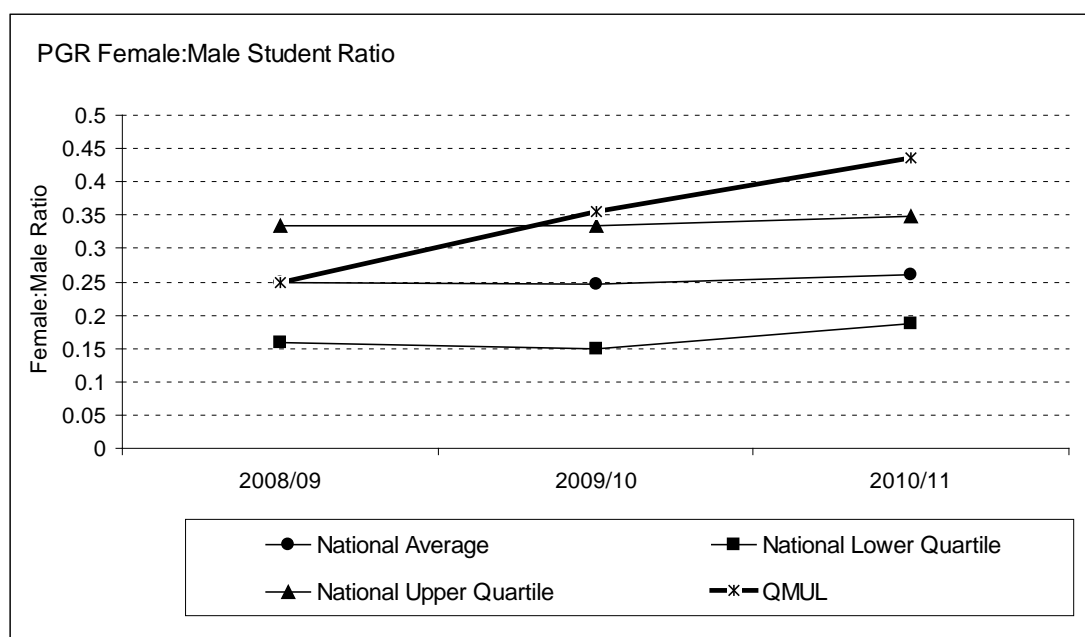
Student numbers : Post graduate - taught courses (PGT)						
	Female	Male	Female: Male ratio.			
	EECS - QM		national upper quartile	national average	national lower quartile	
2008/09	51	162	0.31:1	0.36:1	0.20:1	0.15:1
2009/10	54	192	0.28:1	0.32:1	0.21:1	0.14:1
2010/11	41	148	0.28:1	0.31:1	0.22:1	0.16:1



The trend in PGT female numbers is marginally less positive. Between 2008/9 to 2010/11, the overall number of students has fallen. Women from 51 to 41 (20% decrease) and males from 162 to 148 (9%) This has resulted in a drop in the female to male ratio from 31% (1.3.2) to 28% (1.3.5). Nonetheless, EECS is still well above the national average in 2010/11 of 22% (1:4.5). The decrease will be monitored to see if there are any patterns that might cause further concern and we will be assessing our postgraduate taught portfolio to ensure that it continues to be attractive to both male and female applicants.

(iv) Postgraduate male and female numbers on research degrees (PGR)

Student numbers : Postgraduate Research (PGR)						
	Female	Male	Female: Male ratio.			
	EECS - QM		national upper quartile	national average	national lower quartile	
2008/09	22	88	0.25:1	0.33:1	0.25:1	0.16:1
2009/10	32	90	0.36:1	0.33:1	0.25:1	0.15:1
2010/11	45	100	0.44:1	0.35:1	0.26:1	0.19:1

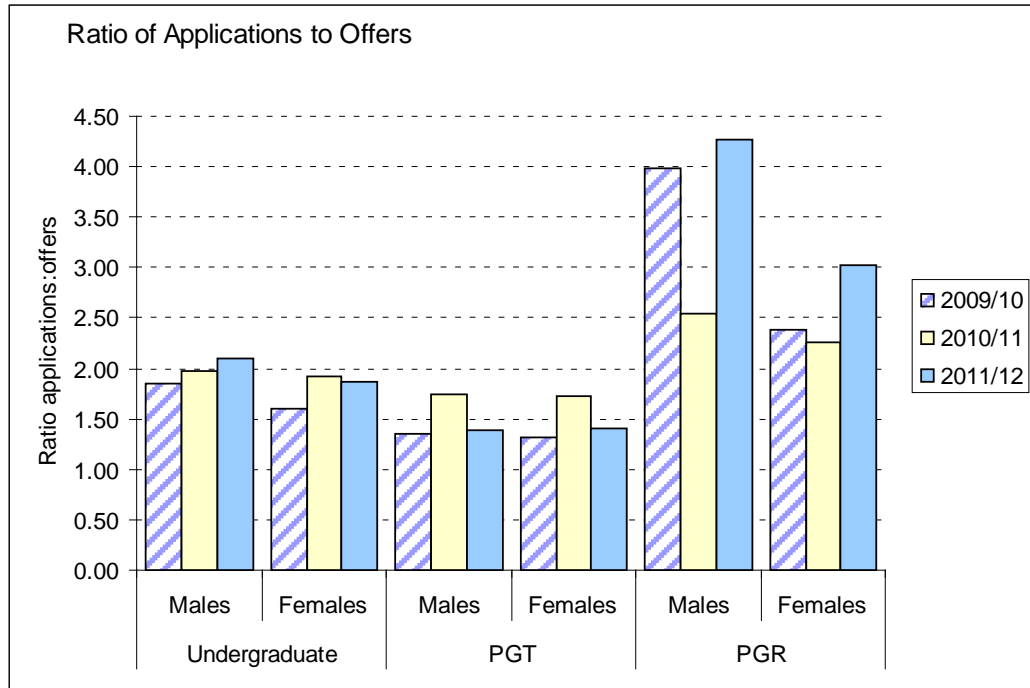


Between 2008/09 and 2010/11, the number of female PGR students has risen from 22 in to 45, an increase of 105%. Over the same period male numbers have increased by 14%. This has resulted in an increase in the female: male ratio from 0.25 (1:4) to 0.45 (1:2) as shown in the graph above. The national average has increased only slightly to 0.26 (1:2.38) while QM has shown a year on year increase which puts it well above the national upper quartile and places it as one of the top performing institutions in the UK.

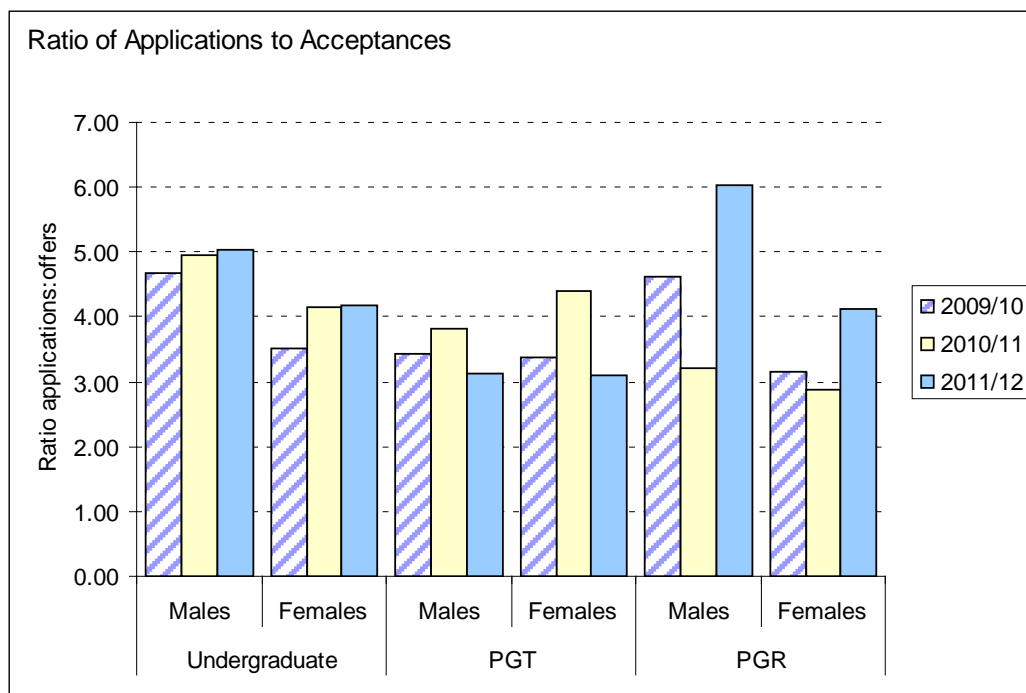
There are a number of reasons for this very encouraging trend. First, EECS and the Engineering and Physical Sciences Research Council (EPSRC) invested in a Doctoral Training Centre in Media & Arts Technology which has attracted a large number of high quality female students. Secondly, an increasing number of excellent female undergraduate students from our joint degree with BUPT chose to do their postgraduate training at QM because they appreciate the high level of support that they get to continue as researchers. Simultaneously, the substantial increase in female PhD students has created a critical mass, allowing women to establish networks and support groups such as G.Hack (Girls who Hack – described in part 4) and, across the faculty Women in Science and Engineering (WISE). This in turn,

encourages undergraduates and postgraduate taught students (with whom G.Hack and WISE work) to see doctoral study and further research as a positive career choice.

(v) Ratio of course applications to offers and acceptances



This graph indicates that the number of undergraduate females and males receiving an offer is fairly even, close to 1 in every 2 applications over the three years. The same can be said for PGT with roughly 1 in every 1.5 applications receiving an offer for both females and males. PGR has the largest consistent discrepancy in favour of females. In 2009/10, 1 in 2.4 female applications received an offer compared with 1 in 4 male applications; in 2010/11 1 in every 2.2 female applications was accepted compared to 1 in every 2.5 male applications; in 2011/12, 1 in every 3 female applications was successful compared to 1 in every 4.2 male applications Hence female applicants were 1.7, 1.1 and 1.4 times more likely than males, to be successful in 2009/10, 2010/11 and 2011/12 respectively.



This graph indicates that across all levels of study females are taking up more places relative to the number of applications, than males, except for PGT in 2010/11. PGT is the most evenly balanced with only slight variances in favour of females. Undergraduate acceptances for 2009/10 are 1 in every 3.5 applications for females compared to 1 in every 4.7 applications for males, and in 2010/11 and 2011/12 1 acceptance in every 4.2 applications for females compared to 1 acceptance in every 5 applications for males. As with offers, PGR has the greatest discrepancy in favour of females. In 2009/10 there was 1 acceptance in every 3.2 application for females compared to 1 in every 4.6 for males, in 2010/11 1 acceptance in every 2.9 application for females compared to 1 in 3.2 for males and in 2011/12 1 acceptance in 4.1 applications for females compared to 1 in every 6 for males. The ratio of female to male for acceptances if offered a place is close to unity for each category of course in 2011/2012, and was not very different in the two previous years. It should be noted that no allowance is made for gender in making offers and the high ratio of female acceptances is due to the quality of the candidates that our programmes attract which is also reflected in the increasingly strong academic performance described below.

(vi) Degree classification by gender

Degree classifications		2008/09	2009/10	2010/11
First	Female	3 (7%)	16 (28%)	16 (25%)
	Male	26 (17%)	40 (22%)	26 (16%)
	Total	29 (15%)	56 (23%)	42 (19%)
Upper second	Female	14 (39%)	18 (32%)	18 (29%)
	Male	53 (35%)	59 (32%)	43 (27%)
	Total	67 (35%)	77 (32%)	61 (27%)
First or Upper second	Female	17 (46%)	34 (60%)	34 (54%)
	Male	79 (52%)	99 (54%)	69 (43%)
	Total	96 (51%)	133 (55%)	103 (46%)
Lower second	Female	16 (44%)	16 (28%)	19 (30%)
	Male	47 (31%)	49 (27%)	60 (38%)
	Total	63 (33%)	65 (27%)	79 (36%)
Third or Pass	Female	4 (10%)	7 (13%)	10 (16%)
	Male	27 (18%)	35 (19%)	30 (19%)
	Total	31 (16%)	43 (18%)	40 (18%)
Total degrees	Female	37 (100%)	57 (100%)	63 (100%)
	Male	153 (100%)	183 (100%)	159 (100%)
	Total	190 (100%)	241 (100%)	222 (100%)

From 2008/09 to 2010/11, the proportion of female students receiving a 1st class honours increased from 7% to 10% to 25%. This reflected a change in females being 52% less likely to get a first in 2008/09 to an upward trend of being 10% and 24% more likely to obtain one in 2009/10 and 2010/11 respectively. There were similar but less marked effects for the chance of obtaining a first or upper second class honours degree, with a shift from 11% less, to 10% more to 24% more over the period 2008/09 to 2010/11 for females compared to males. Males generally tend to be more likely than females to obtain third class honours while the percentage of lower second class honours has varied equally between men and women.

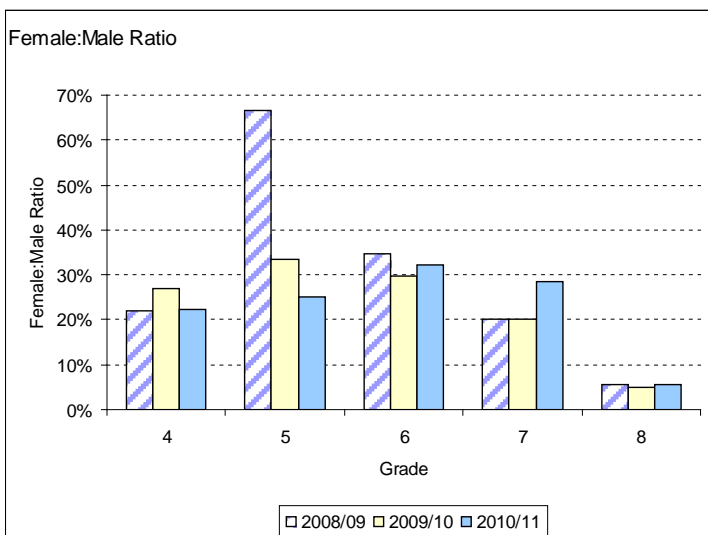
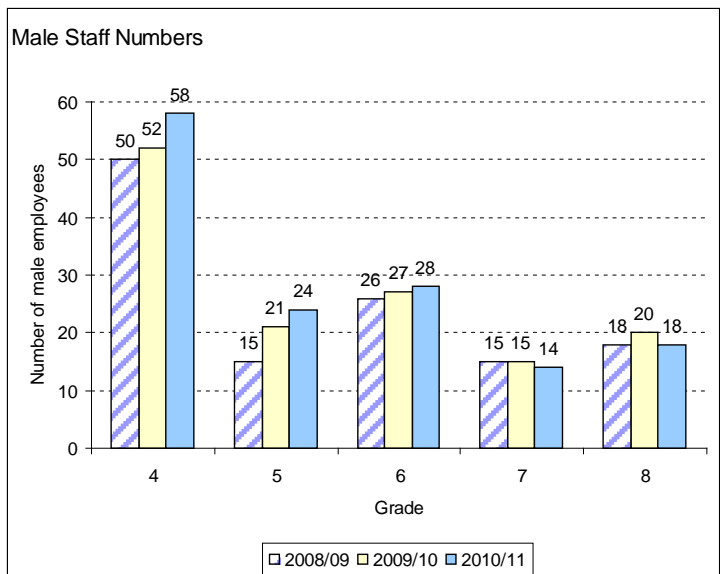
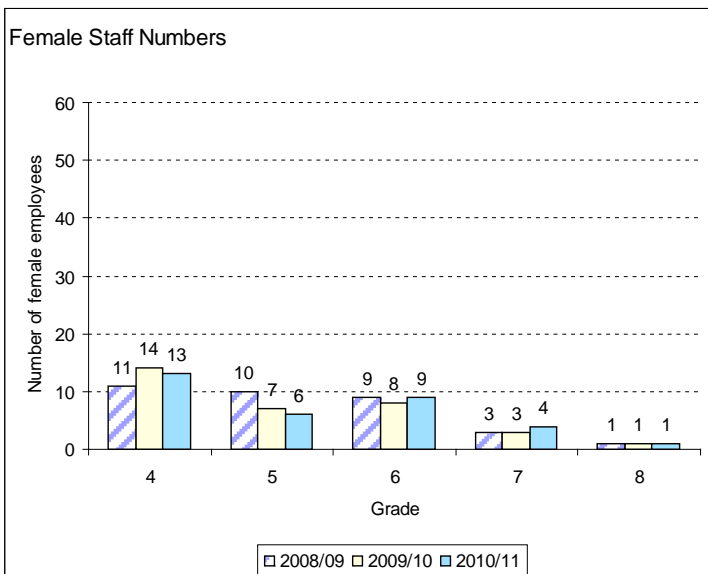
An interesting specific trend has been noted in the Joint Programme run between EECS and BUPT in China. While there were several outstanding female students in the first cohort (2004-2008) there was still an anecdotal perception amongst the student body that male students were better at engineering/technology. By 2010 and 2011, however, over 70% of the female students on the Telecommunications stream graduated with 1st class Honours degrees. In September 2011, ten graduates transferred directly from the Joint Programme to study for a PhD at QM with China Scholarship Council awards. Nine of these ten students are women. The Joint Programme is fostering extremely capable female engineers who are often outperforming their male peers in spite of both national and international stereotypes.

EECS Staff data

(vii) Female: male ratio of academic staff and research staff

Notes about grades:

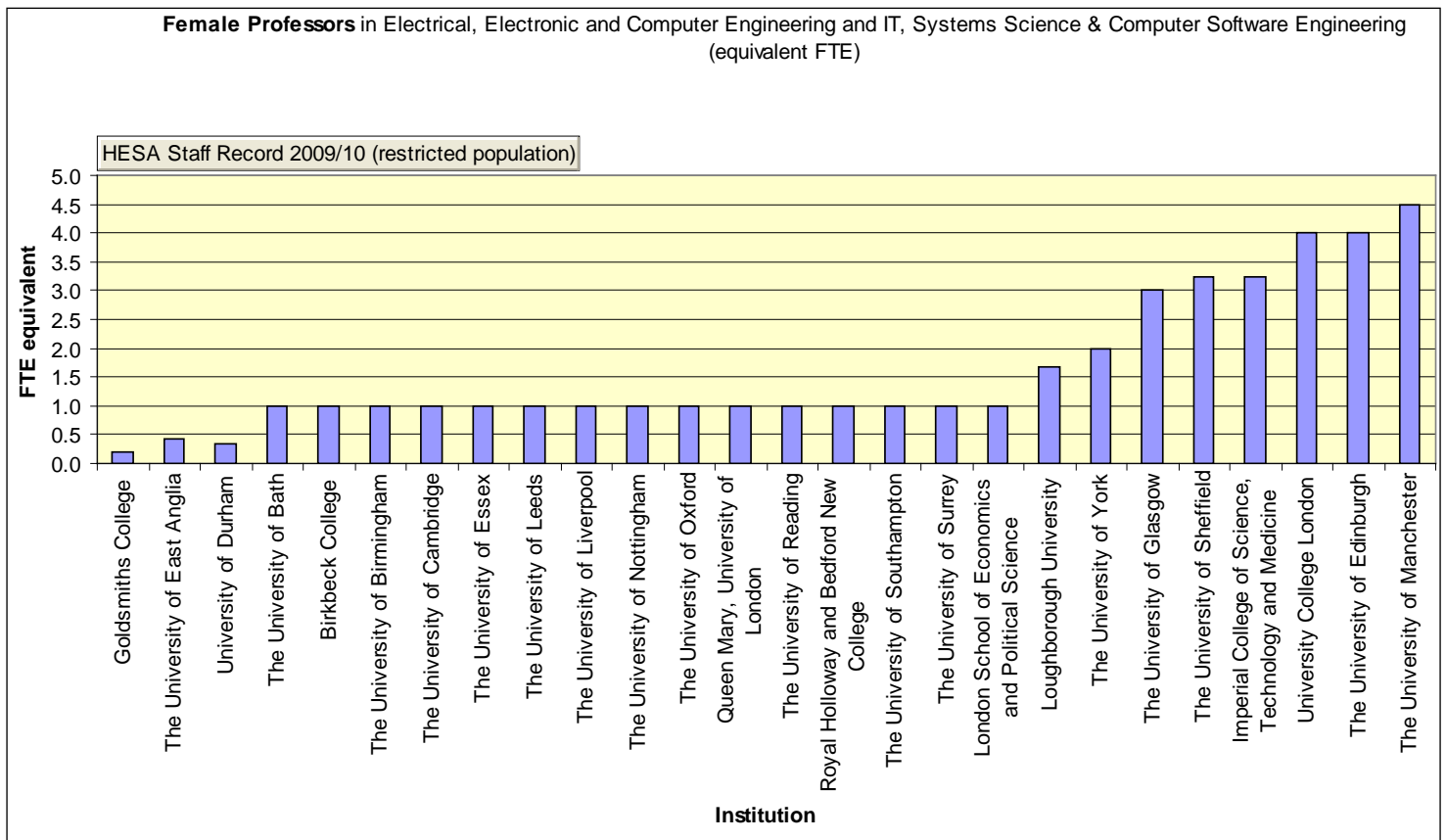
Grades for Athena	Job levels within grades (based on job title)
Grade 4	Research Assistants, Post Doctoral Research Assistants
Grade 5	Research Assistants, Post Doctoral Research Assistants, Lecturer, Teaching Fellow
Grade 6	Research Fellows, Teaching Fellow, Lecturer, Joint Program Tutor
Grade 7	Senior Research Fellow, Senior Lecturer, Reader
Grade 8	Professor



In contrast to the rise in student female numbers, the ratio of male and female staff members is showing a much slower pace of change with some limited progress at Grade 7. Males represent a greater proportion of staff across all grades - in part reflecting the proportions of women studying engineering in the past. This is most significant at grade 8 where the female: male ratio is 6% (1:17), 5% (1:20), and 6% (1:17) in 2008/09, 2009/10 and 2010/11 respectively. Females are most strongly represented from grade 4 to 7 where the female: male ratio is between 20% (1:5) and 35% (1:3) across the three years with the exception of grade 5 in 2008/09 where it was 67% (1:1.5).

Benchmark data for 2009-10 on the representation of female Professors in other institutions shows (below) that the relative under-representation of female Professors in EECS is not specific to QM (like QM, 15 institutions only had 1 FTE female staff at professorial level and 3 fell below this number). The school has since improved its position and currently has 2 FTE female Professors.

The school is committed to address the issue of low numbers of female senior staff through a local and College-wide mentoring programme and through participation in the newly designed Queen Mary *Women into Leadership* programme. EECS is also actively talking to departments who have greater numbers of female professorial staff to identify best practices that the School can learn from and adapt to ensure that EECS attracts highly qualified female staff.



Source: HESA 2009/10

(viii) Turnover by grade and gender

Academic and research staff have been analysed separately. Research has a significantly higher turnover for both women and men due to fixed term contracts.

There tends to be no identifiable pattern for **academic staff**; erratic turnover rates generally are a result of low population for a particular grade. Over the past 3 years, 13 staff have left the School, of whom 3 were female. There is no discernable pattern among leavers.

Research staff turnover trends tend to show a higher turnover for grades 4 and 5 and higher turnover (as a percentage) amongst the female population. Over the 3 years, a total of 69 staff left the organisation, of which 16 were female. At grade 4 and 5 it is expected that staff turnover will be high as postdoctoral staff either find permanent employment or move to industry.

From 2012-13, the School will carry out exit interviews with staff, to find out why they are leaving and take action where necessary.

Word count: 1998

Supporting and advancing women's careers

4. Key career transition points

(i) Job application and success rates by gender and grade

The College is currently addressing the issue of the data quality for job applications and success rates by introducing an online recruitment system that will ensure full data capture by 2013. This means that the data currently available and shown below may not be fully representative. It is also too small to draw any statistical significance. This makes it difficult to provide any effective commentary. However, we note that EECS has recently appointed 8 new members of staff, amongst them one female professor and three female lecturers.

EECS Applications & Appointments By Grade

2008/09		Number of applications for jobs		Number of applications which were successful		Success Rate	
Grade	Female	Male	Female	Male	Female	Male	
Grade 3	0	0	0	0			
Grade 4	38	141	3	9	8%	6%	
Grade 5	0	0	0	0			
Grade 6	0	0	0	0			
Grade 7	0	0	0	0			
Grade 8	0	0	0	0			
Total	38	141	3	9	8%	6%	
2009/10		Number of applications for jobs		Number of applications which were successful		Success Rate	
Grade	Female	Male	Female	Male	Female	Male	
Grade 3	2	12	0	1	0%	8%	
Grade 4	53	215	5	15	9%	7%	
Grade 5	6	13	0	1	0%	8%	
Grade 6	0	0	0	0			
Grade 7	0	0	0	0			
Grade 8	0	0	0	0			
Total	61	240	5	17	8%	7%	
2010/11		Number of applications for jobs		Number of applications which were successful		Success Rate	
Grade	Female	Male	Female	Male	Female	Male	
Grade 3	0	0	0	0			
Grade 4	15	71	3	2	20%	3%	
Grade 5	0	0	0	0			
Grade 6	0	0	0	0			
Grade 7	0	0	0	0			
Grade 8	0	0	0	0			
Total	15	71	3	2	20%	3%	

*Where gender has been entered as N (i.e. Gender not a mandatory field on applications) data has been excluded.

(ii) Applications for promotion and success rates by gender and grade

Promotion data¹ shows that across all grades the number of male applicants for promotion is significantly higher than female applicants. Worryingly, no women in the School were successful in obtaining promotion in 2008/09 and 2009/10 while the success rate for men was also low, respectively 20% and 30%. In 2010/11, the success rate was 100% for female and 57% for male. This means that over the past 3 years, the success rate for female is actually higher (50%) than for men (41%). But it is important to note that the actual numbers are so small – disclosing them runs the risk of identifying individuals – that it is difficult to draw out any trends with statistical significance. The School is planning to carry out further analysis of promotions data comparing the eligible population with applications and success rates; this is currently

¹ Data not disclosed as raw numbers are very small and percentages do not give a meaningful picture and could identify individual members of staff.

only being done at faculty level. We do recognise that a common problem is that women tend to not to apply for promotion; this is a pattern across the Faculty of Science and Engineering and nationally. The school is working with the College to host promotion workshops and is encouraging women to attend. For example, in May the Executive Dean for Science and Engineering is holding a 'Pathways to Promotion' session. This will explain the promotions process and criteria, discuss how to prepare for promotion through annual appraisals and answer questions. Similar sessions will run twice a year from 2012-13 onwards. While open to all staff, women who are eligible for promotion in Science and Engineering will receive a personal invitation to attend.

In addition, in 2011-12 the College as a whole, has reviewed its promotions process to make it more transparent, to include further elements for promotion such as outreach activities and to create better career pathway for (the primarily female) staff who are on teaching-only contracts. This has already been partially implemented in the 2012 academic promotion round that was launched in February 2012, where outreach activities and administrative responsibilities are clearly acknowledged and rewarded.

(i) Recruitment of staff

EECS actively promotes women on its website and on its brochures and publications. The Athena SWAN bronze award logo is on the front page of the school's website. As described above the website has a section targeted at women in this field of research. All staff on interview panels have been trained in recruitment and interview skills. While all interview panels have a gender balance, the school will carry out detailed data analysis of all interview panels to ensure that representation goes beyond a single female member. This needs to be done in conjunction with efforts to ensure that senior women in the School are not overloaded.

(ii) Support for staff at key career transition points

The School and College's analysis of key areas of attrition indicate that there are two problems in the promotions' pipeline: female postdoctoral researchers moving into permanent posts and female staff moving beyond the Senior Lecturer/Reader level.

In close conjunction with the College, the School is providing support for the first group with mentors and appraisers who provide advice on career development that allows them to progress either within academia or into industry. Through the College's Learning Institute, Postdoctoral Researchers are able to take advantage of a dedicated programme of personal effectiveness training, media training and public engagement exercises that equip them for future careers. The College has a Postdoctoral Researchers' (PDRAs) support officer and a dedicated Researchers' careers officer who are responsible for working with PDRAs to ensure that they are able to move onto fulfilling careers either inside academia or in industry.

QM was recently awarded the European Union HR Badge of Excellence in Research in recognition of its implementation of the Concordat to support the Career Development of Researchers.

In addition, the school organises dedicated networking opportunities. It supports a very active postgraduate taught and PhD student women's group [G.Hack](#) (Girls who Hack). G.Hack aims to develop a space for hands-on experience, experimental production and a women friendly learning environment for computer science. Drawing on both internal and external teaching expertise, G.Hack focuses on improving women's' confidence and their abilities in the use of a range of technologies. It is a place for supporting its members' research activities as well as public outreach to actively engage and support women of all ages and backgrounds interested in exploring science and technology. In 2011, the College awarded G.Hack a teaching and learning grant which has allowed it to organise a number of events at the School and externally, including showcasing their research at the Victoria & Albert museum at the [Chi-TEK Tea Party](#), which celebrates the talent and prestige women bring to arts & technology.

In May 2012, EECS is also organising the [FLOSSIE 2012](#) conference, a free, two-day event for women who work with or are otherwise interested in Free and Open Source Software (FLOSS), Open Data, Knowledge and Education. Flossie is an independent network of women practitioners that has its roots in social change movements as well as arts, technology and academia. Female students involved in G.Hack are actively participating in both the organisation of the events and delivering talks and workshops.

Another example of local networking is the School's organisation of the London Hopper Colloquium. This is a one-day event modelled on the North American Grace Hopper Celebration of Women in Computing that encourages professional networks of women in computing. The School has been organising this for the past eight years during which time it has attracted about 60 delegates annually from across the country. A diverse group of women speakers talking about their research, and provides new women researchers with the opportunity to meet with each other, exchange ideas, and form potential collaborations. Talks are primarily aimed at postgraduate students and postdoctoral researchers and showcase the exciting research carried out by women from many different backgrounds at all stages of their career. There is also a poster competition open to postgraduate students and postdoctoral researchers with prize money provided by an industrial sponsor. In 2011, both the BCS (British Computer Society) Academy and IBM agreed to sponsor London Hopper for four more years. This year the School is looking forward to hosting the 8th annual colloquium on 15 May.

Feedback from last year's London Hopper event included: "For me the most important part of the day was the panel session, when the speakers answered questions of the audience. They talked about their career and gave some tips to "survive" in a field that is populated by men. It was the first time that I went to a women's conference, so that it was funny to notice that many worries we have in the everyday situations are very

normal. Worries about family and motherhood, how to conciliate career and private life and so on“.

In terms of staff development, the School nominates both men and women to attend leadership training sessions run by the College's Learning Institute. This includes the 'High Potential Leaders' programme which takes a small number of staff on away days and provides coaching and action learning to support their development. This has demonstrated the need for more targeted support for women and members of the EECS Self Assessment Team have been advising the College on its construction of a 'Women into Leadership programme' which is supporting women who hold Professorial positions and ensuring that they, in turn, help women who are at earlier stages in their careers develop their potential for leadership.

5. Career development

(i) Promotion and career development

The School takes full part in the College processes for career development. The Queen Mary Performance Appraisal Scheme (QMPAS) has been implemented throughout the College and involves all staff. All appraisers are trained and there are good practice guidelines available for both the appraiser and appraisee:

<http://www.learninginstitute.qmul.ac.uk/prodev/qmpas/the-appraisal-process/>.

In 2010, the College published a new Strategic Plan which moved beyond the traditional divisions of teaching and research to group the primary roles of academic staff into the creation and dissemination of knowledge, through activities in teaching, research and knowledge transfer. Staff are also required to contribute to the effective management and coordination of these activities and support the enabling strategies of the College. This ensures that there are three categories for assessing the contribution of academic staff, male and female in EECS: Knowledge Creation e.g. research publications, grants awarded; Knowledge Dissemination e.g. teaching and scholarship, public/business engagement; Enabling activities: those activities - at group, School, Faculty or College level - which facilitate and support knowledge creation and dissemination. There are routes to promotion with clear criteria through both research-focused and teaching and scholarship focused roles.

(ii) Induction and training

Both the College and the School provide formal inductions for new staff at all levels. The College inductions (which take place three times a year) include a session on equality and diversity which includes information on gender equality. During induction, staff are informed about flexible working, child-care vouchers and the centrally organised staff development programmes that they can attend at the Learning Institute. Human Resources also have a stall at the induction, to answer any questions and also give information about their services.

All staff who sit on interview panel have to undertake a recruitment and interview skills training that covers extensively equality and diversity (legislation and best practice) and have to attend a refresher course every 3 years that also covers equality legislation and discrimination cases. To ensure school staff are properly trained in gender equality, EECS has organised a dedicated refresher course to ensure relevant staff can attend.

(iii) Support for female students

Queen Mary University of London

WISE@QMUL
Women in Science and Engineering at Queen Mary, University of London

WISE is BACK!

Join us over food and drink to celebrate the very first WISE Lounge!
When: Thursday, 22 March 4-6PM
Where: Room 3.20, Arts Two Building

The Programme

16.00-16.30 Reception	
16.30-16.40 WELCOME by Professor Evelyn Welch, Vice-Principal for Research and International Affairs, QMUL	
16.40-16.50 WISE@QMUL 2009-2011 by Dr Rebecca Stewart (QMUL Alumni and co-founder of Codasign)	
16.50-17.00 WISE@QMUL 2012 and beyond, by Nela Brown (WISE@QMUL Chair)	
17.00-17.30 TALK: Green Tech Entrepreneurship by Jennifer Indovina, CEO & Founder Tenrehte Technologies, Inc.	
17.30-18.00 Networking	

About WISE@QMUL
 The Women in Science and Engineering Society at QMUL aims to provide a networking platform for female undergraduates, postgraduates and academic staff in Science and Engineering seeking encouragement and advice on managing their careers within and beyond academia and tackling life important questions such as work-home balance.
Website: <http://wiseqmul.wordpress.com/>

As described above, the School has developed a number of initiatives to its increasing number of female students, including G.Hack and its association with our faculty-based [WISE](#) (Women in Science and Engineering) College initiatives. The latter brings together women at early stages in their career across Science and Engineering for both academic and social events. Recently, for example, 40 students and postgraduate researchers met to discuss entrepreneurship and to hear from women who had gone on from academia to set up their own creative media companies.

All undergraduate and postgraduate taught students are assigned a personal tutor and have the right to request to change tutors if appropriate, for example if they wish to request a female

tutor. Pastoral work, mentorship, outreach and other supportive activities for female students are delivered by both men and women in the department and the College promotion criteria fully recognise these key contributions.

Finally, the College has a subsidised on-site nursery with 65 places that is accessible to both staff and students. This has been advertised within the school to students and is currently used by PhD students within EECS.

6. Organisation and culture

(i) Male and female representation on committees

Data is only available for the academic years 2010-2011 and 2011-2012. This is due to the fact that until 2008, the School was two separate departments. As part of the merger, all the committees were changed to create common bodies; in 2009 they were reviewed again to reduce their number and ensure their efficiency and effectiveness. This has made it possible to have greater female representation without over-loading female staff.

Committee	2010-2011	2011-2012
	Female	Female
Senior Management Team (SMT)	3 (33%)	3 (33%)
Research Committee	2 (20%)	3 (25%)
Research Strategy Group	3 (50%)	4 (57%)
Health and Safety Committee	2 (15%)	2 (15%)
Athena SWAN SAT	8 (64%)	8 (64%)
Learning and Teaching Committee	3 (21%)	3 (21%)
MAT Advisory Board	0 (0%)	1 (33%)
EE UG Staff/Student Liaison Committee	3 (43%)	3 (43%)
CS UG Staff/Student Liaison Committee	0 (0%)	0 (0%)
PG Staff/Student Liaison Committee	3 (38%)	3 (38%)
Total	27 (32%)	30 (34%)

In 2010-11, 32% of staff on school committees were women; this has increased to 34% in 2011-2012. This suggests that the school is benefiting substantially from the input of female staff that (particularly on the Senior Management Team - SMT which manages day-to-day decisions and Research Strategy Group which looks at long term opportunities) are having impacts on all aspects of EECS. Athena SWAN activities, issues and challenges are discussed regularly in SMT.

(ii) Female: male ratio of academic and research staff on fixed-term contracts (FTCs) and open-ended (permanent) contracts

	Fixed term contracts			Permanent contracts			Total		
	Female	Male	Ratio F : M	Female	Male	Ratio F : M	Female	Male	Ratio F : M
2008/09	20	70	1:3.5	14	54	1:3.9	34	124	1:3.6
2009/10	18	78	1:4.3	15	57	1:3.8	33	135	1:4.1
2010/11	77	88	1:5.2	16	54	1:3.4	33	142	1:4.3

The School uses FTCs to manage post that are grant funded. Generally research staff make up for the majority of FTCs while academic staff make up the majority of permanent positions. The proportion of women on fixed term contracts has declined slightly over the three years. For FTCs the proportion of staff that were female dropped between 2008/09 and 2010/11 from 1 female to 3.5 males to 1 female to 1.52 males. However for permanent

contracts the ratio of females to males increased over the same period. Neither effect was statistically significant. Overall there was no change in the number of female staff and a small increase in male staff. The College policy is to reduce, as far as possible, the use of fixed term contracts and this is a significant part of QM's action plan for the HR Badge of Excellence in Research.

(i) Representation on decision-making committees

As the data above suggests, most committees have a good gender balance and female members of the School also contribute actively to College activities (particularly Athena SWAN initiatives).

There are 3 paths for staff members to join a committee. They may be required to sit on a group because of their specific administrative responsibilities (e.g. the director of Postgraduates Studies sits on the Postgraduate Staff/Student Liaison Committee); there may be a proactive invitation from the Head of School or the chair of the respective Committee to join to ensure a good balance of representation; staff can also volunteer to take part in a specific group depending on their interest.

The School is very aware of the need to ensure that committee membership does not become overly burdensome for women. It aims to keep committees to a manageable number and to ensure that there is no proliferation of meetings which are held at non family-friendly hours. The School will keep monitoring gender balance on its committees and ensure that membership is taken into account when determining a member of staff's overall workload.

(ii) Workload model

The School's current workload model is in transition. With the arrival of a new Executive Dean in the Faculty (Professor Jeremy Kilburn) and the appointment of a new Head of School in 2009-10, a decision was taken to move away from the more ad-hoc assignment of responsibilities and to introduce a formal system that was equitable, transparent and allowed for increased local flexibility.

As a result, the faculty of Sciences and Engineering is currently introducing a new workload model which will ensure that the wide range of activities and administrative responsibilities that are currently added to the typical day are better taken into account and acknowledged.

The workload allocation system is designed to achieve:

- An equitable and transparent spread of workloads across all academic staff, through consistent practice.
- Effective and sustainable management of staff time.
- Better alignment of staff resources with the strategic business plans of the Faculty.

The system involves the broad quantification and division of activities carried out within Schools, requiring ongoing attention to:

- *Equity*. Through an assessment of the broad balance of all work elements, it links the overall load of each individual to the Faculty median.
- *Transparency*. To be achieved in both the method used to distribute work and in the outcomes of the process.
- *Consistency*. To be achieved through Schools balancing loads and using a common unit of measure and reconciling their information with the Faculty database. Based on School allocations, feedback information will be provided from Faculty level on the normal ranges for given roles to inform local School practice.

The new workload model is currently being piloted in two Science and Engineering schools and should be extend across the faculty, including EECS, next year.

In anticipation of these changes and as part of its commitment to work cohesively and equitably within the School, EECS has already started implementing new structures by implementing a major curriculum review. This has led to the creation of a 6 teaching groups. Organised around themes, they have more local autonomy and influence in the allocation of teaching workloads. Of the 6 project leaders, 1 is female while 3 deputies are women. One ambition of this change is to ensure greater flexibility for staff (which will allow for more flexible working patterns) as well as fostering team relationships.

Finally, the School in conjunction with the Faculty and College is reviewing the role of teaching fellows that are contracted to teach on the Joint Programme in China with BUPT. The majority of this group are women (8 out of 11 teaching fellows). Clearer teaching pathways are been created to ensure that staff who are on such teaching-only contracts have a clear career path and access to promotion. This is an initiative that the Head of EECS has personally promoted for several years and continues to address; the overall Faculty and College moves to ensure clear, equitable and achievable teaching and scholarship promotions pathways will benefit this group of staff. The Head of School will carefully monitor its introduction and success.

(iii) Timing of departmental meetings and social gatherings

As Queen Mary is part of the University of London, no teaching takes place on Wednesday afternoon. This is positive as it allows the School to carry out seminars on some Wednesdays, which are easier for staff with caring responsibilities to attend as they are held during core-hours.

Further, School monthly meetings also take place during core hours. They are recorded for staff who cannot attend. EECS has a large community of Postdocs/PhD students which means that social gathering do take place in the evening. The school will look into providing more lunch events where possible.

(iv) Culture

The School has a friendly culture with a dedicated space (the Hub) for staff to socialise. When the budget allows, the School provides free tea and coffee there to encourage staff to greet and meet. There is an away day once a year that is generally held off campus, but in London, to ensure all staff can attend. Staff are consulted in advance on their preferences for location. Much of the School's socialising and networking takes place within research groups. These activities are varied, including visits to art galleries; one group recently went on a trip to Cornwall. The School is now working to create a better sense of community, especially between the two former departments and is encouraging joint activities.

The fact that the School records departmental meetings has proven very useful to staff with family commitments who that might not be able to attend and to part-time staff in general. The Head of School operates an open door policy. He also has an open hour every Wednesday lunch time, during which any member of the school can come to speak to him in the Hub.

As described above the school actively supports gender equality initiatives, whether in its outreach programme, through PhD and Postdoc activities (G.Hack), and national events such as the London Hopper. In terms of positive role models both for staff and students, the number of distinguish seminar talks given by distinguished women has increased significantly following the discussions and debates sparked by the Athena Bronze award submission process.

Year	Number of Female speakers	Number of Male speakers	Proportion of Female speakers
2008-2009	1	8	11%
2009-2010	0	11	0%
2010-2011	2	7	29%
2011-2012	3	3	50%

The School recognises that while this is an improvement, there is still more that needs to be done to ensure that gender equality is embedded throughout all its practices. The College conducted a staff attitudes survey (including questions on staff perceptions of their treatment) in 20011-12 and has recently commissioned a more detailed breakdown of the results by School. EECS has specifically requested a data set split by gender on 15 relevant questions. This will help the school in investigating areas where priority actions are required.

Finally, there are other practical initiatives that are underway. The College is committed to refurbish the Engineering building where the current layout was designed at a time where there was an assumption that there would be very few, if any, women in that discipline. This will increase the number and quality of women's lavatories, making it much more female friendly and. This should have a positive impact both on current staff and students, for potential female applicants.

(v) Outreach activities

As described earlier in the submission, the School carries out a number of outreach activities, including some specifically targeted at promoting women in science, their contribution to this research area and positive role models. The School encourages both male and female staff to take part in these activities and their participation is now taken into account in the promotions process and will be included in the new workload model developed in the Faculty of Science and Engineering.

7. Flexibility and managing career breaks

(i) Maternity return rate

7a (i) Maternity Rate Return

Year Maternity Leave Started	Number of staff taking maternity leave	Number of staff returned	Maternity return rate
2008/09	2	2	100%
2009/10	2	2	100%
2010/11	0	0	

Over the three years four academic/research staff took up maternity leave all of whom returned to work in the School. In 2008/09 two Research Assistants went on maternity leave. In 2009/10 a Lecturer and Joint Programme Tutor went on Maternity leave. In 2010/11 no academic/research staff went on maternity leave.

(ii) Paternity, adoption and parental leave uptake

7a (ii) Paternity, adoption and parental leave uptake

	2008/09	2009/10	2010/11
Grade 4		1	
Grade 6		2	
Grade 7			1
Grade 8	1		
Total	1	3	1

Over the 3 years, five members of staff have taken paternity leave. There is no indicative trend over the years. Over the three year period, there were no staff members who took adoption leave and there is no official mechanism for recording parental leave. Comments from staff that went on paternity leave indicated that it was well received and that some extra-flexibility was provided to staff members in planning and taking their leave, as well as allowing them to work flexibly to fit with new responsibilities.

(iii) Numbers of applications and success rates for flexible working by gender and grade

Flexible working can be defined as staff working full-time non-standard hours; working from home; or staff working part time. Based on current data no staff in EECS work full-time non-standard hours. Data collected by the department indicates that the following member of staff are working non-standard hours and/or working from home:

(iii) Flexible working number (school records)

Grade	Female	Male
Grade 4	1	1
Grade 6	3	
Grade 7	1	1
Grade 8		1

However, since flexible working arrangements are very often agreed informally and at local level, this data might not represent the full picture. An informal survey of the SAT members indicated that there were a range of ways that staff managed their family/work responsibilities and that this flexibility was welcomed. To ensure that the School has a better understanding of how it can promote sensible flexible working, EECS will undertake a survey of staff to find out more about their working practices.

(i) Flexible working

Queen Mary offers generous flexible working arrangements so that any staff can request. Within the School a number of staff members are working under flexible arrangements, whether working from home on some days, working part-time, etc. The system to request flexible working is informal, which is also part of the open culture of the school (although staff can also make a formal request under Human Resources policies). Flexible working is available and indeed used by both female and male staff as outlined in the pen portraits of the Self Assessment Team.

(ii) Cover for maternity and adoption leave and support on return –

With only a limited number of staff going on maternity leave in the past, this is an area that the School knows requires more work to ensure that appropriate levels of targeted support and mentorship are available at all stages from the period before women go on maternity leave to their return.

The current practice is to ensure that teaching and administrative responsibilities are covered while staff are away. Women are encouraged to keep in touch with the School while on leave and their needs are discussed on their return. This has, in some cases, led to informal agreements for flexible hours and in others a decision to temporarily reduce contractual obligations to below 100%.

The School is now participating in an EPSRC funded 'Diversifying the Workforce' project led by the Vice-Principal for Teaching and Learning and supported by the Learning Institute. All women in EECS (and other STEM schools) who have, or are planning, to go on maternity leave have been interviewed and their experiences recorded. A preliminary analysis suggests that this cohort has a very diverse set of needs which can only be met on an individual basis with targeted plans for support. In 2013, EECS and the College as a whole will be implementing a more formal programme of pre and post-maternity leave mentorship and assistance to ensure that women's careers continue to develop while allowing them to meet their family responsibilities. This will also be offered to those who take adoption leave and lengthy periods of parental leave.

Word count: 3922

8. Action plan

The action plan is attached in Appendix 1

9. Case studies: impacting on individuals

Dr Lourdes Agapito



Dr Lourdes Agapito received her BSc in Physics and PhD in Computer

Vision from the Universidad Complutense de Madrid in Spain (her home country) in 1991 and 1996 respectively. She was a Marie Curie Postdoctoral Research Fellow with the Robotics Research Group at The University of Oxford from 1997 to 1999 and then held a Postdoctoral Fellowship funded by the Spanish Ministry of Science and Education in the same research group for a further 2 years. In September 2001 she joined Queen Mary as a Lecturer to pursue her long-term career goal of becoming an academic and leading a world class research group in the field of 3D Computer Vision. In

the 10 years since she joined Queen Mary, Lourdes has had three children who were born in January 2004, May 2006 and March 2008 respectively. She took 5 months maternity leave in each of these occasions and returned to work full time after the birth of her first two children. However, the challenge of balancing a busy family life with a full time research and teaching career was not easy.

In 2007, while she was pregnant with her third child, Lourdes joined Queen Mary's College-level Athena SWAN Self Assessment Team and took the role of Athena SWAN Champion. It was through membership of the SAT that she became more aware of the opportunities that the College offered to allow work/life balance including part time work. Thanks to the support, advice and mentorship of some of the senior members of the team she decided to change her terms of employment, negotiating a reduction of her contract to 80%. This allowed her to spend more time with her children and to gain the balance and focus in her research needed to prepare an ambitious 5 year proposal to the newly established European Research Council. She continued to be involved with Athena SWAN activities and initiatives.

In 2008, after the birth of her third child, she was awarded this prestigious ERC Starting Independent Researcher Grant, a highly competitive Europe-wide scheme of individual grants to fund 5 year research projects. It targets promising researchers who have the proven potential of becoming research leaders and supports the creation of elite new research teams.

She now leads a research group with 4 PhD students and 3 Postdocs, fully funded on the ERC grant which also supports most of her salary. For this reason, the School has minimised her teaching and administrative duties. Lourdes was recently promoted to Reader in Computer Vision.

Without the support from the members of the Athena SWAN SAT in 2007 and the continued support of the Athena SWAN process (such as the Bronze renewal in 2009-10), she would not have had the guidance and assertiveness needed to negotiate a part-time contract that allows her to continue working at the forefront of research, leading an elite team while at the same time being fully involved in the upbringing of her young children.

Professor Ursula Martin



Professor Ursula Martin of the School of Electronic Engineering and Computer Science at Queen Mary, University of London, works at the interface of mathematics and computer science, applying abstract mathematical concepts to understand practical problems in software design. She represents a case study of someone who has both benefitted from Athena SWAN and, as importantly, has made a major contribution to changing attitudes towards women in STEM subjects.

Professor Martin was the UK's first female Professor of Computer Science when, aged 36, she was appointed Professor in the University of London. In 1992, she moved to the University of St Andrews to become their first female Professor - in any faculty - since the foundation of the University in 1413. From 2005-2009 she was Vice-Principal for Science and Engineering at Queen Mary, University of London, where she initiated the College's first Athena SWAN Bronze application. She also played a key role nationally. For example, from 2003 to 2005, Ursula Martin was seconded to the [University of Cambridge Computer Laboratory](#) part-time as Director of the [Women@CL](#) project to lead local, national and international initiatives for [women in computing](#), supported by [Microsoft Research](#) and Intel Cambridge Research.

Ursula Martin now leads ImpactQM, a major EPSRC-funded knowledge transfer initiative. Her numerous national and international roles include membership of the UK's Defence Scientific Advisory Council, and driving forward national initiatives for women in computing through the British Computer Society. This combination of research success and the promotion of women's achievements through activities such as Athena SWAN have led to numerous awards. For example, in 2011, Professor Martin was recognised as a woman of outstanding achievement at the UKRC's Women of Outstanding Achievement Awards 2011 where she was announced runner-up in the Lifetime Achievement Award. In January 2012, she awarded a CBE - one of only 4 such awards ever to have been granted in UK academic computer science – for her services to the discipline. Ursula Martin's personal example, commitment locally within the School, at College and indeed at national level to promoting women in Science and Engineering has provided a crucial example for women in EECS.

EECS Athena SWAN action plan 2012-2015

Progress - RAG

Green: On track for delivery
 Amber: Concerns about progress and/or timescale
 Red: Limited or no progress

Promoting positive role models, attracting and supporting female students

No.	Action Development	Success Criteria	Lead	Time frame	Progress - RAG
1.1	School to monitor student UG and PG numbers, especially in regard to PG taught numbers to ensure the school remains above the national average,	The school remains above national average for recruitment of UG and PG students	Planning Unit EECS Athena SWAN SAT	Yearly in Spring	Green
1.2	School to continue public engagement activities that target female applicants to EECS	The school remains above national average for recruitment of UG and PG students	Student Support Officer	Ongoing	Green
1.3	School to ensure female role models are included during public engagement events and school open days (both staff and students) and that participation in these events is incorporated in promotion/appraisal reviews	The school remains above national average for recruitment of UG and PG students; staff understand the value of participating in these activities and are rewarded for doing so	Student Support Officer	Ongoing	Green
1.4	School to liaise with Queen Mary Centre for Public Engagement to ensure public engagement activities at school and faculty level are funded and coordinated	Reduction in EPSRC funding is addressed and public engagement activities remain at similar level or increase year on year	Student Support Officer VP External Engagement	Winter 2013	Amber

No.	Action Development	Success Criteria	Lead	Time frame	Progress - RAG
1.5	School and Faculty continue to support and promote G.Hack and WISE initiatives to its students and in public engagement presentations and open days	G-Hack and WISE activities are ongoing and are promoted to all student to ensure female students and postdocs have the opportunity to attend and feel better supported at Queen Mary Female students have opportunities to network and to find out how to develop their career	G.Hack Chair WISE Chair Development Adviser for Research Staff Learning Institute	Ongoing	Green
1.6	Any new publications produced will include an equal representation of women where appropriate; the School to aim for 50% representation across all material as they are updated	Target achieved	EECS Publicity officer	Ongoing	Green
1.7	School continue to produced and disseminate CS4Fun and to increase the profile of EE4Fun	Magazines are disseminated around the world, increasing the profile of the School	Head of School	Yearly in Spring	Green
1.8	School to produce an issue of EE4Fun magazine on women in Electronic Engineering on the model of the CS4Fun example	Issue published and disseminated	Head of School	December 2014	Green
1.9	School to monitor the number of PG taught student by gender and to review its PGT portfolio where appropriate.	No pattern in the decrease in female participation in taught course. Programme modified if necessary	Postgraduate officer	Yearly in Spring	Green
1.10	School to take part in the implementation of the Concordat for Research staff that specifically aims at supporting early career researchers	Positive initiatives are implemented in line with the College plan	Head of School Development Adviser for Research Staff, Learning Institute	Ongoing	Green

Offering appropriate support to female staff in their career

No.	Action Development	Success Criteria	Lead	Time frame	Progress - RAG
2.1	School to publicise and target relevant women to attend faculty Pathways to Academic Promotion workshop	Female staff attend and have better information about the promotion process and academic career	Head of School	Spring 2012 and yearly thereafter	Green
2.2	School to take part in Faculties/College mentoring scheme to support female staff at all level when launched	Mentoring scheme in place Take up by female staff monitored as well as feedback	Head of School Head of Management and Leadership Development, Learning Institute	Spring 2013	Red
2.3	School to keep monitoring promotion data by gender	Data is monitored Action are taken where necessary	Planning Unit EECS Athena SWAN SAT	Yearly in Spring	Green
2.4	School to ensure staff to attend appraisal training	Managers know how to effectively carry out appraisals	School Manager	Ongoing	Green
2.5	School to implement new workload model when successfully piloted	School is clearer about staff contribution and their workload Staff are clearer about their workload Contributions are rewarded	Head of School	2012-2013	Green
2.6	School to keep monitoring representation of female/male staff on main committees and to aim to have a gender balance on committee without overburdening senior women	Committees have a good gender balance Senior women are not overburdened	Head of School School Manager	Ongoing	Green

No.	Action Development	Success Criteria	Lead	Time frame	Progress - RAG
2.7	School to publicise and target relevant women to take part in the College 'Women into Leadership' programme	Female staff within the school take part in the programme	Head of School	Winter 2013 and annually	Green
2.8	the College to refurbish the Engineering building to ensure that facilities which are female friendly are included in the new design.	Refurbishment completed Female staff have access to better facilities	VP and Executive Dean, Science and Engineering Estates department	2015	Amber
2.9	School to finalised and implement teaching fellow career pathway	Teaching fellows have access to a clear career pathway and have access to promotion	Head of School Vice Principal and Executive Dean, Science & Engineering	2013	Green

Promotion of good work/life balance

No.	Action Development	Success Criteria	Lead	Time frame	Progress - RAG
3.1	School meetings to remain on Wednesday afternoon where there is no teaching and to remain recorded	Staff who cannot attend meetings can access them through recordings	School Manager	Ongoing	Green
3.2	School to survey staff about their work-life balance and their flexible working practices School to analyse College staff attitude survey results for EECS on relevant questions	Qualitative data is collected within the school Athena SWAN SAT to discuss results with Head of School Results analysed, action taken where relevant	School Manager EECS Athena SWAN SAT	Spring 2013	Amber

No.	Action Development	Success Criteria	Lead	Time frame	Progress - RAG
3.3	School to promote flexible working practice and explain how to apply for them once a year at school meeting Monitoring of applications and outcomes	Staff members are aware of flexible working opportunities and how to apply for them	School Manager	Yearly in Spring	Green
3.4	School to work with EPSRC project on "Diversifying the Workforce" to collect qualitative feedback from women going/returning from maternity leave	Feedback is gathered. Appropriate support is designed at College level	VP Research Development Adviser for Research Staff, Learning Institute	Ongoing	Green
3.5	School to take part in the College pre/post-maternity leave mentorship (also include adoption leave and substantial paternity leave)	Female staff (and men who took a substantial paternity leave) feel more supported before/during/after their parental leave Number of staff who took part are monitored	School manager Head of School Development Adviser for Research Staff, Learning Institute	2014	Green
3.6	School to adopt a core-hours policy for meetings and to organise more lunch time social/academic events	Policy in place All staff are able to attend meeting Events organised	Head of School School Manager	Ongoing	Green

Representation of female staff within the school

No.	Action Development	Success Criteria	Lead	Time frame	Progress - RAG
4.1	School to continue monitoring staff representation at all grades, and FTC/Permanent	Data is monitored and reported on at School SAT and College Athena SWAN Committee	School Manager Planning Unit	Yearly in Spring	Green

No.	Action Development	Success Criteria	Lead	Time frame	Progress - RAG
4.2	School monitor and ensure that all staff who sit on interview panel have attended the appropriate fair selection training	Data is monitored, staff are booked on course when appropriate	School Manager	Ongoing	Green
4.3	School to ensure that female staff are represented on interview panels where possible	Positive role models are promoted without overburdening senior women	School Manager	Ongoing	Green
4.4	School to include Athena SWAN logo on recruitment documentation to show the school commitment to gender equality to applicants	Logo is present on recruitment materials	School Manager HR recruitment team	Autumn 2012	Green
4.5	School to improve recruitment data quality by taking part in the online recruitment system	Data quality is improved and can be reported on	School Manager HR recruitment team	Autumn 2012	Green
4.6	School to carry out exit interviews to find out why staff are leaving	Feedback collected and analysed. Action taken where necessary	Head of School	Ongoing	Green

SAT process

No.	Action Development	Success Criteria	Lead	Time frame	Progress - RAG
5.1	SAT to meet 3 times a year to monitor progress on action plan and data	SAT meets, action plan updated and reported to College Athena SWAN Committee	EECS Athena SWAN SAT Chair	3 times a year	Green
5.2	SAT to review data on a yearly basis	Data is analysed, appropriate recommendations are made to the Head of School/Athena SWAN Committee where necessary	EECS Athena SWAN SAT Chair Planning Unit	Yearly in Spring	Green