



Athena SWAN Silver department award application November 2013

Name of university: Aston University

Department: School of Engineering & Applied Science

Date of application: November 2013

Date of university Bronze Athena SWAN award: November 2010

Contact for application: Professor Robert Berry, Executive Dean

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<http://www1.aston.ac.uk/study/undergraduate/courses/school/eas/>

Athena SWAN **Silver Department** awards recognise that in addition to university-wide policies the department is working to promote gender equality and to address challenges particular to the discipline.

Not all institutions use the term 'department' and there are many equivalent academic groupings with different names, sizes and compositions. The definition of a 'department' for SWAN purposes can be found on the Athena SWAN website. If in doubt, contact the Athena SWAN Officer well in advance to check eligibility.

It is essential that the contact person for the application is based in the department.

Sections to be included

At the end of each section state the number of words used. Click [here](#) for additional guidance on completing the template.

1. Letter of endorsement from the head of department: maximum 500 words

An accompanying letter of endorsement from the head of department should explain how the SWAN action plan and activities in the department contribute to the overall department strategy and academic mission.

The letter is an opportunity for the head of department to confirm their support for the application and to endorse and commend any women and STEMM activities that have made a significant contribution to the achievement of the departmental mission

It is my pleasure to give my wholehearted support to the Aston University School of Engineering and Applied Science (EAS) submission for an Athena Swan Silver Award.

As a consequence of the STEM “leaky pipeline” women working in science and engineering are significantly underrepresented at all career stages¹. This contributes to an enormous loss of talent and innovation. The challenge for closing the gender gap is great but with an emphasis on raising awareness recognising talent and promoting key role models in these fields, it will be possible to inspire women to follow and maintain a career in these sectors. This Athena Swan submission provides an important focus and a reflective framework to assist in our progression towards this goal.

I am deeply committed to our progress with this important challenge. We have established a strong, diverse and enthusiastic self-assessment team with representation from all academic career levels. Members have committed their time and long-term engagement for this journey. A standing agenda item in the School Management Team (SMT) ensures visibility to progress and discussion of issues occurs regularly at senior levels. Near-term and strategic resources (e.g., budget) are in place to ensure the Action Plan is sustainable and will deliver. School resource management tools such as the academic workload model as well as staff job descriptions have been modified to recognise and support the culture changes required to support implementation and sustainability.

A family-friendly proactive culture and environment supports women to reach their full potential and advance their scientific careers; this benefits all as highlighted by examples in the application. We are making a difference. When I became Executive Dean just over five years ago we had only one female Professor in Engineering. Today we have four leading women Professors, two are Heads of Subject Groups (Professor Sahar Al-Malaika, Head of Chemical Engineering and Applied Chemistry and she also Chairs the School’s Athena Swan Group, and Professor Lin Zhang, Head of Electrical and Electronic Engineering; both are extremely productive and world-leading researchers), and Professor Alison Hodge, MBE, who is the first Fellow of the Womens Engineering Society (WES). Professor Karen Wilson is the newly-appointed Research Director of the European Bioenergy Research Institute and a world-leading researcher in catalysis. In addition to significant growth in the professorial staff in the School, we have also increased the number of excellent female colleagues in post-doctoral and academic staff positions who are making important contributions in their fields.

¹ <http://www.parliament.uk/business/committees/committees-a-z/commons-select/science-and-technology-committee/inquiries/parliament-2010/women-in-stem-careers/>

Best practice can only be achieved if the voices of women and other underrepresented groups are heard. We aim to ensure that all staff are encouraged and enabled to have the fullest possible sense of participation and responsibility within the full range of our activities irrespective of gender, religion or race. However, in spite of significant advances in improving attraction, retention and progression, a significant gender gap at all levels remains. We will continue working to redress this disparity by better articulating our messages to attract women, and to support and nurture their work and careers.

We have established a number of policies and best practices to improve the attraction, retention and progression of female academics; as well as to enhance female scientific and engineering development and overall engagement in School leadership and strategy. These are described in our application and are reflected directly in our submitted case studies. I will highlight a few key outcomes:

- From 2009 to 2013 female academic staff numbers have grown by 71%.
- In 2009 no women served as a Head of Group; in 2013 there are 3.
- The SMT (the body responsible for School strategy and overall governance) now has 4 female members with decision making authority; in 2009 no women were members.

I would like to end by re-stating my total commitment to seeing our mission through because it is the right thing to do and because I believe that a better gender balance can benefit enormously our School and the science and engineering disciplines at large.

Yours sincerely

Professor Robert Berry

2. The self-assessment process: maximum 1000 words

Describe the self-assessment process. This should include:

- a) A description of the self assessment team: members' roles (both within the department and as part of the team) and their experiences of work-life balance

Name	Role in the Athena Swan Team	Personal Profile
Professor Sahar Al-Malaika	Chair, Leader, Inspirer!	Sahar is a Professor of Polymer Science at Aston University and the Head of Chemical Engineering and Applied Chemistry. Most of her professional career has been spent at Aston University where she also leads Polymer Processing

Group Head, Chemical Engineering & Applied Chemistry		and Performance Research. Sahar is the president of the 'Lichfield Science and Engineering Society', a Society that aims at attracting and encouraging girls and boys to choose careers in STEM subjects. She has combined a successful academic career with bringing up four children.
Professor Robert Berry Executive Dean School of Engineering and Applied Science	Deputy Chair of Group, Athena Swan Enabler	Robert joined Aston University from IBM as Executive Dean for EAS in September 2008. He is a key member of the University's Executive Team and takes direct responsibility for the appointment of all senior staff in the School. Robert has provided the leadership for the School Management Team to develop and implement equality policies and has actively championed the promotion of women in EAS. Robert has two children and balances work, children and a passion for running.
Dr Lucy Bastin Senior Lecturer, Computing Science	Culture Changing Champion	Lucy's research interests are strong but very eclectic! Coming to Aston University from the IT industry, after initial training as an ecologist, she spent some years in the Environmental Systems and Management group before moving to Computer Science, from where she collaborates with microbiologists, meteorologists, policymakers and many others. Lucy has been successfully supporting recruitment strategies and outreach activities to attract women to STEM subjects.
Dr Sonia Boscolo Lecturer, Electrical, Electrical Electronic and Power Engineering	Women in Engineering at Aston Champion	Sonia built her academic career from PhD to the current position of Senior Lecturer entirely with the Department of Electric, Electronic & Power Engineering. Sonia has a very supportive husband who is a Lecturer in Mathematics at Loughborough University, and a three-year old child. She enjoys a good work-life balance, being a happy mum and wife and pursuing a successful scientific career at the same time. She combines trips to conferences or project meetings with family trips since her child was six-month old.
Dr Jort van Mourik Senior Lecturer, Mathematics	Data Analyst/ Impact Assessor	Jort is based in Mathematics, and his main research interest is Statistical Physics and its applications towards optimisation. His wife is a Reader in Mathematics at Loughborough University and they have a young child. Jort has experience in supporting a successful woman in academia, and is familiar with the specific problems women may encounter both in that environment and in their work-life balance. Jort has analysed the data presented in this submission.
Dr Andrew Sutherland Senior	Athena Swan Activist	Andy trained as a synthetic organic chemist at Manchester University and MIT. For the past decade Andy has worked part-time to share equally in child care (his wife is also an academic at Aston University and similarly works part time).

Lecturer, Chemical Engineering & Applied Chemistry		Andy is a passionate advocate of equality and flexible working practices.
Dr Laura Leslie Lecturer, Mechanical Engineering & Design	Early career research link	Laura is based in Mechanical Engineering & Design Group and her main research interests are biomaterials and medical device testing. Laura teaches on the CDIO modules and the first Engineering Science module. Laura is married with no children.
Dr Marie Kirby Research Associate, European Bioenergy Research Institute (EBRI)	Post-doctoral representation	Having successfully completed a PhD Marie began work on the Interreg BioeNW IVB project. This initial research was then been developed and extended with her appointment at Aston University, to integrate the research of anaerobic digestion and intermediate pyrolysis. Marie provides important representation of women in the School at post-doctoral level.
Ms Jane Tyrell Associate Director of Human Resources	Equality and Quality Advisor	Jane is a science graduate whose entire career has been in STEM organisations and Universities. At Aston, Jane provides the University's strategic lead on equality, diversity and wellbeing. Jane combines work with family life and singing.
Mrs Jules Forrest School Quality Officer	Co-ordinator and Communications	Jules joined the School in 2007. Jules is central co-ordinator for the School Athena Swan Working Group and manages actions to implement and support the Group's objectives. Jules was married in 2012 and balances her new family life with her work at Aston University.

The EAS Self-Assessment Team membership aims to achieve broad representation from school groups and ensures initiatives are consulted on and communicated effectively. In order to achieve a more representative gender balance the team will review membership of the self-assessment team (action 5.2). Team members have been selected for their enthusiasm and commitment to furthering the Athena Swan initiatives within the School.

- b) an account of the self assessment process: details of the self assessment team meetings, including any consultation with staff or individuals outside of the university, and how these have fed into the submission

Following the University's successful submission for the Bronze Athena Swan Award, Professor Sahar Al-Malaika formed the EAS Team to assess the School's current position and develop the action plan (Appendix 1). The first meeting of the Team was in May 2013; the team met on a fortnightly basis until September 2013 when the meeting frequency was increased to once a week. Athena Swan has become a standing item on the School Management Team (SMT) agenda and is used to update Group Heads and provides the opportunity to consult at a senior level and discuss policy and implementation of initiatives.

The Team analysed existing data to identify areas of strength and weakness in relation to the recruitment, retention and promotion of women in EAS. This was used to inform the development of the action plan.

The team members are responsible for raising awareness of the action plan in their Groups, consulting with academic staff and disseminating information. Team members have been able to involve a wider school audience and encourage greater participation in the Athena Swan Silver action plan and objectives which have been approved by the SMT for implementation by Group Heads.

- c) Plans for the future of the self assessment team, such as how often the team will continue to meet, any reporting mechanisms and in particular how the self assessment team intends to monitor implementation of the action plan.

The School and the team recognise that the primary objective is the implementation and monitoring of the Athena Swan Silver action plan over the next three years. In order to continue to monitor the success of policies and initiatives outlined in the action plan the team will continue to meet on a quarterly basis and review progress on the action plan. There will be an annual review of the data submitted for this application and trends, both positive and negative, will be considered at SMT, and appropriate school action or policy agreed in response.

Word: 347/1000

3. A picture of the department: maximum 2000 words (actual 3000).

- a) Provide a pen-picture of the department to set the context for the application, outlining in particular any significant and relevant features.

The School of Engineering and Applied Science (EAS) has a tradition of high quality; a reputation for cutting edge research; and a history of introducing innovative programmes and teaching approaches. It offers students excellent opportunities to join in the process of discovery and creativity, and to prepare for an increasingly diverse and technological world.

Our Strategy has two key aims: first, to build a reputation for producing graduates that will contribute to their employers' business from the first day they join; and second, to establish EAS as the partner of choice for impactful research in our key areas of research strength (at the moment this is photonics, bioenergy and data analytics).

Our strategy is working. The School's identification of "Active Engineering" as a project-based teaching methodology is one such example. Through the adoption and delivery of approaches like CDIO™ and the creation of a Student-led Software company in Computer Science, our students are

able to differentiate themselves in the marketplace as ready-to-work, and they are securing positions more readily than their competitors in the job market.

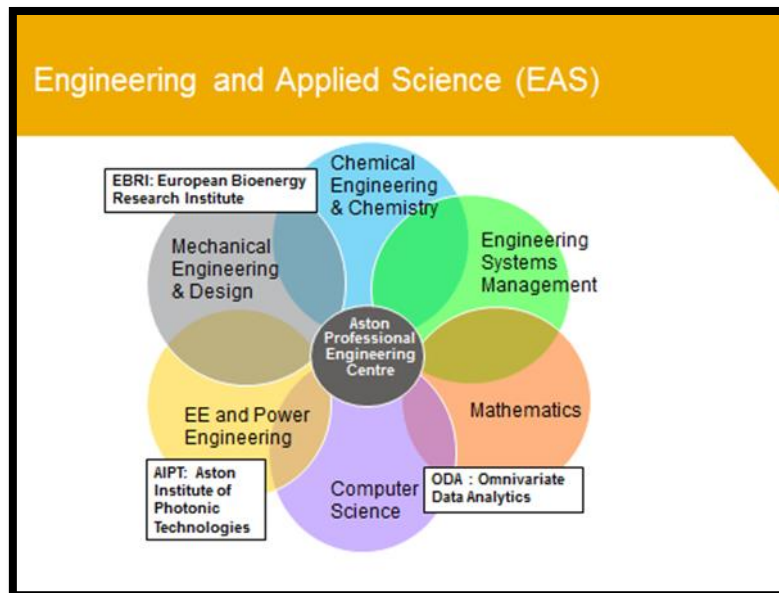
At the same time, our Research is also showing very strong growth, with Research Council, Industry and European Commission awards growing from a level of around £2m per year in 2008/9 to over £10m per year in 2012/13 and beyond.

EAS is a small but diverse School offering a wide portfolio programmes at Undergraduate, Postgraduate and Research levels. There are 31 distinct Undergraduate degree programmes, approximately 2200 undergraduate students, and 250 post-graduate taught and research students.

Because of our size, our taught subject and research areas are in some cases quite focused (for example, Architecture Building and Planning includes no degree programmes in Architecture or in Planning). This has some consequences for the gender mix in some areas, and we will discuss these in the data section.

The gender mix by subject will also be influenced by the School's significant home BME population. An important action for the future is to gain a deeper understanding of such important factors, their impact on gender balance expectations and consequences for future initiatives. (Action 1.2)

The School is organised into Academic Subject Groups around disciplines within engineering and applied science, for administrative, intellectual and social purposes. Subject groups are illustrated in the figure below. Research groups are organised orthogonally. Research groups are too numerous to list, but the three major Research Institutes are shown.



Subject Groups and Research Institutes are afforded significant independence in the School – independence in financial management, in staffing, and in establishing their own strategies that align with the University's and the School's. This has led to a number of important initiatives

relating to and supporting diversity that we have since adopted across the School for wider benefit.

The School's Executive Dean, Professor Robert Berry, also sits on the University's Executive Team. There are five Associate Deans with different areas of responsibility, including: Undergraduate Studies, Learning and Teaching, Postgraduate Studies, Research, External Relations and International Relations. There are also several key committees that deliver operationally and strategically with a range of leadership and decision making responsibilities.

Each academic subject is led by a Head of Group, appointed by the Executive Dean in consultation with other academics and with the group itself. Heads of Group have primary responsibility for academic leadership, including teaching delivery and quality, as well as line management for staff; Heads also have budgetary and resource responsibility. The school load model is used by Heads to assign teaching and administrative roles to ensure consistency and equality in terms of load. They typically serve for about 3-4 years.

The School Management Team (SMT) includes Heads of Group, Associate Deans, the Head of Administration and representatives of Finance, Research Support and HR. This is the strategic leadership body for the School. When Professor Berry assumed leadership of the School in 2008 there were no women in senior decision making positions on the SMT. Now there are five out of a team of about fifteen, with four of those being in senior academic positions (Associate Deans, Heads of Group).

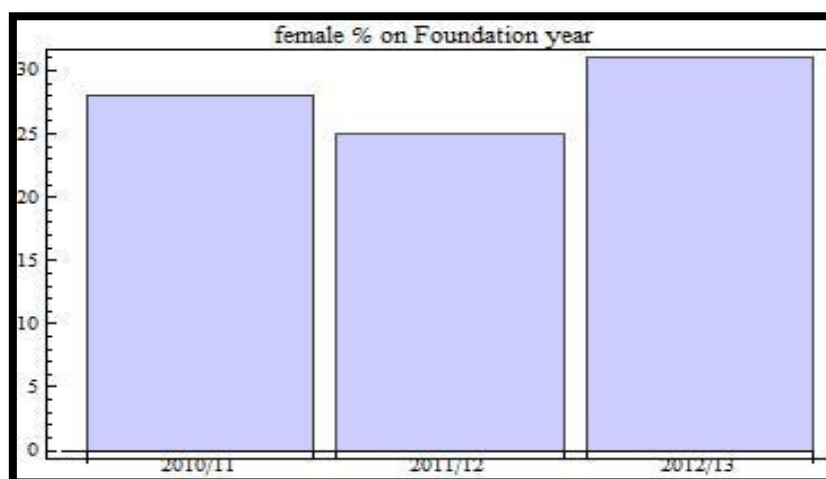
The School is growing. New programmes are under consideration at the moment to attract more students into Engineering. Our facilities have also been greatly improved in the past four years, with new teaching laboratories for Chemical Engineering and Applied Chemistry students, and many new research laboratories as well. Refurbishment plans will continue into 2020 and will embrace the entire School. A major change has been to centralise all teaching activity into the Main Building; four years ago students and staff were split across several campus buildings. The change is profoundly important to all students and staff in creating a stronger sense of School community.

We are focused in EAS on delivering a quality learning experience for all of our students, and creating a vibrant and fulfilling environment for academic achievement for all of our staff.

- b) Provide data for the past three years (where possible with clearly labelled graphical illustrations) on the following with commentary on their significance and how they have affected action planning.

Student data

- (i) **Numbers of males and females on access or foundation courses** – comment on the data and describe any initiatives taken to attract women to the courses.



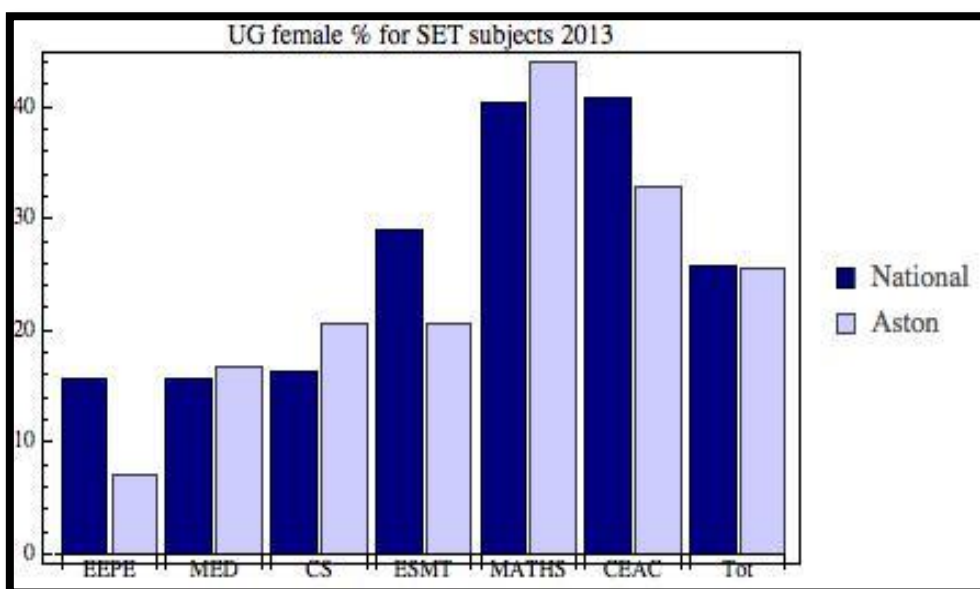
Female percentage on Foundation Year. Graph 1

Foundation					
2010/11		2011/12		2012/13	
% Female	Total	% Female	Total	% Female	Total
28.1%	57	25.0%	60	31.0%	71

Table 1

The School has seen increasing proportion of female entrants applying for and achieving entry onto the Engineering & Science Foundation Programmes (Graph 1). These offer students a chance to convert to a Science and Engineering degree programme by doing one year at level 3 enabling subsequent entry to a 3 year UG degree programme. This has been identified as a strong route for females and an increasing proportion of female undergraduate students are entering the School via this route.

- (ii) **Undergraduate male and female numbers** – full and part-time – comment on the female: male ratio compared with the national picture for the discipline. Describe any initiatives taken to address any imbalance and the impact to date. Comment upon any plans for the future.



Percentage Female UG by subject and benchmark. 2013. graph 2

	UG standard					
	2010/11		2011/12		2012/13	
	% Female	Total	% Female	Total	% Female	Total
EAS	25.6%	1638	25.5%	1624	25.6%	1670
CEAC Chemical Engineering and Applied Chemistry	33.7%	326	31.1%	354	32.0%	391
CS Computer Science	22.2%	383	21.3%	367	20.5%	346
ME&D Mechanical Engineering and Design	13.2%	311	13.8%	298	16.7%	311
EEPE Electronic Engineering and Power Engineering	10.3%	107	8.0%	113	7.1%	112
ESMT Engineering	25.9%	340	25.7%	272	22.5%	182

Systems Management Technology						
MATHS	49.7%	171	48.2%	220	44.0%	282

Table 2

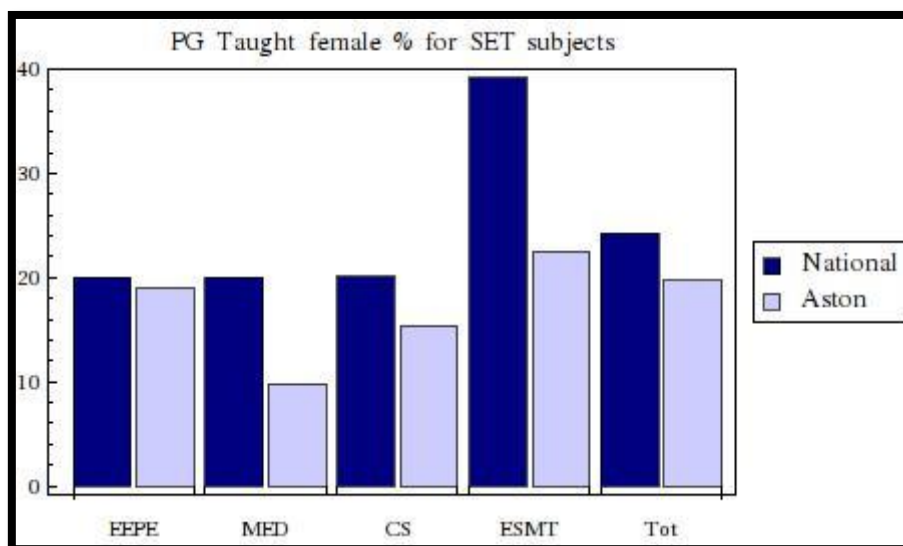
Female representation at undergraduate level varies across the School depending on the group and discipline. Overall the School's female: male ratio is equal to the national average but this is not good enough and the School aims to recruit female students at above the national average (action 2.1).

Initiatives that have proven successful include Outreach activities such as Headstart run by Computer Science (CS) which is aimed at attracting year 12 pupils to STEM programmes at Higher Education. CS ensures female academic staff and PhD students are involved in the delivery of the programme and act as role models and advisors for young women attending the Headstart courses.

At Open Days the School employs current female students to promote the School and the STEM programmes as well as providing inspirational role models for applicants. The School Marketing Officer ensures that marketing material, power point slides and photos, etc. reflect the strong female representation in the School.

For future plans for undergraduate recruitment see action 2.1

- (iii) **Postgraduate male and female numbers completing taught courses** – full and part-time – comment on the female: male ratio compared with the national picture for the discipline. Describe any initiatives taken to address any imbalance and the effect to date. Comment upon any plans for the future.



Percentage of females in PGT by subject. 2012/13. graph 3

	PG Taught		
	2010/11	2011/12	2012/13

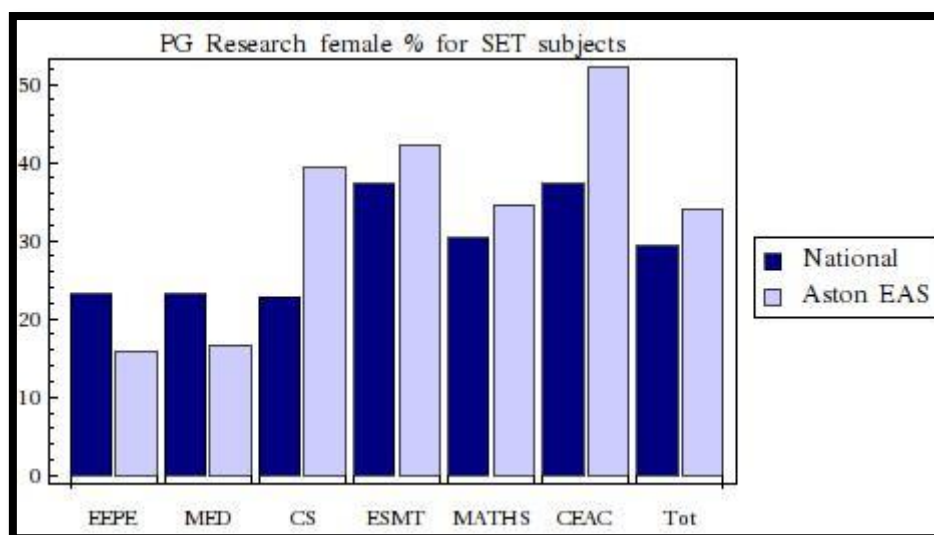
	% Female	Total	% Female	Total	% Female	Total
EAS	23.2%	289	20.9%	392	19.7%	299
CS	19.0%	21	27.8%	18	15.4%	13
ME&D	24.1%	29	18.2%	44	9.8%	41
EEPE	17.7%	79	14.7%	75	19.0%	63
ESMT	28.0%	150	28.0%	186	22.5%	182

Table 3

The School's postgraduate numbers are smaller than undergraduate recruitment and the general trend is that female: male recruitment falls slightly below the national average, more significantly in some groups than others. This is explored in detail below.

For future plans relating to recruiting more female students to PGT programmes, see action 2.4

- (iv) **Postgraduate male and female numbers on research degrees – full and part-time –** comment on the female: male ratio compared with the national picture for the discipline. Describe any initiatives taken to address any imbalance and the effect to date. Comment upon any plans for the future.



Percentage of females in PGR programmes by subject. 2012/13. graph 4

	PG Research					
	2010/11		2011/12		2012/13	
	% Female	Total	% Female	Total	% Female	Total
EAS	30.1%	183	31.7%	189	33.9%	189
CEAC	47.9%	48	51.0%	49	52.1%	48
CS	36.4%	33	39.4%	33	39.3%	28
ME&D	18.9%	37	17.6%	34	16.7%	30
EEPE	21.6%	37	17.1%	41	15.8%	38

ESMT	22.2%	9	33.3%	12	42.1%	19
MATHS	17.6%	17	26.3%	19	34.6%	26

Table 4

The School's postgraduate Research numbers are smaller than undergraduate recruitment and the general trend is that female: male recruitment is stronger than PG Taught. This is explored in detail below.

For future plans relating to recruiting more female students to PGR programmes, see action 2.6

- (v) **Ratio of course applications to offers and acceptances by gender for undergraduate, postgraduate taught and postgraduate research degrees** – comment on the differences between male and female application and success rates and describe any initiatives taken to address any imbalance and their effect to date. Comment upon any plans for the future.

Undergraduate

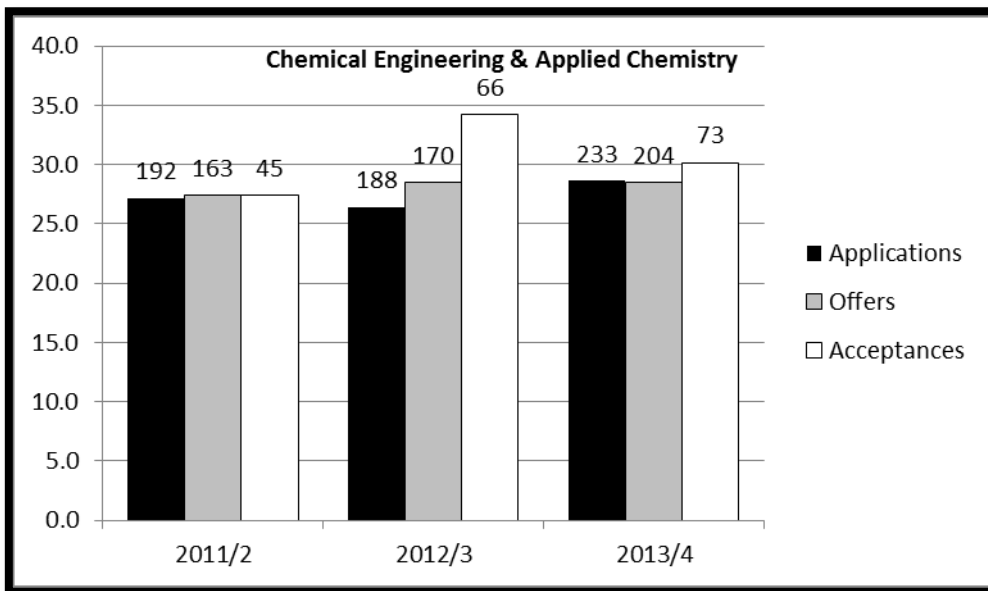
EAS	Applications		Offers		Acceptances	
Year	% Female	Total	% Female	Total	% Female	Total
2011/12	22.40%	4658	23.30%	3224	21.70%	1233
2012/13	23.20%	4427	24.80%	3327	24.20%	1304
2013/14	22.60%	4697	23.40%	3671	23.90%	1228

Table 5

Application rate for males, offers for males and acceptances by males are generally higher.

There are some general trends we can see common for all groups – for example, offer rates tend to be higher than application rates for women. This is an indication of a general interest in increasing the number of women in all of the engineering subjects. Of interest is the extent to which the acceptances track (either exceed, or drop below) those offer rates. At a school level this appears to be relatively flat, indicating we attract women roughly in proportion to our offers.

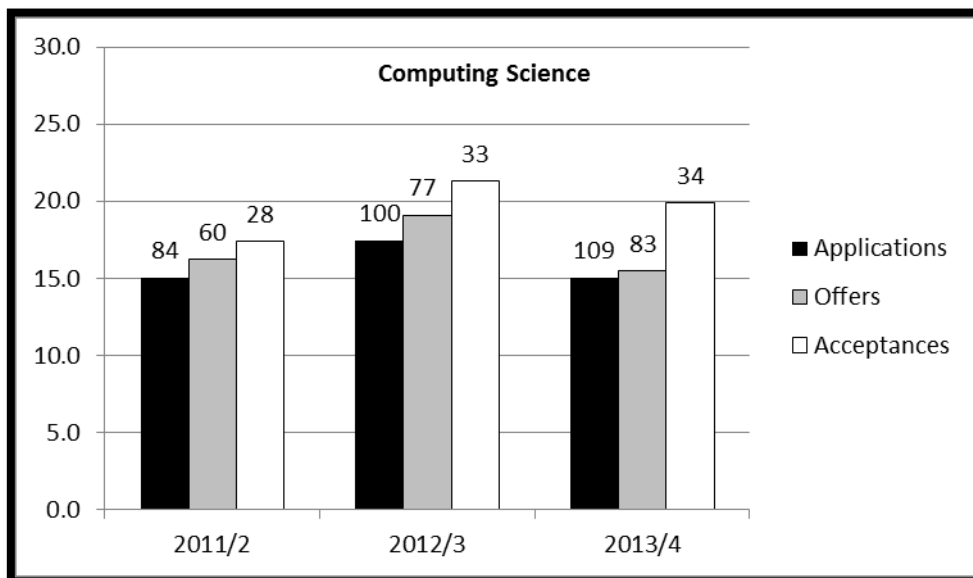
We will now examine applications, offers and acceptances by group.



Graph 5: proportion of applications by, offers made to and acceptances by female applicants to UG CEAC (actual numbers included)

In Chemical Engineering and Applied Chemistry (CEAC) we observe that we are in fact more attractive to female applicants than the offer rate would suggest; in other words, a higher percentage of women accept our offers than do men.

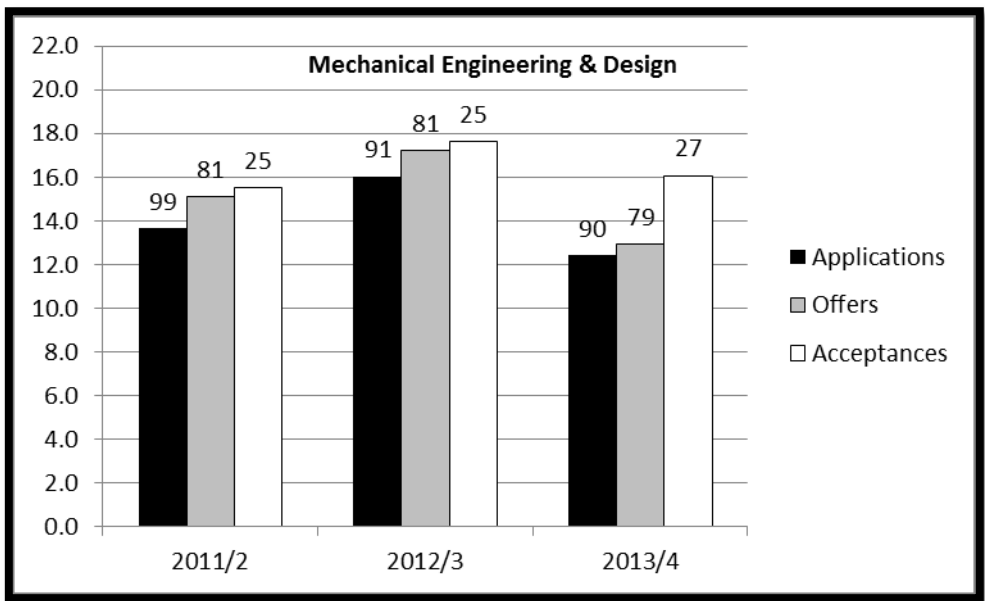
Year on year the numbers of applications, offers and acceptances for female are growing.



proportion of applications by, offers made to and acceptances by female applicants to UG CS (actual numbers included). graph 6

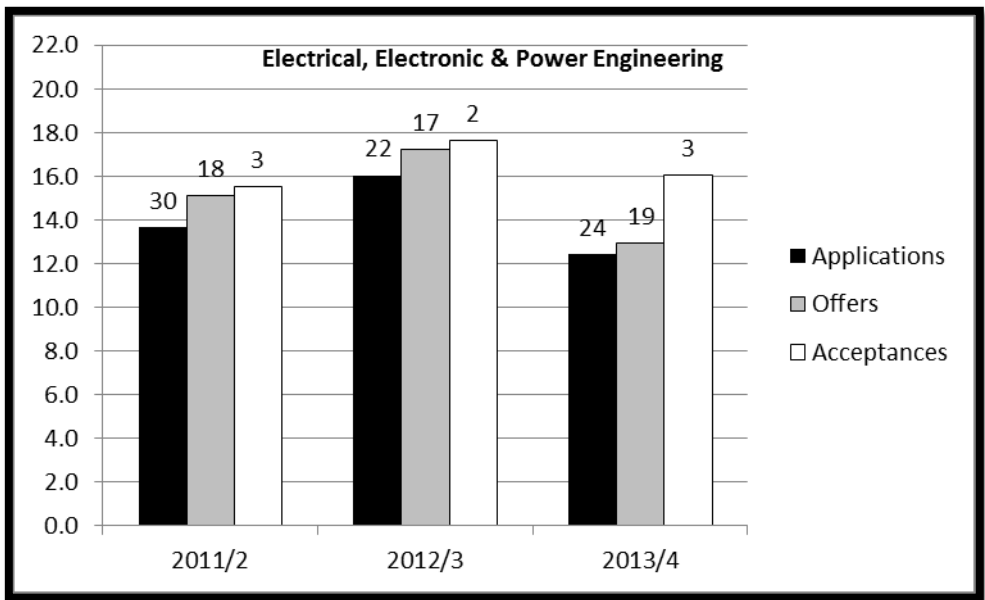
CS is consistent with the general trend for engineering in that offer rates are at or better than application rates for women – and acceptance rates are higher still.

In addition, male/female numbers are growing overall for the programme.



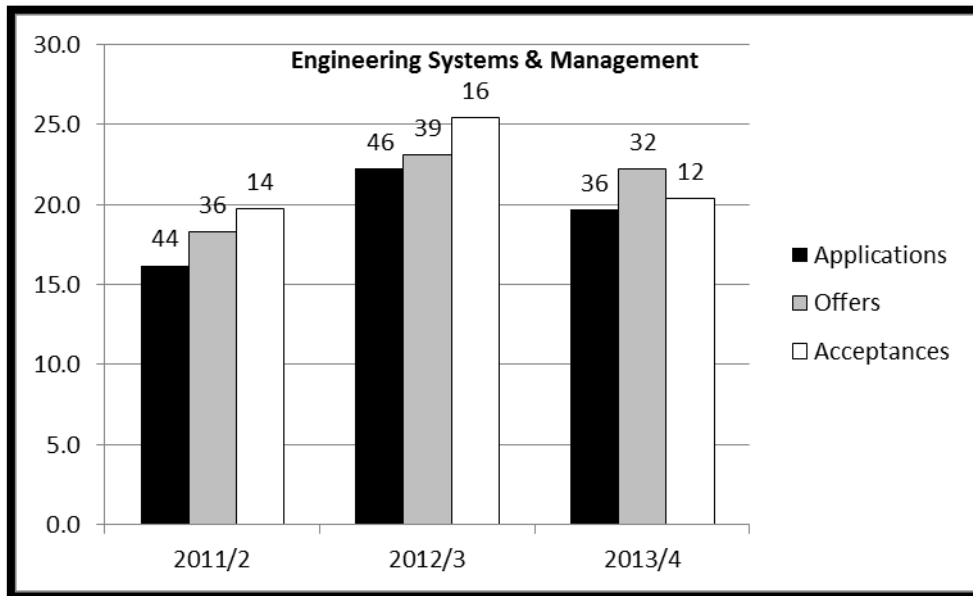
proportion of applications by, offers made to and acceptances by female applicants to UG MED (actual numbers included).
graph 7

Since 2011 Mechanical Engineering and Design (MED) has been introducing a new teaching and learning discipline called Conceive Design Implement and Operate (CDIO™). This initiative introduces mixed teams of mechanical engineers and designers and introduces intense project-based learning exercises. We are finding that the integration of design appears to be more attractive to female students. The numbers are still modest – but the programme is only now completing its first year of graduates who have experienced the entire three year programme (plus placement). We are offering at a higher rate for women students, and acceptance rates are also ahead of offer rates.



proportion of applications by, offers made to and acceptances by female applicants to UG EEPE (actual numbers included).
graph 8

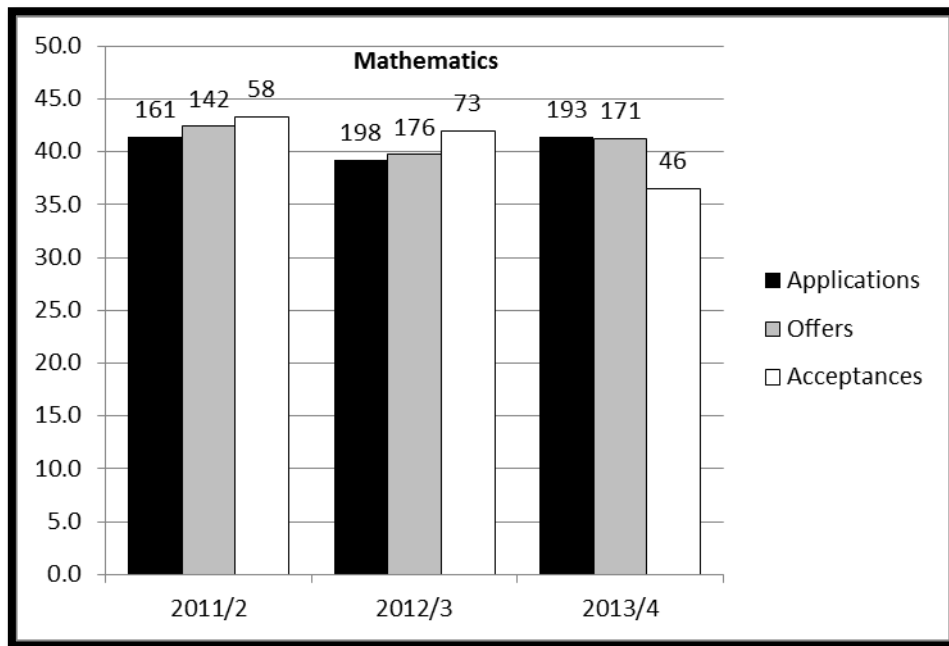
Electrical, electronic and power engineering (EEPE) is an area where female applications are low; the national average is 16% females in Engineering and Technology disciplines². Total Aston applications are also relatively low in this field, but again, offer rates are at or better than application rates for women plus acceptance of those offers is also slightly higher for female applicants.



proportion of applications by, offers made to and acceptances by female applicants to UG ESMT (actual numbers included).
graph 9

Engineering Systems and Management (ESMT) is also offering at a rate above female application rates – historically, uptake as also been relatively high, but last year a lower proportion of females accepted offers than might have been expected. We will monitor this situation to identify whether this is a natural fluctuation, or a missed opportunity to bring interested women into these programmes. (Action 2.1)

² Equality in Higher Education: Statistical Report (2011)



proportion of applications by, offers made to and acceptances by female applicants to UG MATHS (actual numbers included).
graph 10

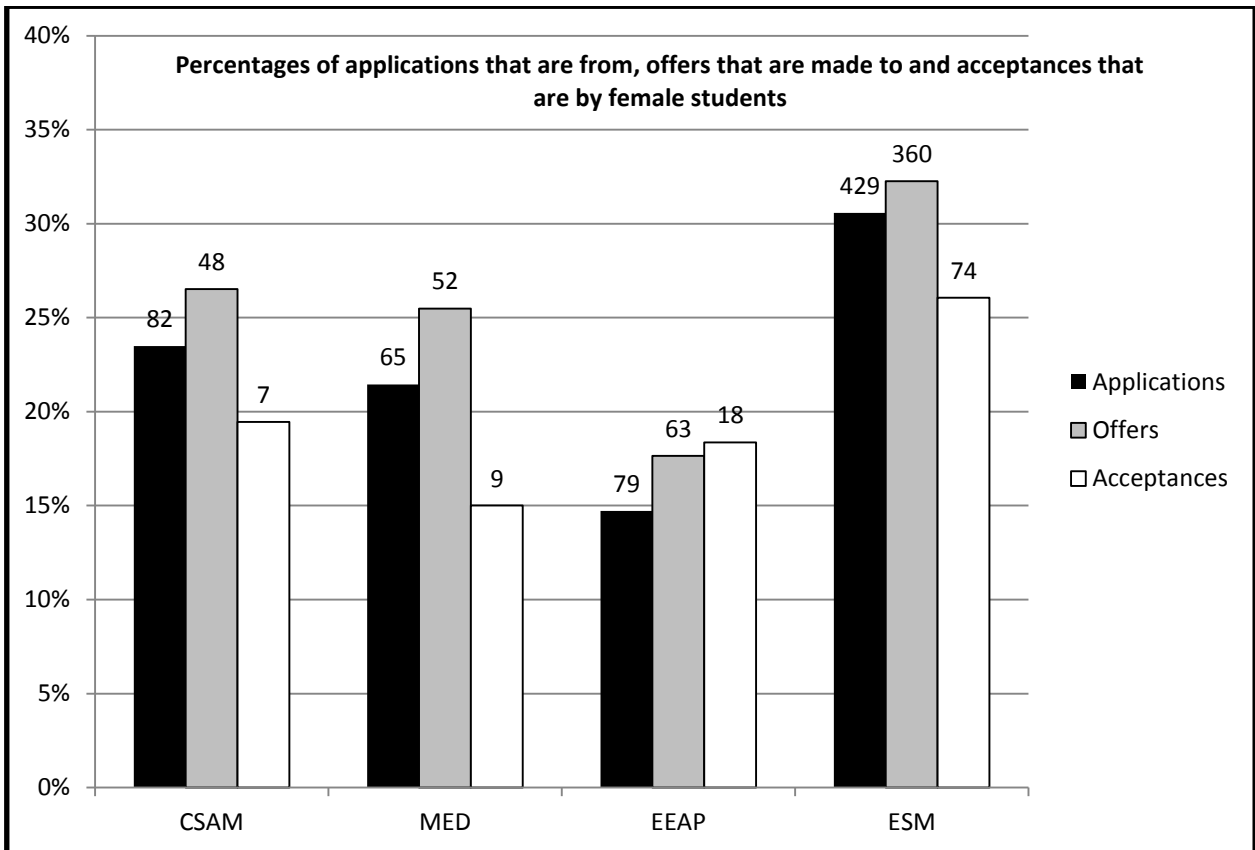
Mathematics has a consistently high level of female applications, offers and acceptances. There is one exception to the overall trend in that 2013/14's acceptance rate took quite a drop. We will be looking to understand causes for the loss of attractiveness in maths. (Action 2.1).

Postgraduate Taught

PG-T EAS	Applications		Offers		Acceptances	
	% Female	Total	% Female	Total	% Female	Total
2011/12	24.0%	931	26.9%	650	20.9%	187
2012/13	25.1%	865	28.3%	628	23.2%	177
2013/14	26.7%	778	29.0%	568	24.3%	115

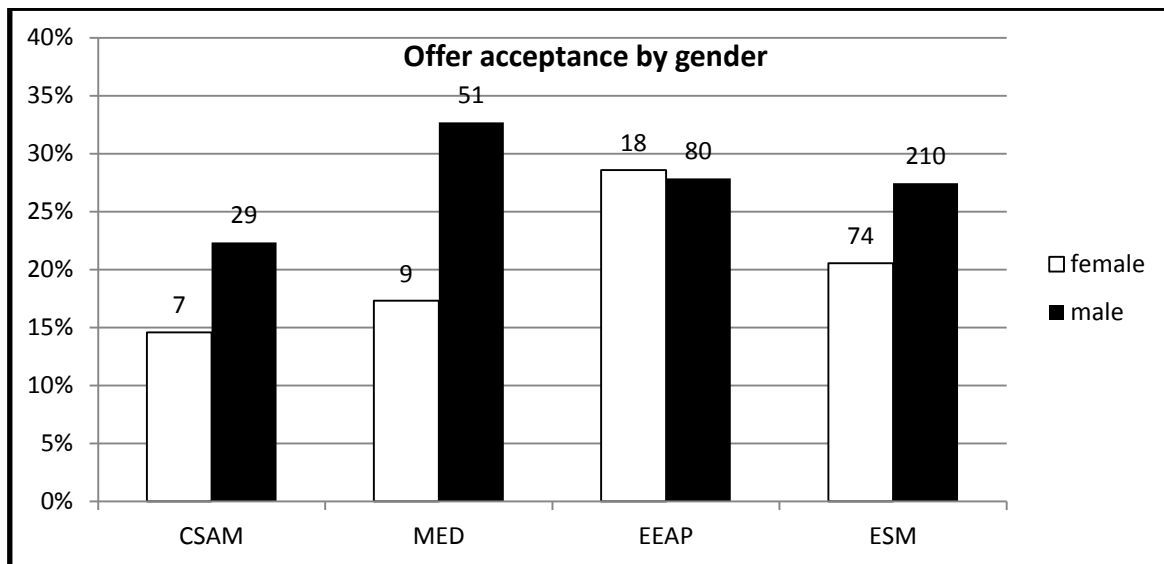
Table 6

At a School-wide level the situation for Postgraduate taught is similar to Undergraduate – and the challenges are also similar. Again, we offer at a rate well above application levels – but for PGT we lose more at conversion time; the acceptances are not keeping up. There is a general and common action to understand this across most of the groups – see below.



proportion of applications by, offers made to and acceptances by female applicants to PGT by subject group (actual numbers included). 2011-13. graph 11

Offer rates to female students are again a few points higher than application rates, but in three out of the four departments, uptake of those offers is lower than expected among females. This pattern is illustrated more clearly in the graph below, which shows the rates at which each gender takes up the offers from Aston. For taught postgraduate course, students must generally ensure funding from external loan or grant sources or from family funds. It is possible that female students are having more difficulty in securing this funding, are more averse to risk of loans, or are simply more attracted by offers from other Universities. The one exception is EEPE in which we have moved from a 10% acceptance rate to over a 25% acceptance rate in the last three years (not shown in the graph). While the numbers are modest, the proportion of women is growing. (Action 2.4)



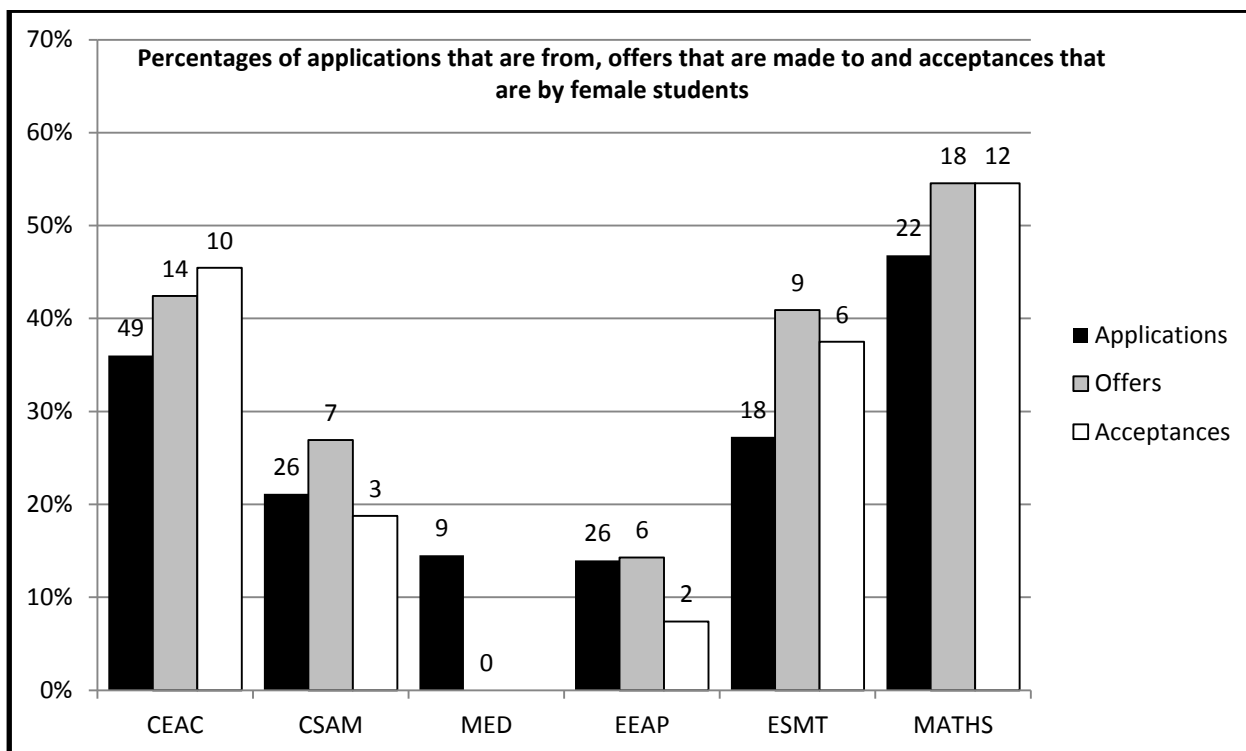
PGT acceptances by gender by subject. 2011-13. graph 12

Note that CEAC and Maths have no PGT provision. This is an important observation given our relative success with UG Maths and CEAC female (and male) intake. It is also important given our relative success with Postgraduate Research intakes in both subjects (see next section). The key lesson here is that we are missing a key opportunity to encourage both males and females into postgraduate education in Mathematics and in CEAC subjects. In addition, given our UG approach to attracting, offering and (relatively) successful levels of conversion for female applicants we are missing the opportunity to bring more women into postgraduate education in disciplines that attract them as undergraduates. Our action is to explore new PGT programmes for both disciplines. (Action 2.4)

Postgraduate Research

PG-R EAS	Applications		Offers		Acceptances	
	% Female	Total	% Female	Total	% Female	Total
2011/12	15.6%	260	27.5%	51	27.7%	36
2012/13	19.5%	221	32.7%	55	32.6%	46
2013/14	24.0%	167	33.3%	60	24.2%	33

Table 7



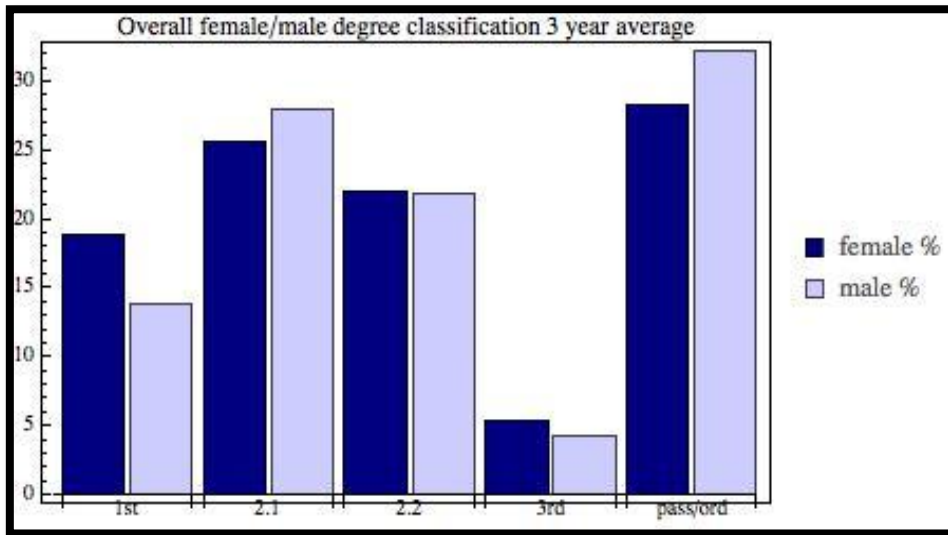
Percentages of female applications to, offers made and acceptances by for PGR programmes. 2011-13. graph 13

In general, offer and acceptance rates are quite good for female candidates.

The key exceptions are in MED and EEPE (EEAP in the graph). In MED we are concerned about the absence of offers to female research students over the past three years. However, the total number of men applying to MED PhDs was 53 with 8 offers made to men and seven acceptances. The actual number of female applicants has been low but there needs to be further investigation of why women are not attracted to apply to MED PhD posts and why the conversion rate is zero. Currently, the research appointment procedure is less transparent than that for academics, and we have proposed a specific school action (action 2.6). For MED we believe that the recent appointment of a new early career lecturer (Dr. Laura Leslie) will help, as she establishes herself as an inspiring role model and a research active supervisor.

In EEPE we observe a similar trend of low application rates of women to PhDs, though there have been two female PhDs in the last three years. Groups that have historically relatively strong proportions of female academic staff, such as CEAC, appear to attract higher proportions of female applicants and a better conversion rate from offer to acceptance. For EEPE we have appointed/promoted a number female academics that will help in a similar manner (Dr. Sonia Boscolo, Dr. Natalya Bazieva, and Dr. Elena Turitsyna).

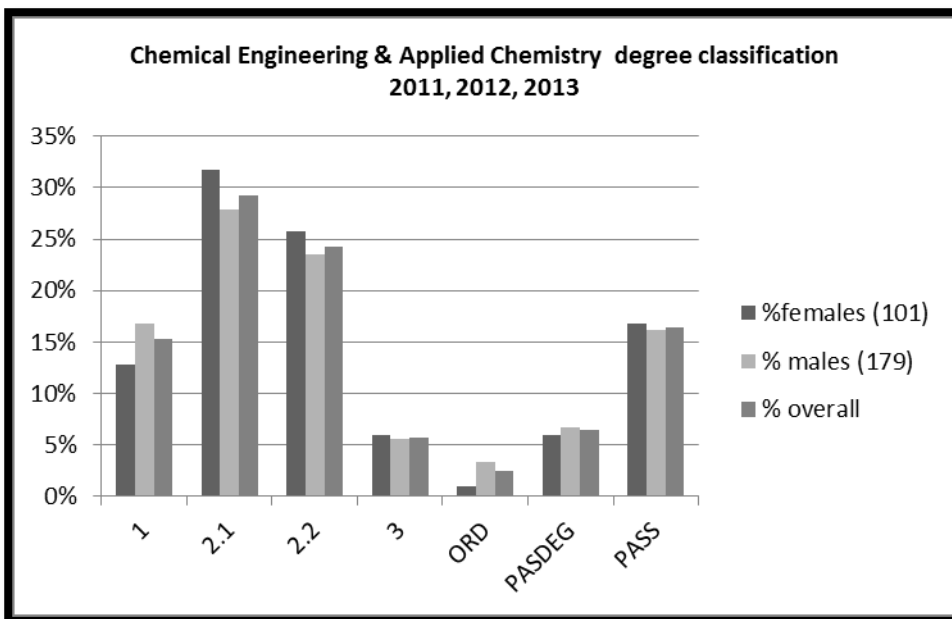
- (vi) **Degree classification by gender** – comment on any differences in degree attainment between males and females and describe what actions are being taken to address any imbalance.



Graph 14 % female: male degree classifications average over 3 years

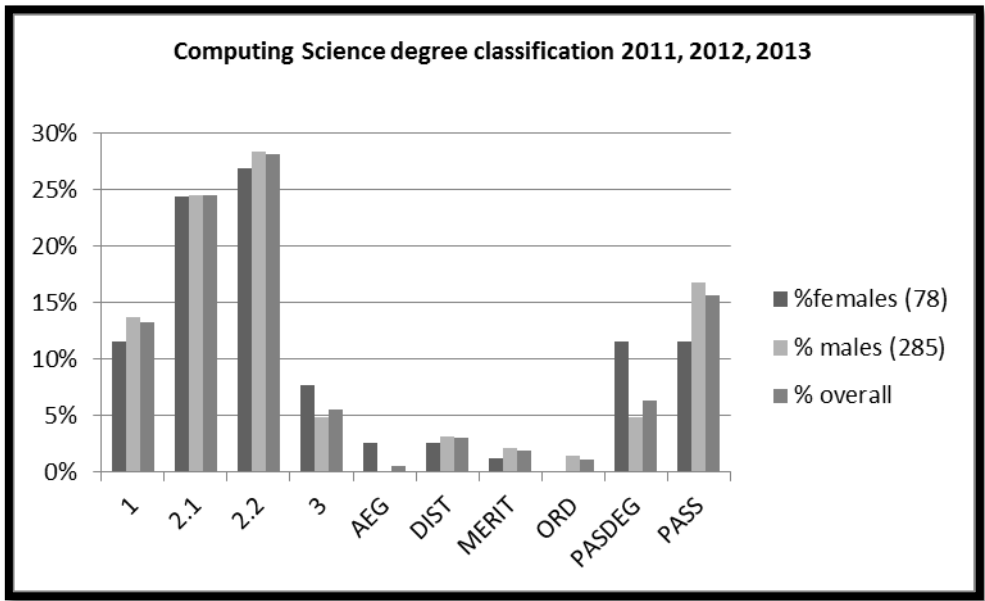
The school total degree classification breakdown by gender averaged over three years indicates that women perform better than men at certain classifications stages. Over the last three years 19% of women have achieved First class degrees in comparison to 14 % of men with First class degrees.

Detailed breakdown by group follows with graphs 15-20 and shows a more mixed picture.



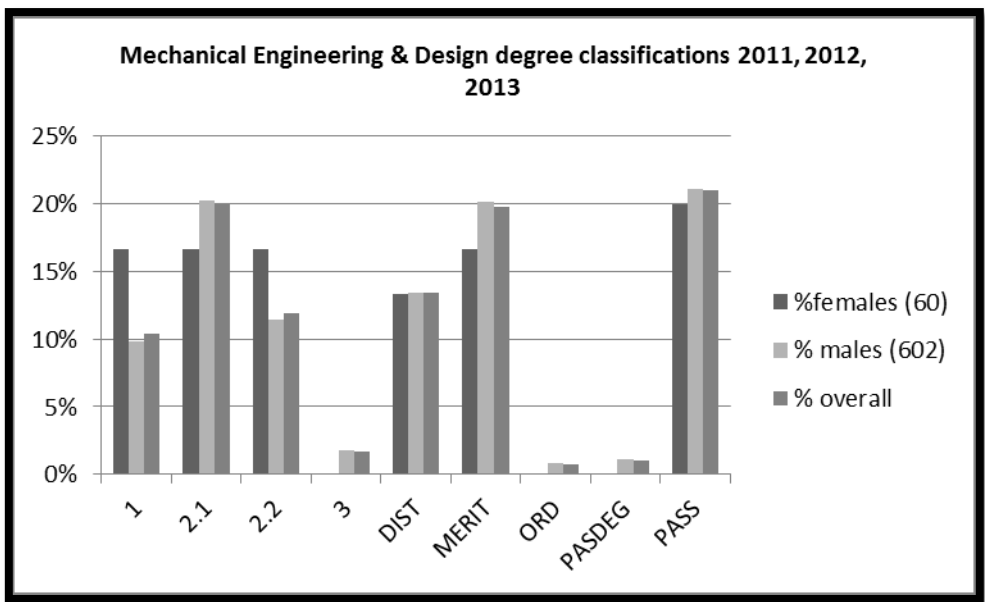
Graph 15 % by gender achieving each grade across 3 years (3 year total number in brackets)

For CEAC students the profile is less favourable to female students; more male students achieve 1st Class degrees, with females dominating 2.1 and 2.2s.



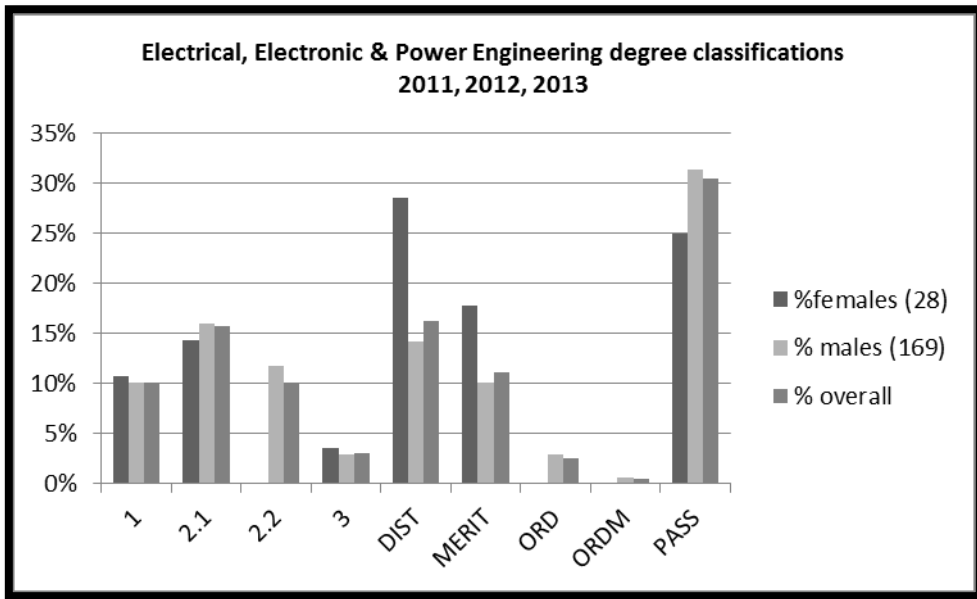
Graph 16 % by gender achieving each grade across 3 years (3 year total number in brackets)

Male and female achievement in CS is comparable at most levels.



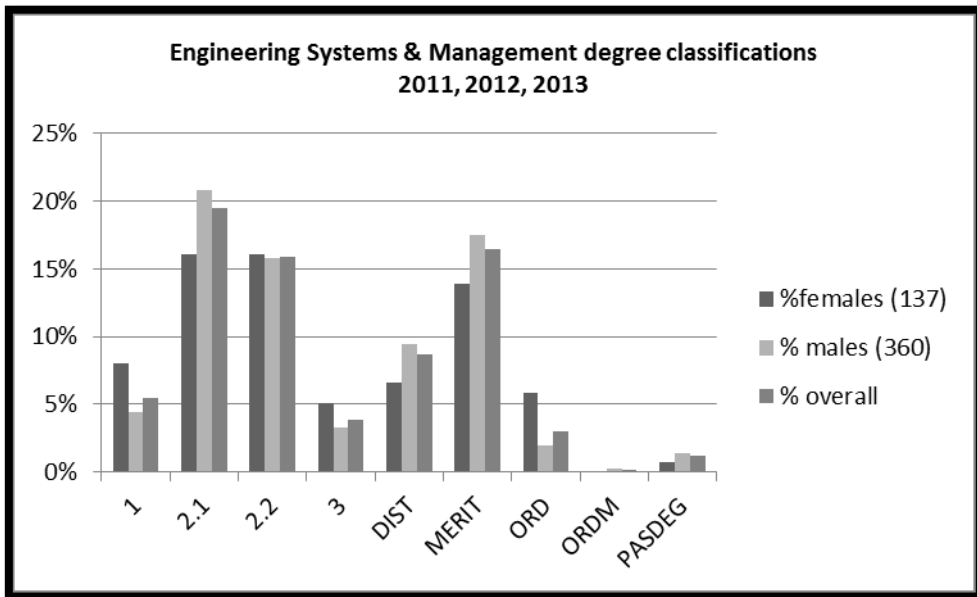
Graph 17% by gender achieving each grade across 3 years (3 year total number in brackets)

In MED female students tend to do slightly better than male students, with a higher percentage of 1st Class degrees – but the numbers are small so it’s not clear there is a trend (e.g., 9 women have firsts versus 60 men).



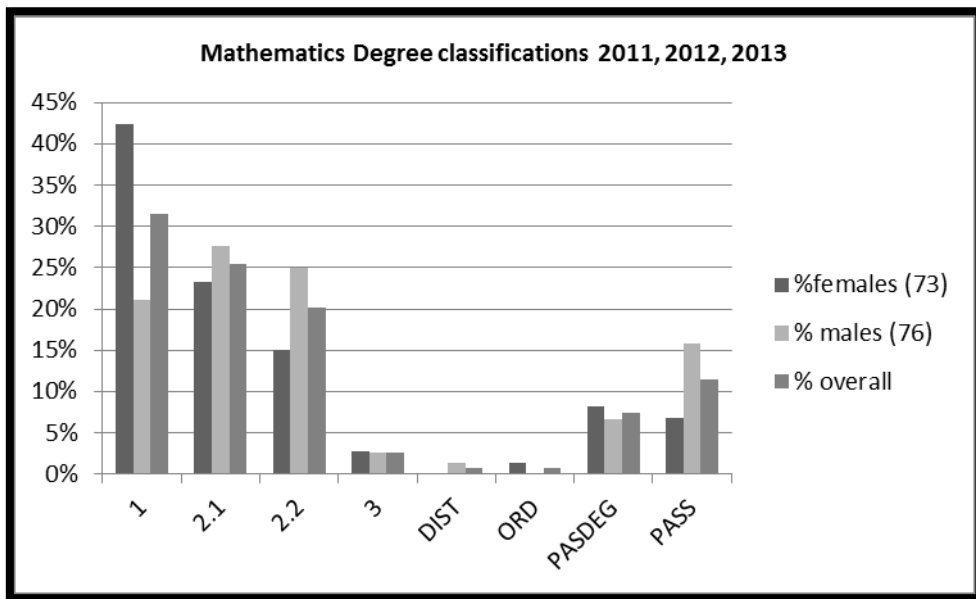
Graph 18 by gender achieving each grade across 3 years (3 year total number in brackets)

In EEPE the performance of male and female students is comparable. There are a few more female students with Distinctions (in the Foundation Degree) than male students.



Graph 19 by gender achieving each grade across 3 years (3 year total number in brackets)

Degree achievement results in ESM are similar for male and female students.

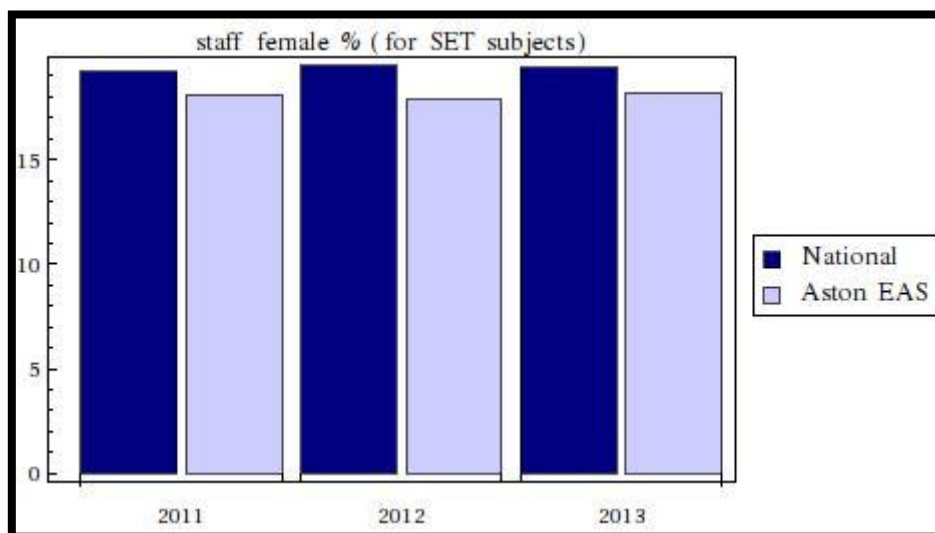


Graph 20 by gender achieving each grade across 3 years (3 year total number in brackets)

There is a strong increase in the number of female students in Mathematics earning 1st Class degrees – almost twice in absolute terms to the male students. Action 2.3.

Staff data

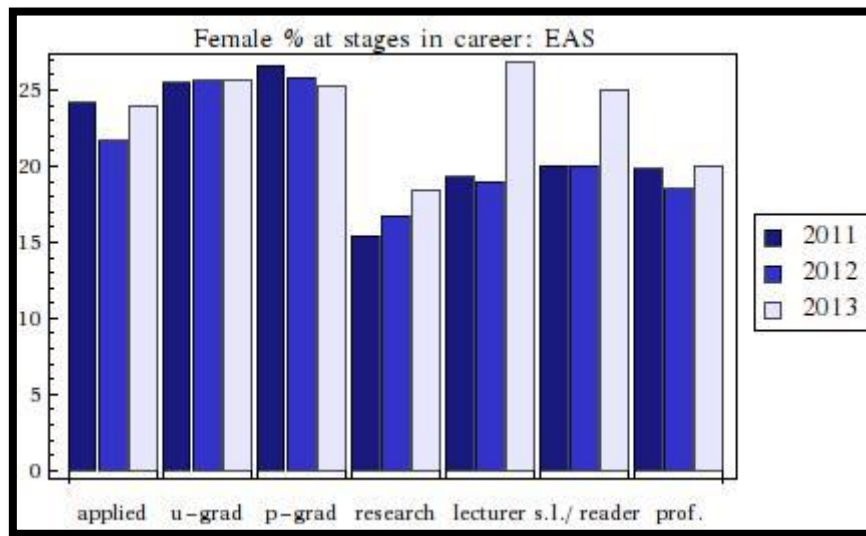
- (vii) **Female: male ratio of academic staff and research staff** – researcher, lecturer, senior lecturer, reader, professor (or equivalent). comment on any differences in numbers between males and females and say what action is being taken to address any underrepresentation at particular grades/level



Female percentage of academic staff against national benchmark. graph 21

The percentage of female staff in the School is slightly below the national average for SET subjects. Graph 21 shows a snapshot of the school over the last three years. The School averages around 17% women whilst the national average is 18%. We are keen to increase the female: male ratio of academic staff and have taken action in the last three years to address the imbalance. The School

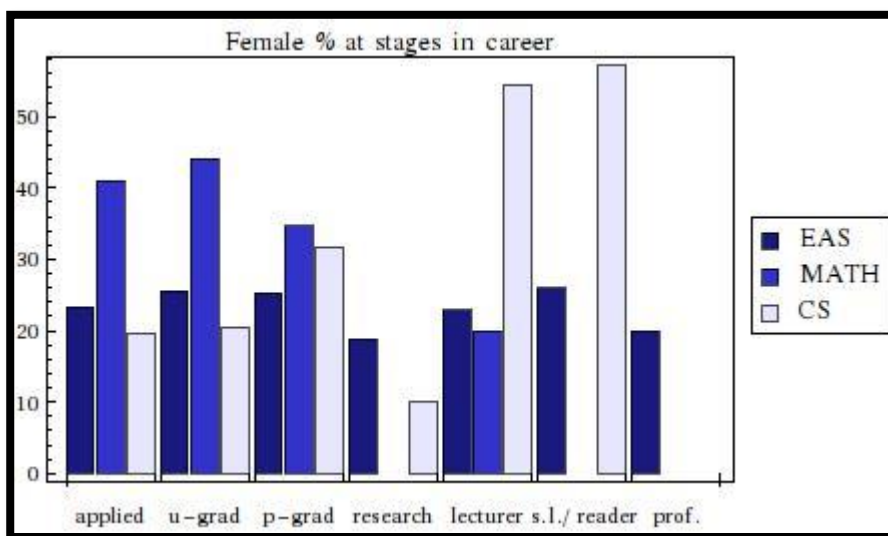
has introduced new policies in recent years to improve female recruitment, retention and promotion (appendix 2). The impact of these policies is beginning to be observed (e.g., graph 22).



Female percentage from UG through Professorial career levels by year. Graph 22

Graph 22 shows the increase in the recruitment and promotion of women at different academic levels over the last three years, from application to study through to post-doctoral positions and beyond to senior academic post such as reader and professor. Whilst the school is pleased to note the increase in the proportion of women in lecturer, senior lecturer, reader and professor posts we do note there is a weak point for post-docs. Women in EAS do progress well up to senior academic posts. Of the total professorial posts in the School, 20% are women which is above the national average, currently at 16% female professors in SET subjects³.

Graph 22 confirms low recruitment to post-doctoral posts is an issue across the school, and requires action (action 3.1).



Female percentage from UG through Professorial career levels 2013. With MATH and CS breakdown. Graph 23

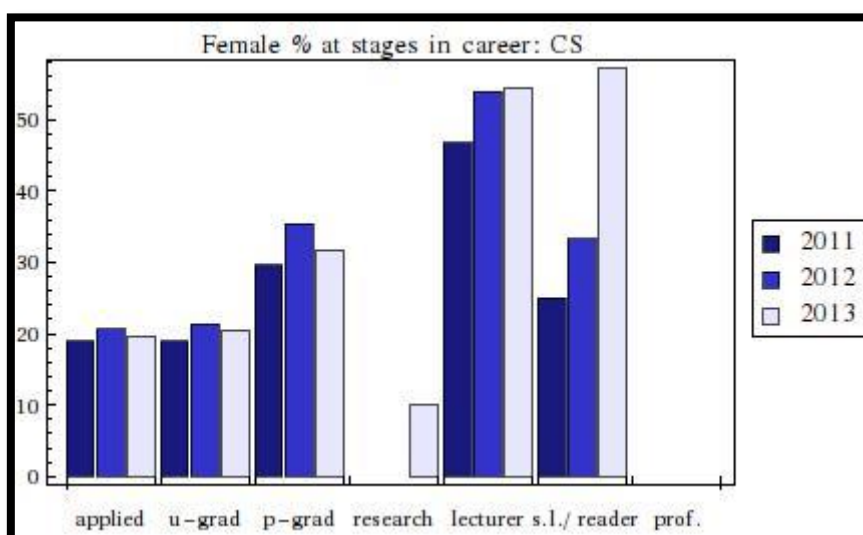
³ Equality in higher education: statistical report 2011 (2012) *Equality Challenge Unit*
25

Different groups within the school have had varying success at implementing the school policies; uniform implementation of policy forms part of the action plan (action 3.1).

We focus here on the CS Group and the Mathematics Group to provide a comparison with the overall school average in relation to female: male ratios of academic staff (Graph 23). CS has shown significant success in promoting and attracting women to senior positions (although not yet to professorial posts), but the Mathematics Group has amongst the lowest female: male staff ratio in the school.

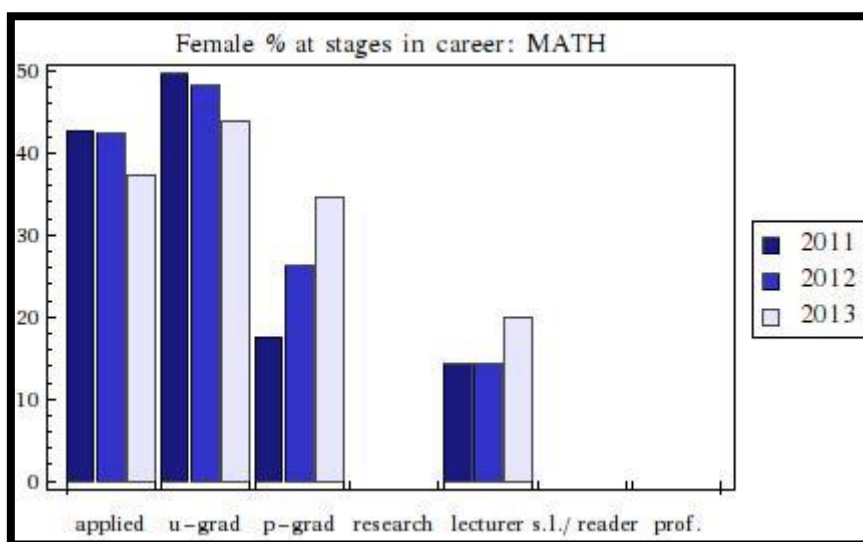
Not reflected in the data presented is a new female appointment in Mathematics made recently. School policy requires a female academic be included in the appointment panel; this also mirrors guidance provided by the London Mathematical Society and, after inviting a senior academic woman from the Computer Science group to sit on the appointment panel, the result was a female appointment into an area that had in the past been challenging to appoint.

Graphs 23-25 show overall recruitment for the past three years for each of CS and Maths – and low recruitment of women to the post-doc level in both groups is evident.



Female percentage from UG through Professorial career levels by year in CS. graph 24

The Computer Science Group has successfully promoted women academics to lecturer and senior lecturer and these have been replaced by more women at lecturer level (graph 24).



Female percentage from UG through Professorial career levels by year in MATHs. graph 25

Mathematics (graph 25) appears static although recent appointment is not showing in the data as the post will not start until January 2014.

Turnover by grade and gender – comment on any differences between men and women in turnover and say what is being done to address this. Where the number of staff leaving is small, comment on the reasons why particular individuals left.

Male and female staff turnover rates on academic and research contracts over three years						
	Female			Male		
	Total	Leavers	%	Total	Leavers	%
Research (fixed-term)	9	1	11%	49	18	37%
Academic (permanent)	23	1	4%	76	6	8%

Table 8

Turnover for female academic staff is low (table 8). Turnover is consistently higher for male members of staff in comparison to female, and for fixed term contracts than permanent. The recent female leaver left for non-work related reasons. The expected research turnover rate is about 33% for research staff. For female staff the turnover rate is lower because the School has taken action to address the post-doctoral “leakage” point for women in the school. This action has coincided with a recent school policy to look for appointing strong research candidates to academic posts within the EAS. Note that the University process does not recognise post-doctoral progression in promotion. The EAS policy (Appendix 2) is aimed at identifying potential recruitment prospects for staff on fixed-term, non-academic contracts and encouraging staff to apply for permanent posts through: (

- better communication of openings, providing support and career development opportunities;
- ensuring that key processes and policies such as appraisal and female representation on appointment panels are applied consistently across the school;

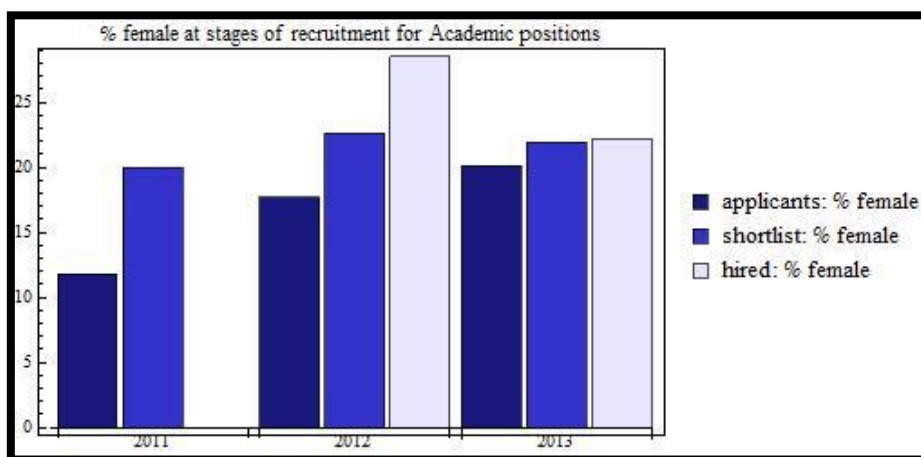
- aligning school recruitment needs with available, fixed-term or non-academic staff;
- identifying strong post-doctoral candidates as potential recruitment, eg. Tenure track initiatives.

2013/14 saw the School's first post-doctoral promotion from a Tenure Track post into a lectureship.

Supporting and advancing women's careers: maximum 5000 words (Actual 5900).

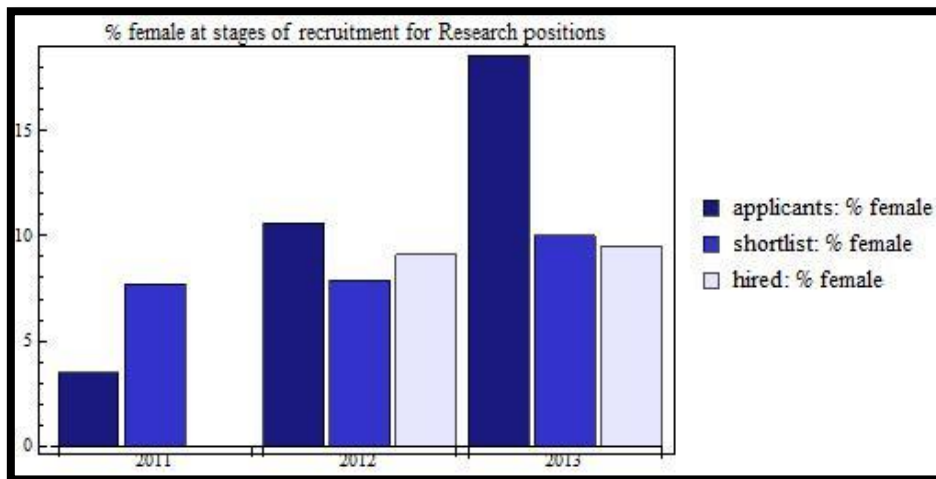
Key career transition points

- Provide data for the past three years (where possible with clearly labelled graphical illustrations) on the following with commentary on their significance and how they have affected action planning.
 - Job application and success rates by gender and grade** – comment on any differences in recruitment between men and women at any level and say what action is being taken to address this.



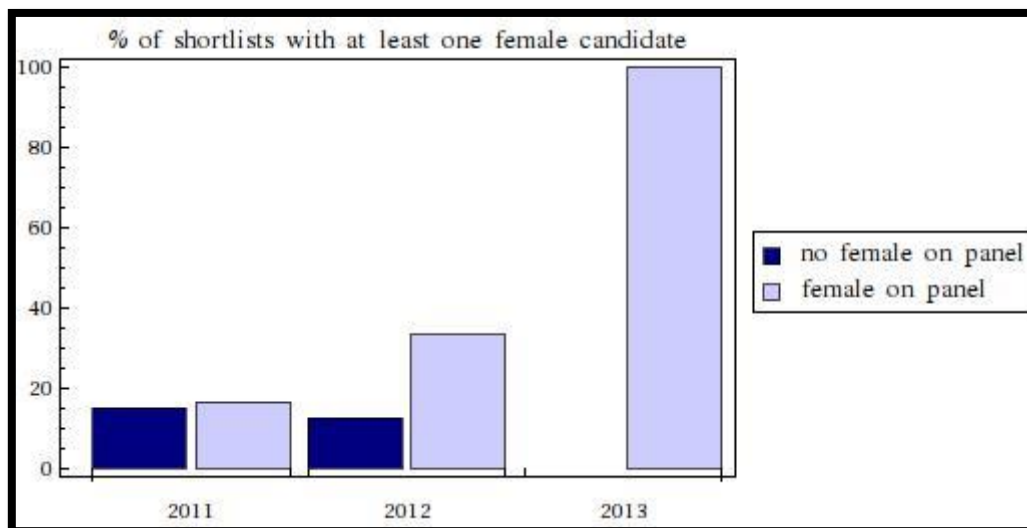
Female percentage applicants, shortlistings and appointments to Academic posts by year. graph 26

Since 2011 there is a low percentage of female: male applicants for positions although the female: male ratio of academic staff is steadily increasing at all stages of recruitment application, short-listing and hiring (graph 26). Increasing the number of female applicants is a school action (action 3.1)



Female percentage applicants, shortlistings and appointments to Research posts by year . graph 27

The percentage of women applying to research positions is low and requiring action (graph 27). See section ii: Support for Staff at key career transition points.

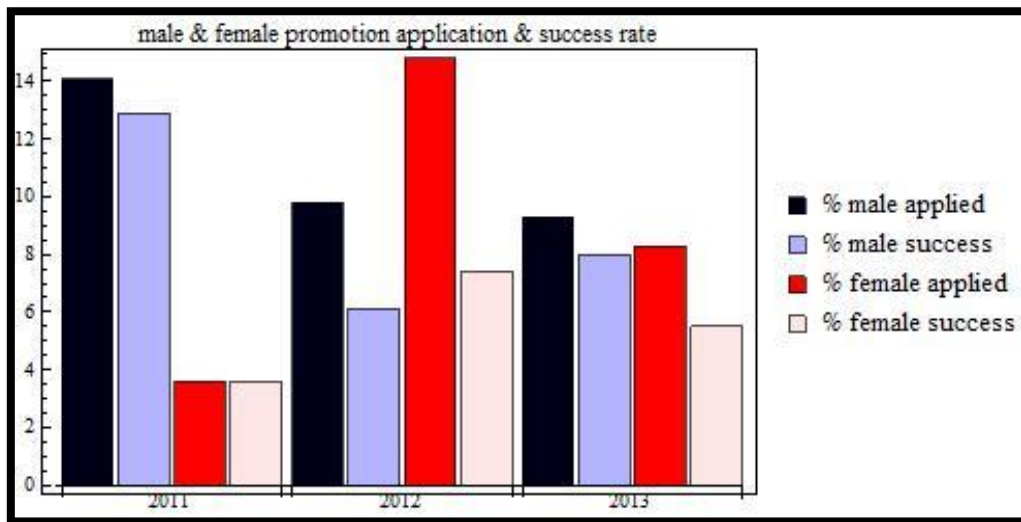


Impact on female shortlist outcomes of the Panel gender balance. graph 28

An appointment panel which has no female member, normally results in proportionally fewer female candidates being short-listed.

The data displayed (graph 28) is the percentage of shortlists with at least one female candidate over last three years for recruitment panels with and without female academic members. Since 2013 it has been school policy to have at least one female academic on each appointment panel.

Applications for promotion and success rates by gender and grade – comment on whether these differ for men and women and if they do explain what action may be taken. Where the number of women is small applicants may comment on specific examples of where women have been through the promotion process. Explain how potential candidates are identified.



Male and Female promotion application and success rates by year. graph 29

The academic promotion system is managed within the School, although based on a University process. All members of staff are invited to apply and the process is widely published. Potential applicants are encouraged to meet with the School's Executive Dean, Group Heads, Associate Deans and the relevant Pro-Vice-Chancellors to review the case before submission, help to formulate or strengthen the case or decide whether or not to take it forward. The Executive Dean works very closely in partnership with Group Heads or managers to support individuals and make submissions as strong as possible. Submissions are made to the School panel and HR advisor. The school panel of Group Heads, Professors and the Executive Dean meet to review cases and decide whether they should be supported by the school for the subsequent University panel. The process is supportive and focused on the long-term career of the individual.

Performance Development Reviews (PDRs) form the annual appraisal process (typically taking place 6 months prior to promotion meetings) and managers are encouraged to use these to help staff plan and prepare for promotion. This begins for some staff with their initial appointment to a fixed five year term; in that period they must develop and demonstrate their capacity for research and/or teaching to a level to warrant transferring them to a permanent appointment. For staff at all levels, effective use of the PDR process of planning and monitoring is critically important. As the process requires candidates to put themselves forward, the school management team discusses candidates to ensure that 'quieter' or less extrovert members of staff are not missed. The Executive Dean, Group Heads and line managers actively encourage participation.

The proportion of women being promoted has historically been low and action has been taken to encourage women to apply for promotion. The aim of the "EAS Gender Equality in Senior Positions" policy (Appendix 2) has been to improve the balance of female to male appointees to senior school positions and attract female academic staff to apply to senior school posts impacting a shift in the school's culture and infrastructure. In 2012 there was a substantial effort made to identify and support women applying for promotion and the female: male ratio of application to promotion is becoming more equal (Graph 29). The School has improved communications around promotions and actively encouraged and mentored staff through the process. For those who were unsuccessful, mentors and line managers ensured the candidates and themselves learnt from the experience for future resubmission.

For example Dr Laura Leslie was identified as a possible promotion candidate by her strong track record in research and teaching on the "Active Engineering" CDIO programmes in Mechanical

Engineering and Design. Laura was promoted from a post-doc post to a lecturer position in 2013. And Dr Maria Chli was identified as a School candidate for submission to the 2014 REF and as such another potential candidate for promotion. Maria was promoted to senior lecturer in 2013.

It is noted that due to the substantial increase in 2012 the proportion of women applying in 2013 was smaller. This trend can be observed in more detail on a school and group level in graphs 22-24.

For each of the areas below, explain what the key issues are in the department, what steps have been taken to address any imbalances, what success/impact has been achieved so far and what additional steps may be needed.

- (i) **Recruitment of staff** – comment on how the department’s recruitment processes ensure that female candidates are attracted to apply, and how the department ensures its short listing, selection processes and criteria comply with the university’s equal opportunities policies

The applicant gender balance is acceptable; applications of female candidates are increasing overall, and shortlisting is improving. Major deficiencies are in the post-doc area, and we discuss improvements in the next section (ii).

The School takes a pro-active approach in attracting the right female candidate for positions. There is now a focus in the school to make advertisements and job descriptions more attractive to women. Recruiting managers are encouraged to make use of our extensive network to encourage people to apply, as in the case of the recent appointment of Professor Karen Wilson.

However more could be done in the area of job descriptions and advertisements to highlight School flexibility and family friendliness (action 3.1).

The School’s HR advisor ensures that advertisements and the process for recruitment are compliant with Aston’s equal opportunities policies. Training is provided by the University’s Human Resources Department to ensure Chairs of panels are compliant with Equality and Diversity policies and procedures.

- (ii) **Support for staff at key career transition points** – having identified key areas of attrition of female staff in the department, comment on any interventions, programmes and activities that support women at the crucial stages, such as personal development training, opportunities for networking, mentoring programmes and leadership training. Identify which have been found to work best at the different career stages.

The post-doctoral career point has been identified by the team and SMT as an area of recruitment and retention for staff which needs to be improved. We will review the process of appointment to post-doctoral positions to make the process more transparent and ensure compliance with school recruitment policy (Appendix 2). The School has also identified funding to be made available on an annual process to female post-docs in EAS in order to help them progress to the next stage of their career. The funding will be made available on an application basis and is aimed at providing financial support for workshops, conferences, training events and other activities related to career progression at post-doctoral level. This action also includes the need to require staff recruiting to the post-doctoral post to identify a wider range of candidates (action 3.1).

Another key career transition point that has been recognised as requiring greater school action is the transition from lecturer and senior lecturer to reader or professorial roles. In the last three years there has been a cultural shift in EAS and an increase in the number of female appointments to professors and senior academic posts such as Group Head (table 9). In 2009/10 there were no female Group Heads in the School and in 2013/14 there are two Heads, plus one female Associate Dean. In 2009/10 there were two female Professors and in 2013/14 there are now four. The following measures were put in place to increase female appointments to senior academic positions:

- Identifying and encouraging women academics to apply for promotion.
- Proactively seeking female academics to recruitment to senior positions
- Providing support and mentoring opportunities for women to enable the transition to senior academic posts;
- Providing funding and practical support, such as time, to attend leadership and management training events. For example, in 2013/14 two female academics in EAS will attend the Aurora Leadership⁴ programme.

The increase in female senior academics in EAS has led to a wider pool from which to provide mentoring support at senior positions, role models for other staff, female representation on appointment panels and indicates a cultural shift towards greater gender equality at the senior management level. However, these are relatively recent changes in the School's culture and infrastructure and will continue to be encouraged and embedded within the school's ethos (actions 3.3 and 5.1).

Specific examples of the recent successful promotion of women in EAS include Professor Lin Zhang who was promoted to Group Head in 2013. Lin previously held the role of School Director of Research Degree Programmes. Lin has been mentored into the role by internal school staff, including the previous Group Head Professor Dave Webb and Professor Sahar Al-Malaika, the Group Head for CEAC. Lin also has an external to the School mentor, Ann Hartley, Associate Director of HR.

Year	Female	%	Male
Group Heads			
2013/14	2	20%	3
2012/13	1	23%	4
2011/12	1	14%	6
Programme Directors			
2013/14	3	67%	15
2012/13	3	25%	13
2011/12	2	17%	14

Table 9: % Female management positions in the School over 3 years

Career development

⁴ <http://www.lfhe.ac.uk/en/programmes-events/you/aurora/index.cfm>

- a) For each of the areas below, explain what the key issues are in the department, what steps have been taken to address any imbalances, what success/impact has been achieved so far and what additional steps may be needed.
- (i) **Promotion and career development** – comment on the appraisal and career development process, and promotion criteria and whether these take into consideration responsibilities for teaching, research, administration, pastoral work and outreach work; is quality of work emphasised over quantity of work?

Aston University offers its staff multiple paths for academic promotion and the School has taken advantage of this to recognise and celebrate a more inclusive and diverse culture. The traditional path is through excellence in research and is demonstrated through peer reviewed outputs, research awards, academic esteem indicators at different levels depending on the grade sought (i.e., Lecturer, Senior Lecturer, Reader, Professor). Aston has innovated in the introduction of a learning & teaching path for staff who have demonstrated excellence in the development and delivery of learning and teaching materials and have shown major impact in enhancing students' learning experiences. As with the research promotion path, the level sought will determine the expectation of impact achieved – e.g., ranging from brilliant teaching at lower levels to making major innovations in programme content and delivery techniques with potentially national impact. For example, in the last two years the School promoted a number of staff to Senior Lecturer and also to Reader using this new and important pathway.

The School complies with the University's appraisal process which is called the Performance Development Review (PDR) and occurs annually. Line managers hold annual meetings with all their staff during which an individual's performance over the previous year is considered and objectives and plans are outlined for the forthcoming period. Line managers are encouraged to take advantage of the training for appraisers. Line managers then use the meeting as an opportunity to identify training needs, mentoring and personal development opportunities as well as assessing an individual's promotion prospects. This is an opportunity to consider any development issues, discuss training opportunities and signpost training programmes available through Staff Development and identify a mentor and discuss the mentoring relationship, if needed. Staff views regarding the PDR process as it is managed within the School are being sought in a survey of all EAS academic staff, including post-doctoral staff, and will be analysed and actioned in response to staff feedback (action 5.4).

Quality of work is recognised over quantity. For example, Dr Maria Chli, a lecturer in Computer Science had been identified during the 2012/13 appraisal and promotion process as being a candidate for promotion to Senior Lecturer. Despite producing a relatively small research output in comparison to colleagues, the impact of Maria's research was of a significant standard to warrant being included in the 2014 REF submission. Maria was successfully promoted to Senior Lecturer in July 2013.

For the 2014 REF, despite being more selective in the submission and submitting a lower proportion of staff, EAS data shows that 17 out of the possible 27 eligible females were submitted (62.96%) and 53 out of the possible 78 (67.95%) men were submitted. This indicates the proportions of male and female being submitted are within 5% of each other. Additional opportunities to support and enhance research output for academic staff at all levels, from post-doc onwards, are included in the action plan (action 4.1 & 4.2).

- (ii) **Induction and training** – describe the support provided to new staff at all levels, as well as details of any gender equality training. To what extent are good employment practices in the institution, such as opportunities for networking, the flexible working policy, and professional and personal development opportunities promoted to staff from the outset?

The University and the School recognise the importance of the induction process as an essential and effective way of integrating staff into the organisation and it is used to inform staff about policies and facilities as well as an opportunity to discuss the organisation in terms of values and culture. The University process is complemented by the School's local induction policy which involves timely and regular meetings between the manager and the new member of staff, the opportunity to have an induction buddy (a person other than the line manager) and the completion of a checklist containing items regarding University and School policies and procedures, location and facilities, Health and Safety, meeting key staff, staff development opportunities and technical support. These items are phased at appropriate intervals over the first four weeks of employment so that staff are not bombarded with information and overwhelmed at the beginning of their new appointment.

In addition to this the School has developed the "EAS On-boarding Process" for new academic and research staff. New staff are encouraged to make appointments with the School's Research Development Manager and the Head of the Business Development Unit to discuss current research activity and plans for the future. Research funding is made available to early career researchers to act as a catalyst to establish their research (£10k over three years). The EAS Research Development Manager provides advice, guidance and support for early career researchers and helps them develop a five year plan to manage research aspirations and plan and prepare for their career development. Group Heads take care to limit the amount of teaching for new starters to allow staff time to adjust and establish themselves. The School load model is used here to ensure that teaching load and administrative roles are distributed fairly and consistently, within Groups and across the School.

In order to further embed the culture and ethos of Equality and Diversity initiatives into the School induction process and communicate to new staff the importance of the School's action plan developed for Athena Swan, the annually updated action plan will be added to the School induction checklist and staff will be offered the opportunity to join the Athena Swan team (action 5.2). The membership of this team will be formed on rotating basis, of fixed two year terms, to ensure the vitality and sustainability of the membership.

School staff feedback on the effectiveness and usefulness of the induction process is currently being gathered. Reviewing staff feedback regarding the effectiveness of the induction process, including what could be improved, is an action for the team to take forward (action 5.4).

Support for female students – describe the support (formal and informal) provided for female students to enable them to make the transition to a sustainable academic career, particularly from postgraduate to researcher, such as mentoring, seminars and pastoral support and the right to request a female personal tutor. Comment on whether these activities are run by female staff and how this work is formally recognised by the department.

Supporting female students once they arrive at Aston is also a priority (Action 2.2) and part of our strategy here revolves around mentoring. There are few problems in encouraging female students to engage in peer mentoring - in fact they are currently over-represented, making up 77% of our 9

student tutors in the past academic year! While this makes it easier for us to arrange female-female mentoring, we are concerned to properly and formally value the time committed by these students. Peer mentoring experience is something which is often highly valued by graduate employers, so it is mentioned in student references and recorded on student transcripts, allowing these (mainly female!) participants to substantially enhance their employment prospects.

The placement opportunities provided by the School's sandwich programmes are an important part of the EAS student experience at Aston and support whilst on an industrial placement is provided by the School Placement Tutors, the School Centre and the University Placements Team. Placement tutors are academic staff who teach on the programme the student is studying and are available for advice, guidance and support whilst the student is in the workplace. In addition to this, the placement tutor will visit at least once and assess the student's adaption and progress whilst on placement. If any problem occurs students are clearly signposted to contact the School or University contact they feel most comfortable approaching. The success of a year spent in industry on a student's achievement and degree classification can be substantial and all students are strongly encouraged to take the opportunity to experience a placement whilst at Aston. The impact of their future careers can be seen by ensuring that women are staying in science post-graduation and helping to nurture the future generation of women scientists.

Research and PhD students in EAS have received specific attention to improve retention and completion rates. The School's Research Strategy Committee implemented the following measures in recent years:

- Introducing a comprehensive research student handbook;
- Facilitating the establishment of a school research student society;
- The appointment of an associate supervisor for each research students;
- Asking all research students to complete monthly records of their activities via MAP (My Aston Portal; the University's student record interface) so that we can monitor engagement.

As a result of this action the total number of female students in EAS (awarded and continuing) has risen from a low point of only 2 out of 27 in 2005/6 (7%) and shows improvement to the current figure for 2012/13 of 11 out of 30 (awarded and continuing) at 36%.

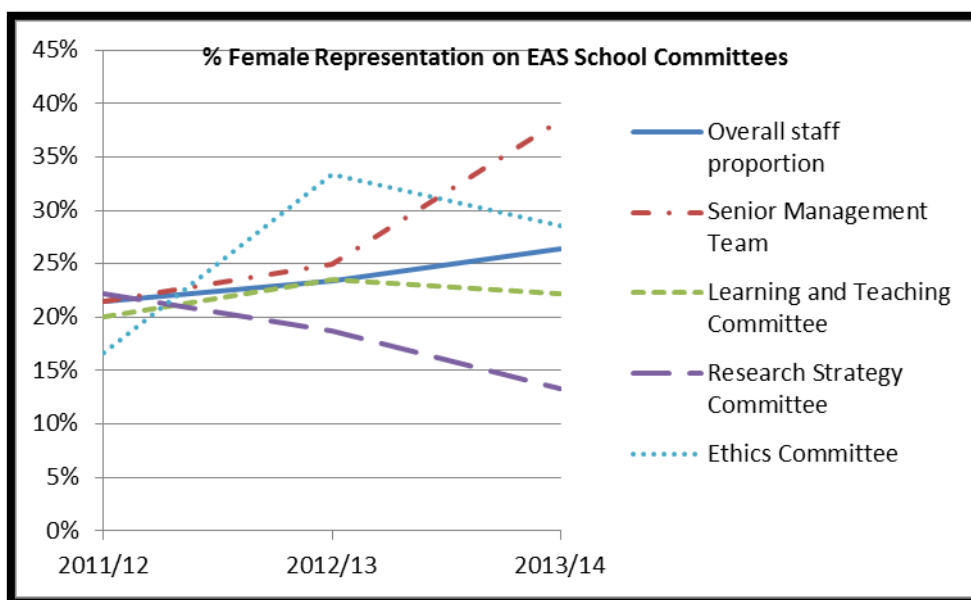
The School has supported the development of support structures beyond the formal, School and University managed processes. For example, the School has aided the development of the EAS Women's Society, founded by an undergraduate student, Fenchi Arquissandas, who was inspired after attending the Women in Engineering Society (WES) Conference at Aston University in 2012. In 2013 EAS provided funding for 18 free places for undergraduate EAS students at the WES Conference held at Aston in November. Below is feedback from an EAS student following the event:

"After attending, I have been convinced that engineering is the right way for me, because I love solving problems, travelling and meeting new people to share my thoughts and suggests ideas, make improvements...I also set myself a target after attending this event as to what I really want. And that is to become a Chartered Engineer, and very few women have that status, and even lesser from my ethnic background." Ayisha Choudhury, MEng Chemical Engineering (Final Year)

Organisation and culture

a) Provide data for the past three years (where possible with clearly labelled graphical illustrations) on the following with commentary on their significance and how they have affected action planning.

(i) **Male and female representation on committees** – provide a breakdown by committee and explain any differences between male and female representation. Explain how potential members are identified.



Percentage of female representation on School Committees over 3 years. graph 30

Graph 30 shows that over the past three years the overall female representation is increasing and is now very close to a fair representation of women staff. The most notable increase in female membership is on the most influential of the committees, the School Management Team. Women are now particularly strongly represented on this key strategy and decision-making body because of the increase in female appointments to professorships and to Group Head status. The only committee where this trend is not observed is the Ethics committee, whose numbers are very low and where the recent withdrawal of a single member of staff has therefore had a disproportionate impact.

Representation by EAS female staff is also strong outside the School: the University recently reviewed and rationalised the number of central committees and EAS is represented across the committee structure. A female Professor (Lin Zhang) is the School academic representative on the Graduate School Management Committee, which is a sub-committee of the University Research Committee. The School's Senate representatives include both male and female academic staff, including Professor Sahar Al-Malaika and Dr Jane Andrews from EAS. There are also a number of University-wide working groups which form sub-committees of University Learning and Teaching Committee. For example, Dr Lucy Bastin is joint EAS representative on Learning Technologies Working Group (with Jules Forrest, School Quality Officer), and Rebecca Aggarwal, a Postgraduate research student, held offices as the student representative on Graduate School Management Committee in 2012/13 and President of the EAS School Research Society.

The EAS Industry Advisory Board (IAB) membership has recently been expanded. Two female participants have been approached, one of whom is a recent former student, Madeleine Jones a

Nuclear Process Engineer, who has accepted and will provide an invaluable link for the EAS IAB by representing recent graduates.

- (ii) **Female: male ratio of academic and research staff on fixed-term contracts and open-ended (permanent) contracts** – comment on any differences between male and female staff representation on fixed-term contracts and say what is being done to address them.

Research contracts such as postdoctoral positions are typically fixed term, and historically attract far fewer female candidates. In EAS numbers of women employed in research have risen and currently the fixed-term/permanent proportion is roughly equal between genders at 75% for women and 81% for men (table 10).

Percentage of male and of female employed staff in a category who are on fixed-term contracts						
	Research			Academic		
	Female	Male	% of all research contracts which are fixed-term	Female	Male	% of all academic contracts which are fixed-term
2011	13% (1)	82% (32)	70%	35% (6)	39% (31)	39%
2012	25% (2)	80% (35)	71%	22% (4)	34% (26)	32%
2013	75% (9)	81% (43)	80%	28% (7)	30% (26)	30%

table 10

When it comes to academic posts, the proportions of male and female staff on fixed term staff are roughly equal, but slightly higher for men. We have a relatively high proportion of staff on fixed-term contracts because all junior academic members (at grade 8 or 9) are for five year fixed-term probationary appointments. Most convert after five years to a permanent position. Fixed-term contracts are also used to provide cover for maternity leave, sabbaticals or secondments to research projects. For both genders, the proportion of permanent posts is increasing as we attempt to retain and support high-quality staff. In 2012/13 the School has moved four female members of academic staff (Dr Jane Andrews, Dr Sonia Boscolo, Dr Laura Leslie and Dr Elena Turitsyna) from fixed-term to permanent contracts. This reflects action taken following the implementation of the School policy ('Flexible entry routes into academic permanent positions') to address the critical stages in academic career progression. Our Action Plan has specific objectives (Actions 3.1 and 3.3) aimed at encouraging both external and internal female applicants for permanent posts and promotions.

- b) For each of the areas below, explain what the key issues are in the department, what steps have been taken to address any imbalances, what success/impact has been achieved so far and what additional steps may be needed.

- (i) **Representation on decision-making committees** – comment on evidence of gender equality in the mechanism for selecting representatives. What evidence is there that women are encouraged to sit on a range of influential committees inside and outside the department? How is the issue of 'committee overload' addressed where there are small numbers of female staff?

Committee membership is required for, and open to, all staff with relevant responsibilities. For example, all Heads of Group are members of the School Management Committee, and Programme Directors are eligible to participate in the Learning and Teaching Committee. We would expect,

therefore, that an equal process of selection and a fair proportion of women at senior levels would automatically lead to proportionate representation of the genders on those committees and this is observed in our recent statistics (graph 30). If we observe departures from this pattern (Action 3.2), we will carefully review the committee appointment and selection process.

Our priority is to ensure fair representation of women on internal and external committees in EAS without overburdening low numbers of female staff. However where expected numbers would therefore be very low, we will ensure at least one female member on each committee. In order to assess the impact of administrative duties on female staff we include committee duties as an element in the workload model for all staff (Action 3.2).

- (ii) **Workload model** – describe the systems in place to ensure that workload allocations, including pastoral and administrative responsibilities (including the responsibility for work on women and science) are taken into account at appraisal and in promotion criteria. Comment on the rotation of responsibilities e.g. responsibilities with a heavy workload and those that are seen as good for an individual’s career.

We have a School-wide workload model which automatically records the teaching, tutoring and supervision load of academics while allowing administrative, research, business engagement, outreach and other commitments to be added by the individual. The workload database was rolled out across the School this year to harmonise information and to ease transparent evaluation and adjustment of workloads. Staff routinely discuss their workloads with the line manager at their yearly PDR, but the availability of this central resource makes it easier to transparently and consistently identify excessive loads or imbalance. We aim to continue development of this workload database and the associated reporting tools so that all staff have equal opportunities to contribute in areas seen as high-profile and strategically important for the University. In particular, we have designated outreach as a specific category in order to quantify and reward this category of work, which has been historically female-dominated. The overall goal is to achieve fairness and transparency whilst recognizing individual variations in work patterns, particularly when applying for promotion.

- (iii) **Timing of departmental meetings and social gatherings** – provide evidence of consideration for those with family responsibilities, for example what the department considers to be core hours and whether there is a more flexible system in place.

Core working hours for the School are 10am to 4pm Monday to Friday. All formal meetings are held within these hours with few starting before 10:00. Where staff work part-time, wherever possible, meetings are scheduled during their normal working hours. Where it is not possible, meeting times are varied to cover absence. In particular, School meetings are scheduled at the start of each academic year so that advance planning is possible.

The teaching timetable is planned with the flexible working requirements of staff in mind. Staff who have parental or childcare requirements are encouraged to supply “unavailability” forms to the School Timetabling Officer in order that their flexible working arrangements can be reflected

in the timetabling for each teaching period. At a recent review of timetabling data requirements it was estimated that 30% of EAS teaching staff were accommodated due to flexible and part-time working patterns.

School social events are usually held within core working hours in order to be inclusive to all staff, regardless of gender or culture. The School has recently started holding more social events and informal School Meetings (6 per year) for all staff. These are being used to recognise significant individual or team contributions and projects as well as share plans and other news. These events have been well-received and are helping to further develop a sense of community and recognise achievement.

At these events, Athena Swan will be routinely referenced in order to further promote awareness of the aims; visibility will also be increased on the EAS website and good practice will be shared. (Action 5.1).



(iv) **Culture** –demonstrate how the department is female-friendly and inclusive.

‘Culture’ refers to the language, behaviours and other informal interactions that characterise the atmosphere of the department, and includes all staff and students.

Our School is extremely diverse in races, nationalities and cultures, and we are fortunate that this frequently spurs us to actively consider cultural sensitivities. The rich variety of our staff and students can easily create opportunities for offense, whether these relate to gender or to other issues such as religion, and the School has developed a sympathetic and sensitive approach to dealing with cultural issues in relation to both staff and students. Each group has its own common space and a scheduled time each week when staff and postgraduate students gather together. In some groups this time slot is specifically kept free of timetabled teaching, and it is always within core working hours. This supplements the School-level social events and supports morale and informal communication.

The School Centre Office has informal social space where staff can gather and is often used for staff social events, both formal and informal. Student social and study areas have been highlighted in student feedback as being an important part of the overall EAS student experience and learning opportunities provided by the School. New space for students to study and socialised has was identified in 2012/13.

EAS has recently initiated and provided funding for a ‘Women Leaders in Engineering and Science’ year long seminar series. These lectures (open to staff and students alike) will highlight successful female role models within the University and more widely. The first seminar took place in November of this year and was delivered by Professor Dame Julia King CBE, VC of the University and Engineer with extensive track record of successful achievement in both academia and industry. Other invited speakers include Professor Alison Halstead (a member of Aston’s Senior

Executive and trained chemist) and Dr Anna Hine, a Reader at Aston working on protein engineering and the BBSRC Commercial Innovator of the year 2013.

The School has a number of visiting Professors and leading researchers who visit to explore research opportunities with school staff and also provide technical lectures for research students and groups on particular topics. The School has recently begun to utilise these visitors to give an additional lecture available to EAS staff and students about the high points and challenges of a career in SET subjects in academia. In October 2013 Professor Laurette Tuckerman, Research Director of the 'Physics and Mechanics of Heterogeneous Media Laboratory' at The City of Paris Industrial Physics and Chemistry Higher Educational Institution, gave the following lecture: "A life between math and physics, between career and family, between America and Europe." The vibrant discussion that followed the lecture went on far beyond the allotted time. The next speaker is Dame Margaret Bell, University of Newcastle, who will visit in February 2014 for a technical lecture and will speak separately about her career.

- (v) **Outreach activities** – comment on the level of participation by female and male staff in outreach activities with schools and colleges and other centres. Describe who the programmes are aimed at, and how this activity is formally recognised as part of the workload model and in appraisal and promotion processes.

Aston's School of Engineering and Applied Science offers a variety of outreach activities including open days, residential courses, undergraduate mentoring in schools, Masterclasses, school visits, sixth-form conferences, hosting the British Science Festival and public lectures. Historically, these activities were disproportionately carried out by female staff, possibly because of a perception that outreach (particularly with schools) does not raise an academic profile significantly.

Over the past two years we have worked to rebalance this situation in several ways. Firstly, staff are expected to participate in these activities through shadowing to share knowledge and make these activities more sustainable in the long run. The early results appear positive – 21% of male staff and 36% of female staff are now actively involved in outreach activities. For the first year, we have equal numbers of male- and female-led Masterclasses, and staff participation on our residential Headstart and Smallpiece courses was also roughly equal. Secondly, outreach is being more explicitly valued as a component in the workload model (see Section ii, Workload Model) and the School culture in general. In 2010, Aston University hosted the British Science Festival, with a roughly equal number of presentations from Aston staff of either gender. British Science Festival events often generate significant media coverage, and Athena Swan committee members were very encouraged by this level of gender representation at the more prestigious end of the outreach scale, and aim to maintain this when the Festival returns in 2014. Attendance at the Festival was 51 % female.

The other side of gender parity in outreach is ensuring access to female students and expanding the horizons of students with great aptitude who might not have traditionally have considered STEM subjects. Our University-wide Schools Liaison and Widening Participation teams do an excellent job of targeting girls' schools and girls within mixed schools, and gradually we are raising the proportions of female students attending (and enjoying!) our STEM outreach sessions. Our Action items 2.1 and 2.4 explicitly aims to attract more female applicants, and we are already having some success in this area. Over the past three years, we have raised the proportion of girls on our residential Computing Headstart course from 10% to 20% - slow work, but progress all the same – and a recent Smallpiece Trust course on Photonics and sensors attracted 9 female students from a total of 28. Of the 1017 students selecting our STEM outreach activities in 2012-13, 17%

were female – a significant increase on previous years. We are keen to design activities aimed at girls more specifically, and next year will try to attract enough female students to the Headstart course to run an Engineering Development Trust ‘Dragonfly Day’, where female attendees go out into schools. Mentoring within the school environment can be a more productive approach than a University visit, in terms of culture and behaviour change, so we liaise with the University’s Mentoring Support team in designing these activities. In the past year, 5 of our 14 AimHigher mentors working with local schools were female - a proportion which represents a good balance between providing female role models and requiring male students to also engage in what can be seen as a ‘soft’ activity.

The School has a partnership agreement with a local teacher training college (Newman College) so that undergraduates in Computing Science, Chemistry or Maths may take on the training necessary to teach in schools under the revised curriculum. In this endeavour, too, enabling female access to the typically male-dominated field of Computer Science will be a priority.

The School has been active in supporting women’s societies, and societies founded by women, in EAS. These societies, such as the Aston University Women’s Engineering Society (AUWES) and Engineers without Borders (EwB), have been invaluable in supporting EAS Outreach activities by organising events and reaching out to younger students about the exciting world of Engineering and Science. School support has been provided in the form of funds and staff to help establish the societies.

Rebecca Aggarawal, recently completed her PhD in EAS, and also chaired the Engineering Postgraduate Research Society (EPRS) in 2012/13. Rebecca is a STEM ambassador and visits schools around Birmingham promoting careers in Engineering and EAS.

Flexibility and managing career breaks

- a) Provide data for the past three years (where possible with clearly labelled graphical illustrations) on the following with commentary on their significance and how they have affected action planning.
 - (i) **Maternity return rate** – comment on whether maternity return rate in the department has improved or deteriorated and any plans for further improvement. If the department is unable to provide a maternity return rate, please explain why.

In the past three years there were 8 instances of maternity leave and there is a 100% return rate. Although the numbers are small the School takes care to provide flexible support for staff taking and returning from maternity leave.

The informal flexible working policy that is in place in all groups is successful in supporting women returning to work after maternity leave. The case studies and further detail demonstrate effectiveness of the policy. The maternity return rate is one of the school’s areas of good practice and female academics have provided examples of how the policy is applied on an individual basis to suit personal circumstances.

A typical experience is quoted below:

"Both my husband and I work in the same department under the same line manager. My line manager has been very supportive to me throughout my pregnancy. He has also been

very understanding and making it possible for me and my husband to juggle childcare and work by not having scheduled classes before 10:00 or after 17:00, being able to work from home as well as having our children with us at work when necessary. I do not feel that having children is affecting my career prospect at Aston University in any way. I feel equally supported and have been given the same amount of opportunities before and after having my children."- Dr Sylvia Wong, EAS

The Aston University Nursery and Holiday Club provide conveniently located children's day care for Aston staff and many staff make full use of the services offered making a return to work post-maternity leave less stressful for new parents. The Nursery accepts Childcare vouchers and will support parents setting this up. In addition, a salary sacrifice scheme is available to employees of Aston University.

(ii) **Paternity, adoption and parental leave uptake** – comment on the uptake of paternity leave by grade and parental and adoption leave by gender and grade. Has this improved or deteriorated and what plans are there to improve further.

In the past three years there were 8 instances of paternity leave. The School encourages staff to take advantage of the leave available to them and line managers are flexible and supportive. One example is a female lecturer who has taken an extended leave of absence to carry out caring responsibilities with her family in China. A total of 5 years has been allowed. The school has appointed a fixed-term replacement in the meantime.

(iii) **Numbers of applications and success rates for flexible working by gender and grade** – comment on any disparities. Where the number of women in the department is small applicants may wish to comment on specific examples.

School staff generally do not apply for the formal scheme available through the University. Instead, details are discussed and agreed with line managers and central school records are not kept. Flexible working is available to all academic staff at all grades.

b) For each of the areas below, explain what the key issues are in the department, what steps have been taken to address any imbalances, what success/impact has been achieved so far and what additional steps may be needed.

(i) **Flexible working** – comment on the numbers of staff working flexibly and their grades and gender, whether there is a formal or informal system, the support and training provided for managers in promoting and managing flexible working arrangements, and how the department raises awareness of the options available.

Academic staff do not have contractually set hours of work. This means that they can manage their time flexibly around their teaching, scheduled meetings and provision of support for students. Everyone has office accommodation provided, but many choose to work from home at times which suit any external commitments they have. This level of flexibility is valued by staff and is often cited in surveys as being of significant support to those with caring responsibilities.

The teaching timetable is planned with the flexible working requirements of staff in mind. Staff who have parental or childcare requirements are encouraged to supply "unavailability" forms to the School Timetabling Officer in order that their flexible working arrangements can be reflected in the timetabling for each teaching period. At a recent review of timetabling data requirements it

was estimated that 30% of EAS teaching staff were accommodated due to flexible and part-time working patterns. Monitoring the benefits of this approach is an explicit element in our Action 5.4).

Flexible working is available to all academic staff and there is no discernable difference in uptake between male and female staff members. The University has a formal flexible working scheme but the School's policy is more flexible and informal. Staff discuss individual working arrangement with their line manager and an HR advisor is there for advice and guidance if needed. The ability to work flexibly is an important part of the School's policy to support women's careers in EAS and promote retention and promotion. The School supports and encourages the activities of Group Heads and line managers within EAS to observe certain principles in order to promote consistency and fairness supporting women's career advancement. These principles include:

- offering flexible working hours following a return to work after maternity or paternity leave;
- offering a "phased" return to work following leave for domestic/familial reasons to allow staff to manage the return to work alongside other responsibilities;
- using the School Load Model to ensure fairness and consistency in the allocation of teaching and administrative roles;
- identifying mentors for women returning to work after a period of leave, especially after maternity leave.

The School's informal flexible working policy allows academic staff to develop the working practices required to maintain a good work-life balance, supported by the organisation's infrastructure. For example, one female part-time lecturer who does not live locally, has mentioned that she appreciates that the Programme Director does not schedule lecturing for half-term or inset days and also commented positively on the internal female network of supportive colleagues at all levels, the excellent faculties provided by Information Systems Aston (ISA) that allows good working from home as well as the library and Blackboard VLE which is easily accessible from a home base. This part-time individual has been able to win EPSRC awards and TSB grants to further her research activity.

Cover for maternity and adoption leave and support on return – explain what the department does, beyond the university maternity policy package, to support female staff before they go on maternity leave, arrangements for covering work during absence, and to help them achieve a suitable work-life balance on their return.

The School has an adaptable and supportive approach for staff taking, and returning from maternity or adoption leave. Cover is provided for staff on maternity leave through current staff or by resourcing additional sessional support. Group Heads agree individual arrangements on a case by case basis as each member of staff's circumstances are slightly different.

Before going on maternity leave an individual will meet with their line manager to discuss what form of cover will be provided, whether there are any Health and Safety issues and if the member of staff has any concerns or issues at this point. Whilst on maternity leave, "keeping in touch" days are available so that staff can remain in contact, if they wish to, so that the return to work is not too demanding. Return to work post-maternity leave is recognised as a potentially challenging time for returners and so consideration is given to how the return to work is 'phased' so individuals are not overwhelmed, flexible working practices are encouraged and mentoring and

other support options are made available. Through the process of consultation with staff across the School the return to work after maternity or adoption leave has been particularly identified as a time when new parents may need extra support and mentoring. The team plans to research this further by completing a mini-research project regarding return to work after maternity and paternity leave (action 5.3). A mentoring option for those returning after maternity leave is being developed in line the EAS Retention and Progression policy so that a pool of staff who have returned from maternity or adoption leave can be identified across the school to provide advice, guidance and mentoring for returners to work (action 3.4).

4. Any other comments: maximum 500 words (Actual 117)

Please comment here on any other elements which are relevant to the application, e.g. other STEM-specific initiatives of special interest that have not been covered in the previous sections. Include any other relevant data (e.g. results from staff surveys), provide a commentary on it and indicate how it is planned to address any gender disparities identified.

The Self-Assessment process has been a huge learning curve for the School. We now feel we are in a position to take forward the action plan having analysed the data and benchmarked ourselves, by subject area, against national averages. We now feel we are in a better position to make a sustainable difference to female recruitment, retention and progression at all stages of an academic career in EAS.

There has been some recent good practice in the school and the beginnings of a shift in culture to greater inclusivity and welcoming of diversity. The attached action plan will allow the school to build on these successes and make greater impact over the next few years.

5. Action plan

Provide an action plan as an appendix. An action plan template is available on the Athena SWAN website.

The Action Plan should be a table or a spreadsheet comprising actions to address the priorities identified by the analysis of relevant data presented in this application, success/outcome measures, the post holder responsible for each action and a timeline for completion. The plan should cover current initiatives and your aspirations **for the next three years**.

6. Case study: impacting on individuals: maximum 1000 words

Describe how the department's SWAN activities have benefitted **two** individuals working in the department. One of these case studies should be a member of the self assessment team, the other someone else in the department. More information on case studies is available in the guidance.

“Child care matters to men too! When my wife and I were expecting our first child we had decided that five days per week child care wasn't for us. We are both academics at Aston and our days are long and involved. With a one hour commute at either end of the day we feared we would barely see our new child. The traditional option would have been for one of us to stop work altogether, at least temporarily, but a research-based career is very hard to restart after a prolonged period of absence and so this option was also far from ideal. Aston allowed us to take a third path. They agreed readily for us both to work part time with me

dropping to 0.8 FTE and my wife to 0.7 FTE of which half a day was completely flexible, meaning she could attend on non-standard days when needed. This meant that our son and, subsequently our daughter, were in child care at Aston's excellent nursery usually for only two days per week, which enabled the social benefit of mixing with other children and adults whilst retaining a strong sense of home. Now some years later, when both of our children are at primary school we still work part-time. As a result school holidays are no problem we each have to work just one day per week at home or else take a day's annual leave. Our family life is excellent; we each have sound academic careers which seem to be thriving (we have both been promoted since working part-time) both in terms of teaching and research. Perhaps unexpectedly the days at home looking after children benefit our productivity at work. The complete disconnect from work, which looking after kids necessitates, causes us to return to apparently difficult challenges with a fresh mind-set and generally to solve them. Finally, my part-time working has significantly improved my empathy for those with children – staff and students alike. Until I started looking after my son one day a week I never appreciated how hard caring for a small child on your own really can be!"

Dr Andy Sutherland, Chemical Engineering & Applied Chemistry

"I joined the Photonics Research group in Electronic Engineering in 2000 as a Research assistant, in 17 years after graduating the University, and having already four children by that time. My youngest daughter was only two years old. It wasn't easy to manage research, teaching and family duties, but all my colleagues and administrative staff were very supportive. When my little daughter broke her leg in 2001 and stayed in plaster for six weeks, EAS offered me flexible hours so I could work from home, coming into the university only to deliver lectures (I was teaching a Programming module to MSc students).

In 2003 the Head of Group, Professor Ian Bennion, advised me to join a PhD programme so I could pursue my academic career. The School paid the fees and I completed the programme successfully in 2007. Again, during that time the School and colleagues were very supportive and encouraging.

Soon after becoming a Doctor of Philosophy I was awarded a prestigious Royal Society Dorothy Hodgkin Research fellowship. The School paid the remaining 20% of the award costs, and also provided me with extra funding from overheads of my grant. This funding helped me to attend various international conferences and visit collaborators in other countries, which helped me to progress further in my research. During that time I became actively involved in outreach activities, trying to get school children interested in STEM subjects. The School was very encouraging in running these activities and paid some fees for each delivered session.

My fellowship finished at the end of 2011, but the University wanted to keep me. The School administration and the Head of Group were very cooperative in assigning the modules I had to teach. I was given a choice of modules, which I would feel the most comfortable to teach, such as mathematics or mathematics related modules. The school extended my contract for another seven months; at the same time they advertised a lecturer position according to my specifications and area of interests. In August 2012 I was promoted to a lecturer in Electronic Engineering. I was given a £5K start-up fund that helped me to get the most from my research by attending research conferences and making collaborative visits to other countries. As the result of this continuous support, my recent paper was published in the

most prestigious journal in my field of research; I became a Fellow of Higher Education Academy and a member of the Royal Society Partnership Grant panel.

It wasn't an easy journey from a Research Assistant to a Lecturer, but without continuous support and friendly environment in the School of Engineering & Applied Science at Aston University it wouldn't be possible."

Dr Elena Turitsyna, Electrical, Electronic and Power Engineering

APPENDIX 1						
Action	Objective	Description and Implementation	Responsibility	Timescale	Success Measure	Progress Log
1	<i>Baseline Data and Supporting Data</i>					
1.1	Improve use of data and data analysis to better inform school decision making and policy regarding female recruitment, retention and progression all stages of an academic career	<p>Refine and improve data quality</p> <p>Data to be more easily accessible and standardise reporting</p> <p>Use data more effectively at management eg. integrate with annual monitoring process</p> <p>Data to be generated and assessed will include numbers and distribution of staff, student recruitment and achievement, committee gender balance, EAS industrial advisory panels etc. This data will then be utilised by management in all aspects of HR policy involving recruitment and progression.</p>	<p>HR/School</p> <p>HR & EAS Quality Officer</p> <p>SMT/Group Heads</p> <p>Line managers</p> <p>Athena Swan working group continue to monitor and advise SMT</p>	<p>Annual reports</p> <p>Annual report to SMT based on previous academic year in TP1</p>	<p>Improved decision making based on data</p> <p>Develop a school & University data resource that is added to annually for managers and Group Heads to reference when making HR decisions.</p> <p>Increased uptake in EAS female staff and students in terms of recruitment, progression and promotion.</p> <p>More women recruited and progressing to senior positions</p>	<p>Annual review</p> <p>Data to be submitted to SMT in December 2013 regarding submission and previous year's data.</p>
47						
1.2	Expand data	Review and analyses BME data for recruitment to	Athena Swan	Annual: first	Better	SMT report

	population and analysis to include BME data for School	EAS programmes at all levels to inform a better understanding of how the School's unusually high BME intake (50%) impacts on gender balance and other issues such as student progression and achievement	School Team	analysis to be completed 2013/14	understanding of impact BME population has on recruitment, etc.	by June 2014
2	UG & PG Students					
2.1	Recruit more female UGs	<p>Increase number of female-based publicity materials for recruitment.</p> <p>Highlight female role models at Aston.</p> <p>Utilise more female UG guides, staff etc. on open days etc.</p> <p>Highlight female/family friendly aspects of campus e.g. nursery facility, safe environment</p> <p>ESM – understand low conversion rate</p> <p>Maths - recent drop in conversion rate</p>	<p>Marketing Officer</p> <p>Student Engagement Officer</p> <p>Athena Team/ Programme Directors</p>	<p>Already begun to develop publicity material</p> <p>Start promoting new material 2013/14</p> <p>2013/14</p>	<p>Increased applications from women for EAS programmes</p> <p>Improved conversion rates</p>	<p>Review data following academic year</p> <p>Annual review</p>
2.2	Support and retain female UGs	<p>Establish 'self-help/support' groups for female students (both single and with families)</p> <p>Build on success of peer mentoring, investigate female-female peer mentoring.</p> <p>Continue to provide opportunities for EAS UG students to raise awareness and support equality initiatives, e.g. the School hosted Women in</p>	<p>Athena Swan Working Group/student societies</p> <p>Associate Dean Learning & Teaching</p> <p>Executive Dean to continue to</p>	<p>Establish 2014/15 and monitor; report on annually.</p> <p>Annual events</p>	<p>Improve female retention and progression</p> <p>Improve student participation in gender-awareness events in EAS eg. increased female society membership, more</p>	

		Engineering & Science (WES) event in 2012 & 2013, school programme of high-profile women in SET	fund opportunities		social media activity, increased attendance at school events	
2.3	Improve the percentage of female students graduating with 1 and 2(i) degrees.	<p>Better understand high female attainment in subject groups where female outperform men</p> <p>Subject specific: Understand high student achievement in Mathematics to share good practice</p> <p>Female specific prizes for UGs</p>	<p>Athena Swan working group</p> <p>Group Heads/ Programme Directors</p> <p>Executive Dean/Group Heads</p>	Review annually	Sustained and consistent improvement of % of female achievement at 1 and 2(ii) across all programmes in EAS	
2.4	Recruit more female PGs	<p>EAS PGT Programme portfolio: Explore market research to better understand female recruitment to PG programmes. Data indicates that the School to explore PGT programmes in CEAC and Mathematics as are proven strong recruiters.</p> <p>Use a questionnaire of the PG cohort within EAS to identify why PG courses in engineering are less attractive to females, in particular, if funding is perceived to be a problem amongst female students</p> <p>Provide EAS bursaries for female PG positions</p> <p>Subject specific: EEPE and ESM: improve understanding of the recent increased conversion rate in these subject areas and share good practice across school</p>	<p>Athena Swan group/Marketing Officer</p> <p>Associate Dean PGT</p> <p>Marketing Officer/Associate Dean PGT</p> <p>Executive Dean</p> <p>Programme Directors/Athena Swan team</p>	<p>2013/14</p> <p>Annual review</p>	<p>Higher proportion of women recruited to PGT programmes and increased overall recruitment at PGT level.</p> <p>A more relevant and sustainable portfolio of school postgraduate programmes</p>	

2.5	Support and retain female PGs	<p>School-based seminar series to highlight female contributions to research across the school.</p> <p>Continue to provide opportunities for EAS students to raise awareness and support equality initiatives and so build upon previously successful female student led initiatives</p>	<p>Athena Swan working group</p> <p>Student societies/ Associate Dean PGT</p>	<p>Ongoing</p> <p>PGT-focussed event in 2013/14</p>	<p>Proportionally representative and increasing attendance by students, diverse range of subject areas covered</p> <p>PGT progression and achievement</p>	
2.6	Recruit more female PGR	<p>Review recruitment to research programmes across the school and promote more consistent recruitment to PhD across all subject groups</p> <p>Subject specific: review MED and EEPE PhD recruitment to understand low recruitment of female students</p> <p>Explore process of recruitment to PhD posts in the School to ensure compliance with School policies and that the process is fair and transparent.</p>	<p>Athena Swan Group</p> <p>Group Heads/ Supervisors</p> <p>SMT</p>	June 2014	<p>Increased and consistent recruitment to research programmes in EAS across all subject areas</p> <p>A more transparent and consistent process for recruitment to and appointment of PhDs.</p>	
3	<i>Key Career Transition Points, Appointments and Promotions</i>					
3.1	Recruit more female staff	Identify high-achieving post-doctoral researchers and if appropriate provide a mechanism for their	Group Heads	Funding introduced	Improved proportion of male:	

		<p>recruitment to academic staff positions. Introduce funding (£3k) to support career transition for female post-doctoral.</p> <p>Increase transparency of recruitment at postdoctoral level and ensure school policies are applied, eg female academic member of staff at short-listing on appointment panel.</p> <p>Review marketing and publicity materials to ensure there is no gender bias and better promote family-friendly aspects</p> <p>Monitor success of policies to improve recruitment:</p> <p>“Flexible entry routes into academic permanent positions” monitor success of school policy</p> <p>“Supporting Women’s Career in EAS: retention and progression Policy”</p>	<p>First academic appointment only</p> <p>SMT</p> <p>School Marketing Officer/HR</p> <p>SMT/Athena Swan Working group</p>	<p>2013/14</p> <p>January 2014</p> <p>ongoing</p>	<p>female overall academic staff ratio in the school</p> <p>Improved retention rate for post-doc posts in the school</p> <p>More “tenure-track” appointments</p> <p>Increased progression to permanent posts from fixed-term and non-academic positions</p>	
3.2	Support female staff	<p>Monitor female: male ratios on school committees using school workload model to retain an overview of fair female representation and avoid overloading for female staff</p> <p>Consolidate the female friendly environment within EAS by establishing late night working patrols, lone working log book, late night ‘buddy’ working teams etc.</p> <p>Ensure all School publications highlight equally female staff-based achievements</p>	<p>Athena Swan Team/ Group Heads</p> <p>Athena Swan working group</p> <p>Aspects and School Communications</p>	<p>Annual report</p> <p>Annual survey</p> <p>ongoing</p>	<p>Maintain fair representation on school committees</p> <p>Monitor through staff survey; positive feedback from all staff</p>	

3.3	Promote more female staff	Proactively identify high-flying staff and if appropriate champion their promotion: “Gender Equality in Senior Positions in EAS” Improve promotion and communication of promotions, promotion criteria and routes to all staff – hold annual workshop for staff	SMT Athena Swan working group Group Heads		Increased female proportion promotion rates Promotion workshop Feb/March 2014	
3.4	To develop a greater support infrastructure for women within the School	Initiate a female: female mentoring scheme at all levels within EAS, monitor work load model for people returning to work after extended periods of absence, e.g. maternity leave.	Athena Swan working group	Identify mentors 2013/14	Increased mentoring take up across school	
4	<i>Career Advice and Support</i>					
4.1	To enable greater female research career progression	Support and encourage staff use of School Research Development Manager – promoting female success stories in peer-reviewed, externally funded research Improved promotion of school and University support available ie. One-one mentoring, Grant writing workshops, networking events, workshops	Executive Dean Group Heads	Begun 2013 and to be enhanced in 2013/14, 2014/15	Increased promotion rate for academic women in EAS Growth in submission and awards Growth in research income attributable to female research	

					scientists	
4.2	Continue to increase the ratio of women: men in the REF submission.	Use strong 2014 submission as basis to build towards the next REF submission, through continuing support of research activity in EAS by identifying and supporting research active staff	Associate Dean Research/Group Heads	Ongoing	REF submission data	
4.3	To provide greater access to careers advice, mentoring, external travel and conference attendance etc	Ensure staff and students are made aware of opportunities for awards, prizes, travel opportunities, conference attendance etc Establish new opportunity to support PhD students participation and travel to conferences with post-doc funding for women (£3k).	Athena Swan working group Group Heads/ Associate Dean Research	2013/14		
5	<i>Culture, Communications and School Organisation</i>					
5.1	Effective communication of female progression in STEM and related/Athena Swan activities	The School to continue to enhance awareness of female-related issues in all EAS staff and students by establishing effective communication routes accessible to all within EAS and more widely and increasing the use of social media to attract a wider audience.	Athena Swan working group/marketing officer SMT/Group Heads	ongoing	More staff events and good attendance at events Increased activity in social media by staff and students Enhance existing network across the school, university and externally	
5.2	EAS Athena Swan Team	Improve gender balance of membership to ensure it is representative of the School Explore two-year, rotating term of office	Athena Swan Group/Executive Dean	Annual		

5.3	Focus on maternity return experience	To initiate a study centred on assessing the impact on career development and promotion where both partners work and have young children	Athena Swan Working group	2014/15		
5.4	Review of key school processes; appraisal, promotion and flexible working	Survey academic staff (including post-docs) on the process for appraisal (PDR), promotion and flexible working asking what is good about these processes and what could be improved	Athena Swan working group/Quality Officer	November 2013	That actions from staff feedback to improve key processes in the school and ensure they are consistently fair across the school	

APPENDIX 2

Gender Equality in Senior Positions in EAS

AIM: To improve the balance of female to male appointees to senior school positions and attract female academic staff to apply to senior school posts impacting a shift in the school's culture and infrastructure.

The EAS Senior Management Team recognises that there is an imbalance in the number of women promoted to and applying for senior posts within the School and that this reflected in the small number of women academics staff in senior school positions. Improving gender inequality in relation to senior academic staff posts will further support other school policies in this area, for example, by providing a wider pool of senior academic school staff to sit on appointment panels.

This policy has been developed to support equality in school processes relating to the selection and appointment of academic staff:

- That the Senior Management Team actively seek female candidates for senior academic positions such as Head of Group or Associate Dean;
- That the school enables the appointment and retention of women to senior academic positions by providing assurance, support and mentoring;
- That the School's Senior Management Team identify opportunities to appoint and recruit to senior positions leading female academics by offering incentives which benefit the individuals and the school.

Flexible entry routes into academic permanent positions: EAS School Policy

AIM: To identify potential recruitment prospects for EAS staff on fixed-term, non-academic contracts and encourage staff to apply for permanent posts within EAS (as the University process does not recognise post-doctoral progression in promotion) through:

- better communication of openings, providing support and career development opportunities;
- ensuring that key processes and policies such as appraisal and female representation on appointment panels are applied consistently across the school;
- aligning school recruitment needs with available, fixed-term or non-academic staff;
- identifying strong post-doctoral candidates as potential recruitment, eg. tenure track initiatives.

Female recruitment to STEM subjects: attracting women to STEM – EAS Policy

AIM: To increase the number of female applicants to EAS programmes and research and teaching positions;

to raise awareness amongst women at pre-university level of the opportunities STEM subjects can offer in terms of career advancement (industry or academia);

to raise public awareness of the issues in retention and progression of women in STEM subjects, through supporting local and national campaigns

- The EAS Senior Management Team requires all Group Heads to participate and develop (within their group) masterclasses to promote subject knowledge at FE level and provide a link between FE and HE transition;
- The School provides funding opportunities to support conferences/events/seminars deliberately aimed at advancing the careers of women in STEM subjects (Aurora, WES, etc);
- The School provides practical support for women in STEM societies developed by EAS students to help attract and promote female advancement, progression and attainment in STEM subjects;
- Aim to have at least one female academic member of staff on each academic appointment panel as research has shown this impacts positively on female recruitment.

Supporting Women's Career in EAS: retention and progression Policy

AIM: To improve female academic career progression and retention within the School.

The EAS Senior Management Team recognises that progression and retention of women's careers in STEM subjects could be improved. Consequently the school supports and encourages the activities of Group Heads and line managers within EAS to observe the following principles in order to promote consistency and fairness in relation to school support for women's career advancement:

- Offer flexible working hours following a return to work after maternity or paternity leave;
- Offer a "phased" return to work following leave for domestic/familial reasons to allow staff to manage the return to work alongside other responsibilities;
- Raise awareness and encourage staff to make use of the School's "Women Engineering Career Development Officer" to support research grant applications;
- Use the School Load Model to ensure fairness and consistency in the allocation of teaching and administrative roles;
- Identify mentors for women returning to work after a period of leave, especially after maternity leave.

