



Athena SWAN Bronze department award application

Name of university: University of Liverpool

Department: School of Electrical Engineering, Electronics and Computer Science

Date of application: November 2014

Date of university Bronze and/or Silver SWAN award: Bronze Renewal November 2013

Contact for application: Dr. Floriana Grasso

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Athena SWAN **Bronze 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.

25 November 2014

Letter of Support Athena Swan Application School of EEE&CS, Liverpool

Dear Athena SWAN,

As Head of School for Electrical Engineering, Electronics and Computer Science, I fully support our application for consideration for the Athena SWAN Bronze award. I know from my experience of tutoring students, how important it is to be alert to often hidden obstacles for women: only too often have I encountered female students who talked down their programming skills after their second year software group project, during which regularly an atmosphere is created implying that males are good programmers, while females do the minute-taking and the formatting of the final report. This is only one example showing how much we need to do in order to address issues around women in Science and Engineering and how much we need to do to remove hidden obstacles faced by women in developing successful and rewarding careers in the School. This must be underpinned by the development of a culture that supports women in Science and Engineering in the School. I realise that we are on a long journey to improve prospects for women in the School and that this application and delivering the associated action plan is just the beginning. However, I aim for the School to achieve Gold within 6 years.

The Athena SWAN application and action plan have been developed in consultation with the previous HoS (Prof. Joe Spencer), myself, and with others in the School, and best practice has been canvassed from across the University, and in particular the Faculty of Science and Engineering. Developments and progress towards the submission have been reported to the School's Senior Management Team (SMT). The Athena SWAN lead regularly is invited to SMT meetings, and the Athena SWAN agenda has been built into the School's Five Year strategic plan. The SMT, and I personally, have the responsibility for delivering that plan.

I have engaged all School staff to ensure they understand our commitment to Athena SWAN through staff meetings, away days and direct messages. I will ensure that the progress on the agenda and deliverables in the action plan are reported to staff through standing items School Staff Meetings. Further Away Days will have part of the agenda dedicated to Athena SWAN. We allocated £5K budget to the Athena SWAN lead to promote the agenda, increase Staff awareness and to invite recognised practitioners in the field to the School to provoke discussion and reflection.

We have already engaged with local girls secondary schools, most notably the Belvedere Academy, run by the Girls Day Care Trust. Girls were invited to take part in the Institution of Engineering and

Technology (IET) Faraday Challenge held in the School. A talk was given by one of our female PhD students to promote Science and Engineering as a career to female pupils. In the future, we will engage more actively with IET's STEM ambassadors who have initiated a programme of activities to encourage more women into engineering.

Yours Sincerely,

A handwritten signature in black ink, appearing to be 'W. van der Hoek', written in a cursive style.

Prof Wiebe van der Hoek

Head of School of EEE&CS

(Word count 484)

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.



Dr. Floriana Grasso (CS - Lecturer) oversees the suite of Computer Science online degrees. She gained a vast experience on flexible and part time study. She is the international exchange student liaison officer for CS. She is married, with two sons, aged 10 and 9. Her spouse is also a full-time academic in the same department.

Dr. Louise Dennis (CS - Postdoctoral researcher on an open-ended contract) moved to Liverpool in 2006, before which she was a lecturer at the University of Nottingham. She is married with a 10-year-old daughter and has worked full-time since her daughter was 4 months. Alongside her research work, Dr. Dennis works in Public Understanding and, with the support of the department, has developed a robotics activity that is used in local schools.



Dr. Munira Raja (EEE - Lecturer) is interested in realising practical strategies that support women in Science and Engineering, particularly with families, to progress and engage in more senior roles such as professorial and HOD. She is aware of the challenges faced in juggling a family life whilst maintaining a sturdy career. She aspires to have a family of her own, and has concerns of the impact that would impose on her career and more importantly on progression.

Dr. Terry Payne (CS - Senior lecturer) joined his spouse (with whom he also collaborates) in Liverpool in 2008, a year after the birth of his son, having previously worked at the University of Southampton. His spouse is also a full-time academic in the same department. He has a son (aged 7) and a daughter (aged 4).



Dr. Elizabeth Sklar (CS - Senior Research Fellow on a fixed term contract) is a Professor of CS at the City University of New York (on leave), and recipient of a Fulbright-King's College London Scholar Award. She received over US\$3.8M in NSF funding to support outreach, mentoring and educational activities for students, especially focusing on females and minorities; as well as several Computing Research Association Committee on the Status of Women in Computing Research mentoring awards. She joined academia after working in industry as a scientific programmer for 10 years, one of three professional women in a large male-dominated technical group. She and her husband raised two daughters (25 and 21) and a son (18).



Prof Simon Maskell (School) is also an honorary research fellow at Imperial College. Simon has worked in industry for 13 years prior to starting at the University of Liverpool in January 2013. Simon is chair of the school of EEE&CS's recruitment and admissions committee and a University mentor (helping other staff progress their careers). Simon has a wife and two young sons, aged 3 and 6, and moved to academia from industry to improve his work/life balance.

Ms Latifa Al Abdulkarim (CS - PhD student) obtained her MSc in Computer Science from University of Liverpool with distinction and was awarded the Ann Mayberry Prize for the best performance student. Latifa is involved in several academic works including demonstration for some undergraduate modules and organizing seminars for PhD students.



Mr Andrew Craig (CS - Technical support staff) has been working in the Department since 2001, with additional teaching responsibilities. Andrew is registered as a STEMM Ambassador and is involved in the Department's outreach, school visits, and Continuing Professional Development activities. Andrew is married and has a son (age 13). He is a Cub Scout leader (working with children 8 to 10 years of age) and Scout group administrator.

Ms Jane Gallagher (School - Management Services Team Leader) is a single parent with two children and has frequently needed to access the Universities family friendly policies in order to achieve a reasonable work/life balance.



Dr Lei Su (EEE - Lecturer) joined the Department in August 2012, one year after the birth of his daughter. His wife and daughter are based in London. He has flexible working arrangement with the Department so that he can balance between work and childcare responsibilities.

Prof. Joe Spencer (EEE) was Head of School during the preparation of this application and completed his term of office in September 2014. He has three daughters, two of which are fully employed and the other in full time education. In the early part of his career he dealt with the pressures of having to develop a career and care for his family.





Prof. Wiebe van der Hoek (CS) is Head of School as of 1st October 2014, and as such takes responsibility for the action plan. He has a daughter of 2.5, whom he raises together with his wife, who is Senior Lecturer at the University of Liverpool. So he knows from experience the juggling it takes to combine academic careers with caring for a toddler.

- 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.

The Self-Assessment Team (SAT) was established in November 2012 and has gained new members over the intervening months. It comprises staff with a wide range of roles as well as personal background, ensuring that the many voices featuring in the School are heard, and has a 45/55 female/male split. The team meets regularly, initially with great emphasis on brainstorming and exchange of ideas and experiences. The assessment process drew on the real life first hand experiences of Staff in the School who have dealt or are dealing with balancing their work load and career aspirations with family commitments and agenda issues. Over the months, a focus on data analysis gave support and substantiation to discussions, and started to inform a well-reasoned action plan. The chair reports monthly to the School Senior Management Team (SMT). The SAT has drawn extensively on expertise coming from outside the School: the team has representation at the University-level and the Faculty-level Athena SWAN groups, which meet regularly to compare experiences and coordinate data collection.

- 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 SAT continues to develop plans for the silver award, and work with SMT to implement actions (**Action 1**). An annual budget (£5k) will be used to organise events and to bring in external speakers to promote the diversity and equality agenda (**Action 5**).

(word count: 952/1000)

3. A picture of the department: maximum 2000 words

- 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 Electrical Engineering, Electronics and Computer Science (EEE&CS) is one of four Schools in the Faculty of Science and Engineering. The School consists of 120 academics and research staff, and around 1.2K students.

EEE offer a range of theoretical and practical degree programmes. MEng and BEng programmes are accredited by the Institution of Engineering and Technology (IET). Staff are actively engaged in research and most have international reputations.

CS programmes cross the spectrum and combine cutting edge theory with extensive practical training. Most programmes are accredited by the British Computer Society (BCS). The latest RAE identified CS at Liverpool as one of the top three centres in the UK for published research.

The School has experienced a vast growth in student numbers over the past ten years. This is largely due to an increase in students from China who are on 2+2 programmes; they complete two years at Liverpool University's partner, Xi'an Jiatong Liverpool University (XJTLU), and a further two years on the Liverpool campus in the UK.

CS also offers a suite of fully on-line part time PGT degrees, delivered in partnership with Laureate Online Education, the University's e-learning partner, an established and successful world-wide company providing education services. There are currently over 8000 students active in on-line courses under the partnership, of which 1248 students in CS. These programmes have a very different operational structure, are delivered fully online to a world-wide population, and are facilitated by recognised freelance teachers. The programmes are all accredited by the BCS.

- 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

All statistics for CS are for the on-campus cohorts, unless stated otherwise.

- (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.

The School does not offer access courses.

Students enter at foundation level either via Carmel College or via Liverpool International College (LIC).

Only one student entered the school via this route in 2011 and 2012, and none in 2013 (Table 1), so it clearly this is not a preferred option.

		2009-2010			2010-2011			2011-2012			2012-2013			2013-2014								
		M	F	% F	M	F	% F	M	F	% F	M	F	% F	M	F	% F						
School	Full time	15	No Female		17	2	10.5	0	No Female		0	No Female		No students								
	Part time	3		0	0		1	1														
	Total	18		17	2	10.5	1	1														
CS	Full time	0		0	0	0	0	0		0	0		0				0	0	0	0	0	0
	Part time	1		0	0	1	1	1		1	1		1				1	1	1	1	1	1
	Total	1		0	0	1	1	1		1	1		1				1	1	1	1	1	1
EEE	Full time	15		17	2	10.5	0	0		0	0		0				0	0	0	0	0	0
	Part time	2		0	0	0	0	0		0	0		0				0	0	0	0	0	0
	Total	17		17	2	10.5	0	0		0	0		0				0	0	0	0	0	0

Table 1: Students at Foundation Level

- (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.

Table 2 shows the total number of Undergraduate (UG) students, both part time and full time, for the School and by Departments. Trends are also reported in Charts 1 and 2.

		2009-2010			2010-2011			2011-2012			2012-2013			2013-2014		
		M	F	% F	M	F	% F	M	F	% F	M	F	% F	M	F	% F
School	Full time	423	92	17.9	507	145	22.2	561	172	23.5	634	173	21.4	789	239	23.2
	Part time	19	4	17.4	28	4	12.5	33	2	5.7	45	5	10.0	63	6	8.7
	Total	442	96	17.8	535	149	21.8	594	174	22.7	679	178	20.8	852	245	22.3
CS	Full time	172	53	23.6	220	96	30.4	249	105	29.7	240	98	29.0	270	153	36.2
	Part time	7	2	22.2	8	1	11.1	10	1	9.1	16	4	20.0	27	5	15.6
	Total	179	55	23.5	228	97	29.8	259	106	29.0	256	102	28.5	297	158	34.7
EEE	Full time	251	39	13.4	287	49	14.6	312	67	17.7	394	75	16.0	519	86	14.2
	Part time	12	2	14.3	20	3	13.0	23	1	4.2	29	1	3.3	36	1	2.7
	Total	263	41	13.5	307	52	14.5	335	68	16.9	423	76	15.2	555	87	13.6

Table 2: Undergraduate Student population

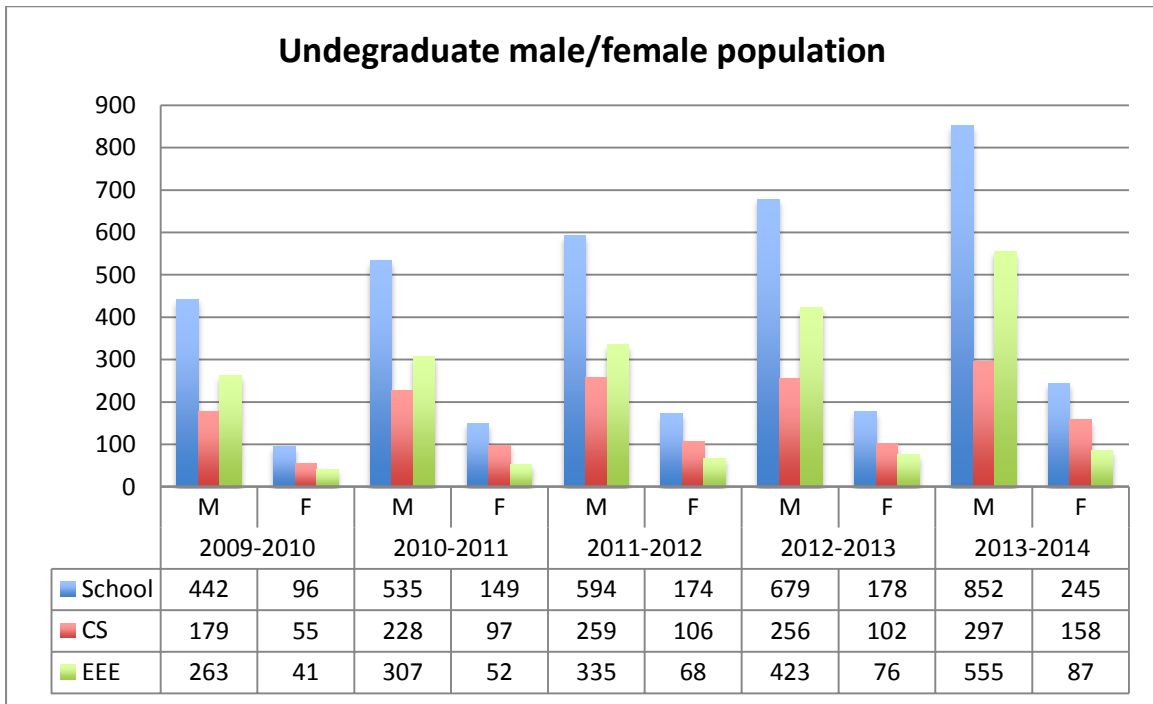


Chart 1: Undergraduate Male and Female population

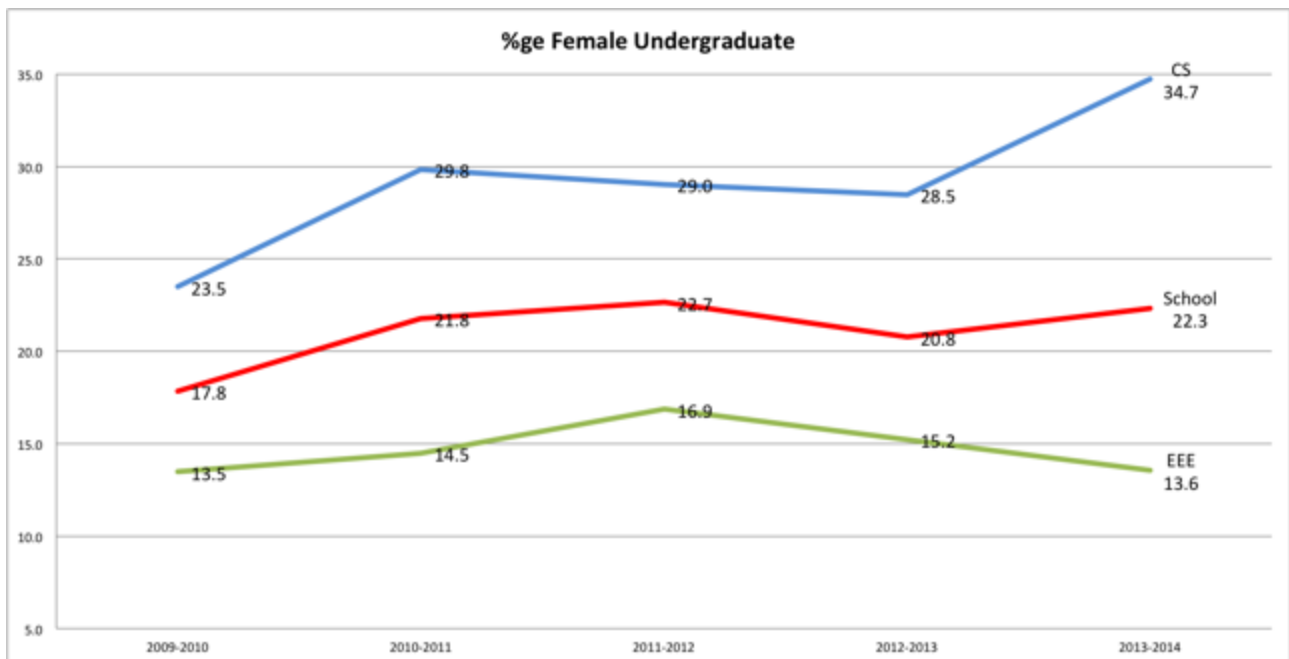


Chart 2: Trend female population

To ensure potential gender imbalance in the UG population is not masked by the large Chinese cohort, which is traditionally more gender balanced in science degrees, we report data by residency in Table 3:

Year	Level	School			School Total						Computer Science						Electrical Engineering & Electronics					
		TOTAL			UK Residency			Non UK Residency			UK Residency			Non UK Residency			UK Residency			Non UK Residency		
		M	F	% F	M	F	% F	M	F	% F	M	F	% F	M	F	% F	M	F	% F	M	F	% F
2010-2011	1st	134	20	13.0	88	12	12.0	46	8	14.8	52	10	16.1	8	5	38.5	36	2	5.3	38	3	7.3
	2nd	227	82	26.5	54	8	12.9	173	74	30.0	30	5	14.3	74	47	38.8	24	3	11.1	99	27	21.4
	3rd	164	45	21.5	53	8	13.1	111	37	25.0	39	8	17.0	21	22	51.2	14	0	0.0	90	15	14.3
	4th	10	2	16.7	6	0	0.0	4	2	33.3	2	0	0.0	2	0	0.0	4	0	0.0	2	2	50.0
2011-2012	1st	153	22	12.6	97	13	11.8	56	9	13.8	50	9	15.3	16	1	5.9	47	4	7.8	40	8	16.7
	2nd	236	71	23.1	79	9	10.2	157	62	28.3	48	8	14.3	48	35	42.2	31	1	3.1	109	27	19.9
	3rd	195	78	28.6	35	5	12.5	160	73	31.3	22	4	15.4	69	46	40.0	13	1	7.1	91	27	22.9
	4th	10	3	23.1	7	3	30.0	3	0	0.0	6	3	33.3	0	0		1	0	0.0	3	0	0.0
2012-2013	1st	130	17	11.6	88	10	10.2	42	7	14.3	49	8	14.0	21	5	19.2	39	2	4.9	21	2	8.7
	2nd	329	90	21.5	93	9	8.8	236	81	25.6	50	7	12.3	49	42	46.2	43	2	4.4	187	39	17.3
	3rd	208	68	24.6	62	10	13.9	146	58	28.4	37	7	15.9	44	32	42.1	25	3	10.7	102	26	20.3
	4th	12	3	20.0	9	2	18.2	3	1	25.0	4	1	20.0	2	0	0.0	5	1	16.7	1	1	50.0
2013-2014	1st	159	23	12.6	113	15	11.7	46	8	14.8	72	14	16.3	13	2	13.3	41	1	2.4	33	6	15.4
	2nd	402	137	25.4	99	10	9.2	303	127	29.5	58	8	12.1	72	88	55.0	41	2	4.7	231	39	14.4
	3rd	281	84	23.0	77	5	6.1	204	79	27.9	39	5	11.4	39	40	50.6	38	0	0.0	165	39	19.1
	4th	10	1	9.1	9	1	10.0	1	0	0.0	4	1	20.0	0	0		5	0	0.0	1	0	0.0

Table 3: Undergraduate Student population - Level of study and residency

Aggregated data show that the overall student population in the School has increased by 160% and the percentage of female students in the School has risen slightly from 21.8% in 2010/11 to 22.3% in 2013/14. However, the trend in the percentage of female UK residency students since 2010/11 has fallen (see Chart 3).

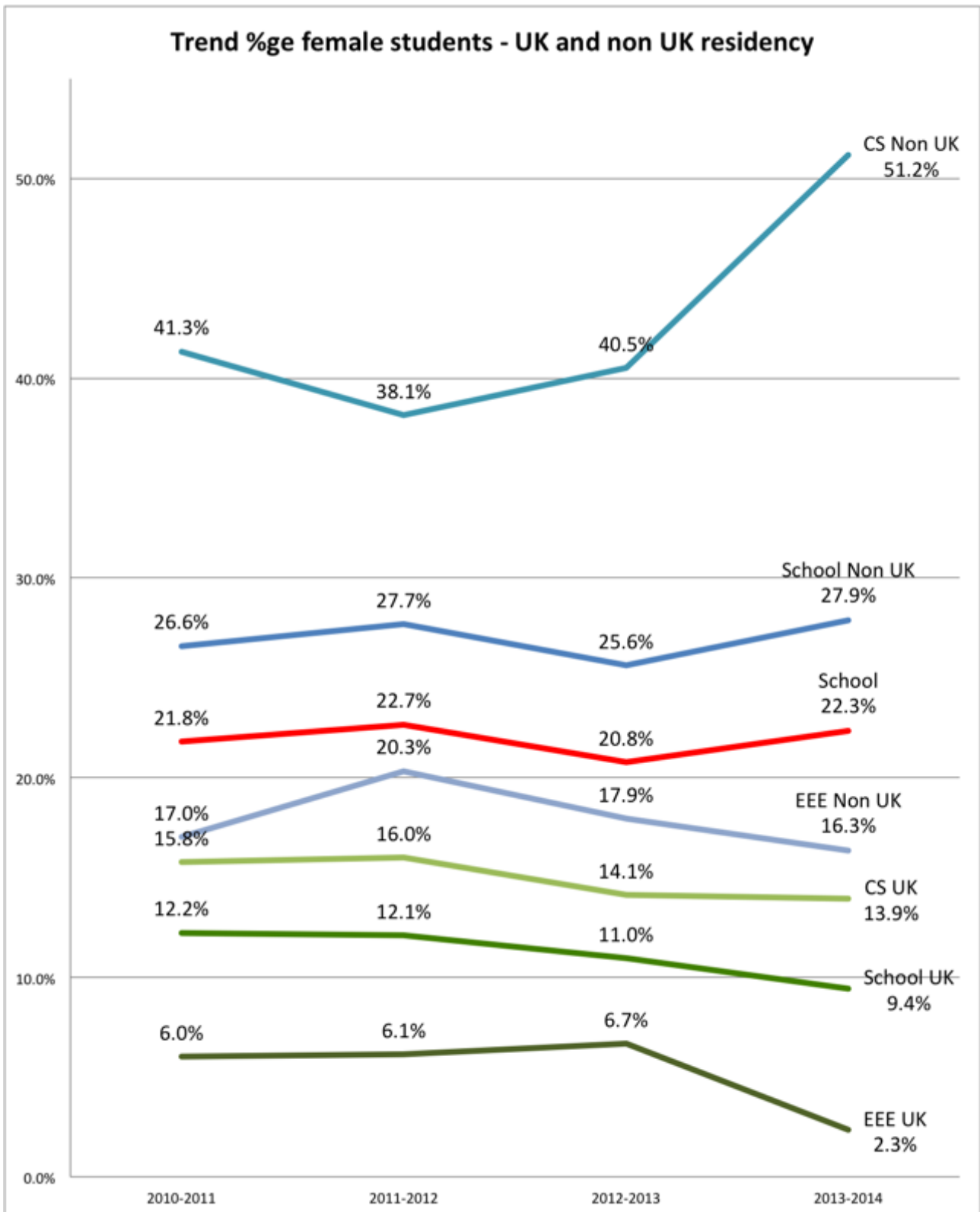


Chart 3: Trends %ge of Female UG students UK and non UK residency

To compare to National Benchmarking data, the student population was split at the Departmental level. This shows that CS is doing particularly well with 34.7% female undergraduates (national benchmark is 15.7%). However, when considering only students with UK residency, CS has currently around 14% female undergraduates, which is below the national benchmark. EEE has an overall 13.6% female undergraduate population, which is again below the national benchmark of 14.7%

but for UK residency it is 2.3% and this is significantly below the national benchmark.

The School has adopted various measures to counteract the gender imbalance. **Action point 4** covers four main areas of concern to address these issues: (action 4.1) marketing material (action 4.2) the active recruitment of female students (action 4.3) outreach to female school pupils and (action 4.4) improvement of female students experience.

Within **action 4.1** marketing material is produced ensuring high external visibility of female members of staff and students. Both departments have a female member of staff as “icon” in the collection of profiles, accompanied by video interviews, of academics posted on the University Website. Screen captures of these are shown in Figures 1 and 2. Further actions include increasing visibility of both female staff and female students in the two Departments.

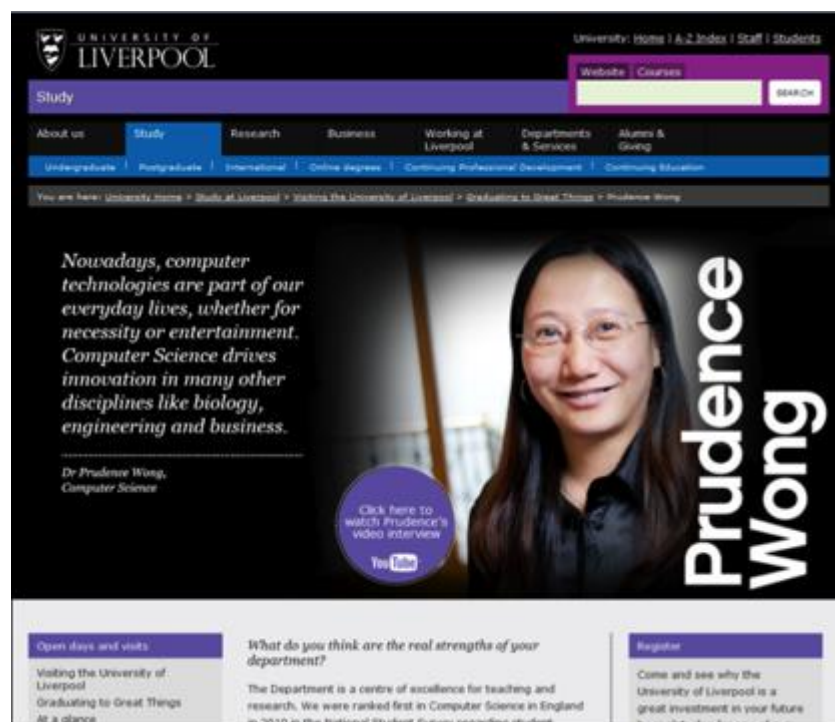


Figure 1: Dr. Prudence Wong - "icon" for CS

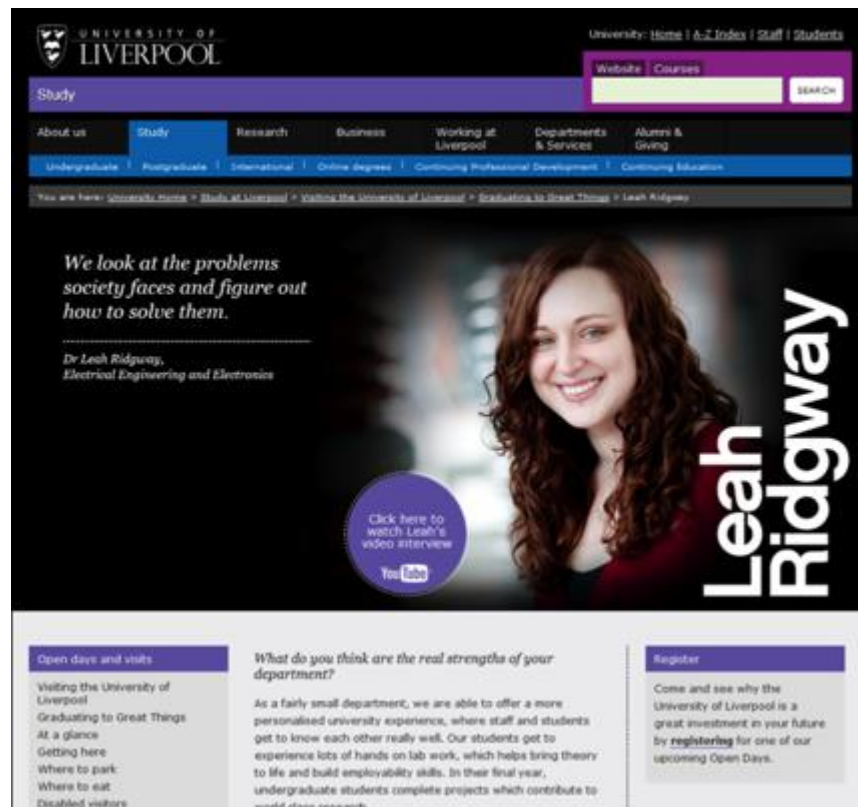


Figure 2: Dr. Leah Ridgway – “icon” for EEE

The School has produced a free online course (“Electrify”) introducing EEE. The course is facilitated by a female lecturer, Dr. Ridgway, who features in a YouTube trailer introducing the course (see Figure 3). The School invested £150 on a targeted Facebook advert (**action 4.1**), addressed to women aged 16-20, to promote the course. The advert reached 83,820 Facebook female users, it was served a total of 159,976 times, and was clicked on 754 times, by 624 unique individuals. The first running of the course was on September 2014.

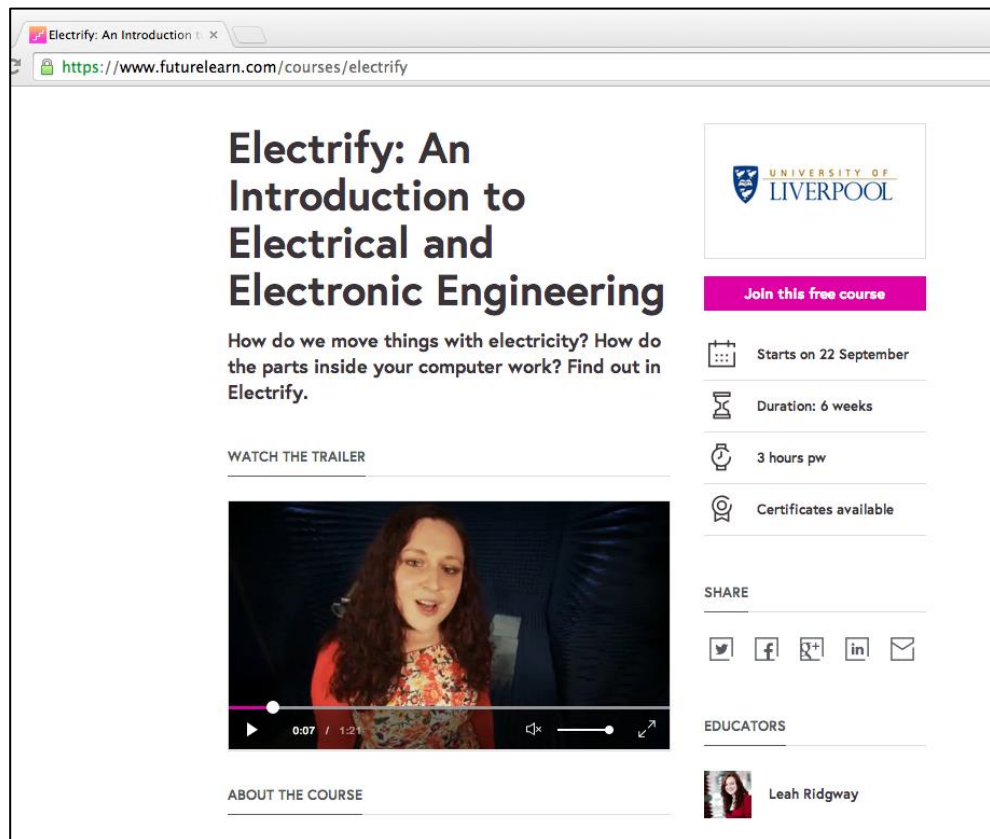


Figure 3: “Electrify” online course introducing EEE

In terms of active recruitment of female students (**action 4.2**) the School has introduced, in the Academic Year 2014/15, a practice whereby the top 35 applicants are sent personalised correspondence, reflecting the content of their application, and a personalised email after the examination results are published. After consultation with the SAT, a further 8 female students were added to the 35 on the initial list. We aim at achieving 25%+ of the top female applicants approached starting in the school in two years time.

Also, the School has established an “Ada Lovelace Prize” for an outstanding performance from a female students. This will be included in marketing material, and in personalised correspondence to female applicants.

- (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.**

Table 4 shows the total number of part time and full time PGT students for the School and its Departments. Note that the School does not have part time PGT students.

		2009-2010			2010-2011			2011-2012			2012-2013			2013-2014		
		M	F	% F	M	F	% F	M	F	% F	M	F	% F	M	F	% F
School	Full time	59	7	10.6	70	20	22.2	80	8	9.1	60	9	13.0	37	10	21.3
	Total	59	7	10.6	70	20	22.2	80	8	9.1	60	9	13.0	37	10	21.3
CS	Full time	30	4	11.8	39	12	23.5	37	5	11.9	30	7	18.9	10	6	37.5
	Total	30	4	11.8	39	12	23.5	37	5	11.9	30	7	18.9	10	6	37.5
EEE	Full time	29	3	9.4	31	8	20.5	43	3	6.5	30	2	6.3	27	4	12.9
	Total	29	3	9.4	31	8	20.5	43	3	6.5	30	2	6.3	27	4	12.9

Table 4: Postgraduate taught Student population

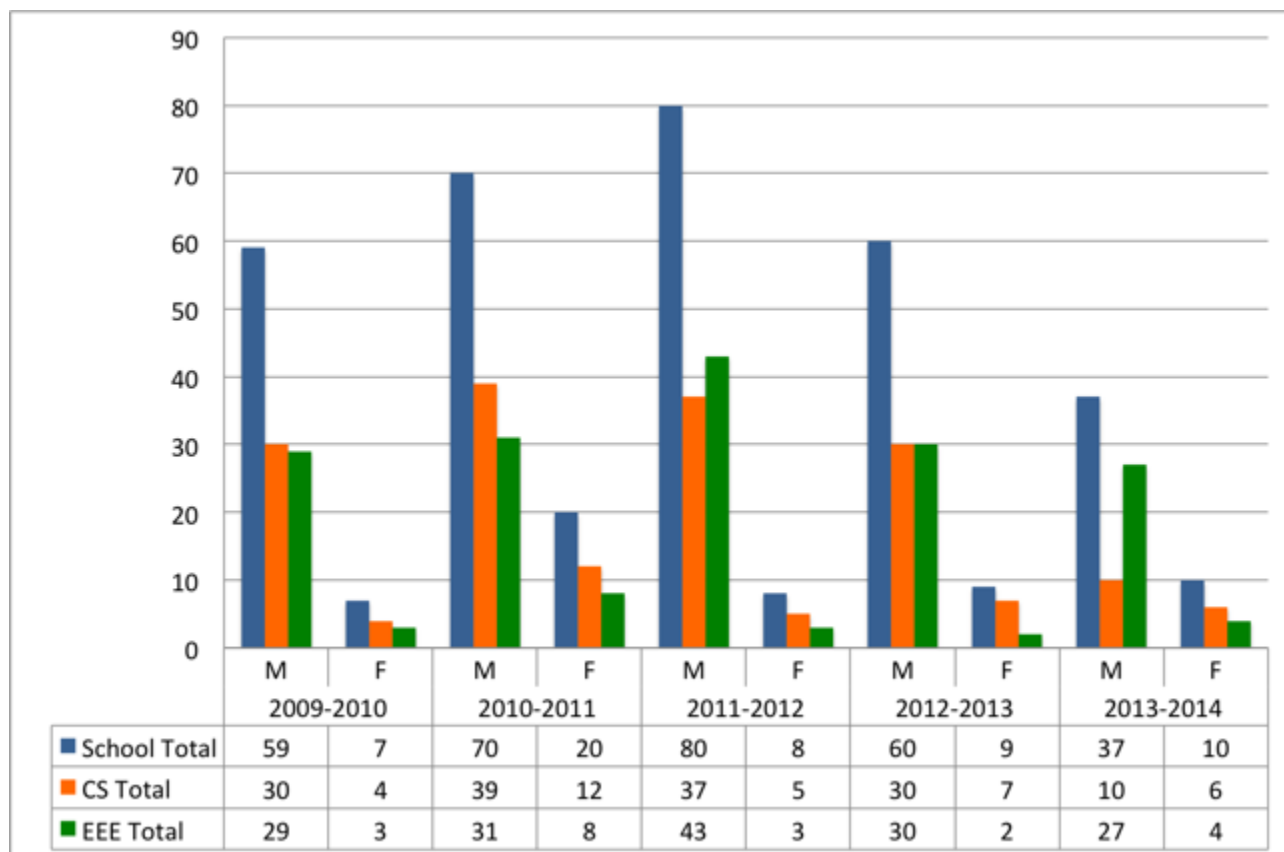


Chart 4: Postgraduate taught Student population

The number of students is small, hence percentage fluctuates considerably from year to year with no identifiable trend. Currently, the female PGT student population in the school totals 21.3%. In the current year, CS performs extremely well, with 37.5% female students, compared with the 22.4% national benchmark, while EEE falls considerably short, with 13% female students against a national benchmark of 22%. Again it should be noted that the vast majority of the PGT population is not UK resident. The PGT provision is currently under revision. An Advisory Board will inform this revision by making gender issues relevant to the discussion (**Action 4.2**).

CS offers fully on-line part time PGT degrees in partnership with Laureate Education. There is no concept of academic year for this cohort of students, as

students can enrol anytime, and take modules back-to-back. For this reason, data is provided as a snapshot at August 2014 as indicated in Table 5 and Chart 5.

Programme	Total	Female	Male	%Female	%Male
MSc Information Technology	304	38	266	12%	87%
MSc Information Systems Management (ISM)	586	88	498	15%	85%
MSc Computer Security	241	28	213	12%	88%
MSc Software Engineering	222	21	201	9%	91%
MSc Internet Systems	47	5	42	11%	89%
MSc Info Systems Technology (IST)	177	36	141	20%	80%
MSc Information Systems Project Management	2	1	1	50%	50%
MSc Web Sciences and Big Data	19	3	16	16%	84%
Total	1598	220	1378	14%	86%

Table 5: Breakdown of male and female students on online PGT programmes – CS

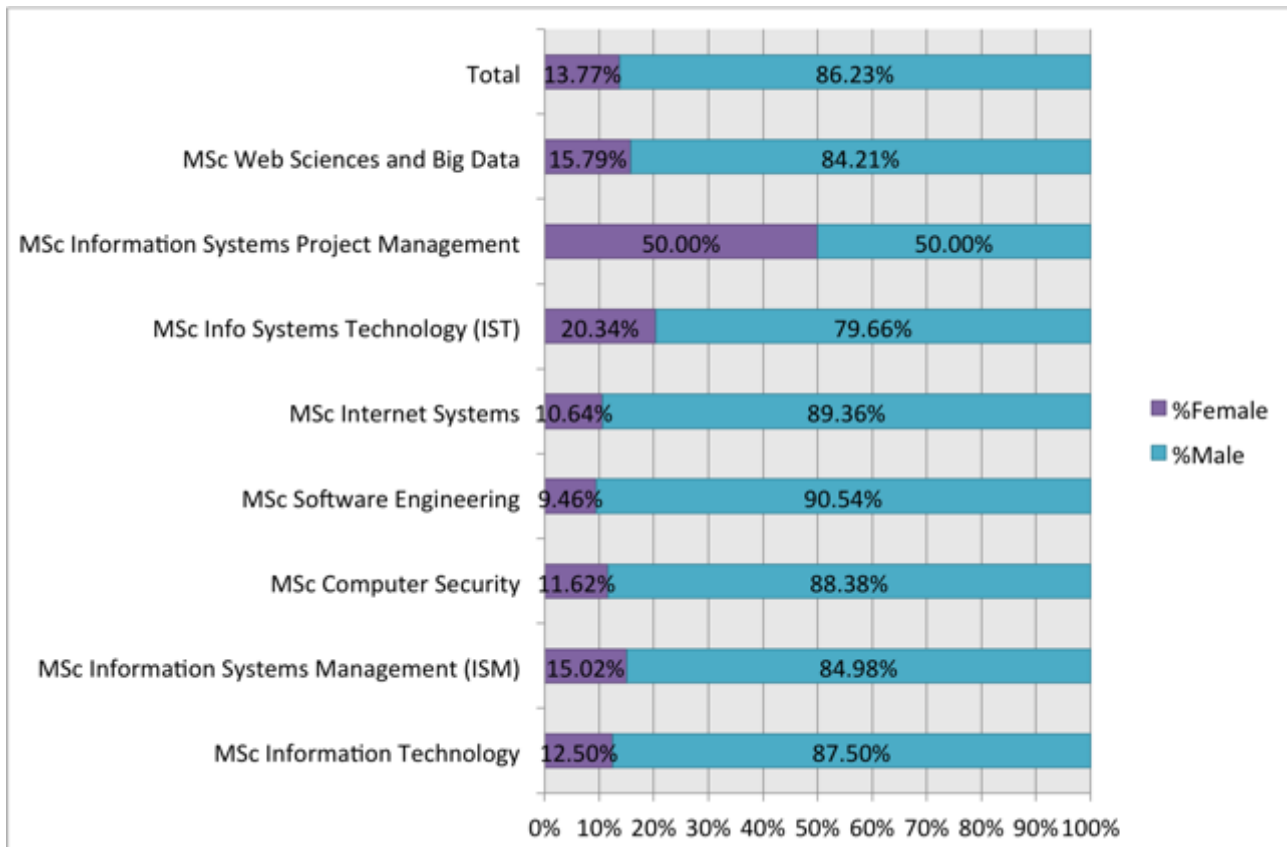


Chart 5: Proportion male/female online PGT programmes - CS

The percentage of female students on most of these programmes is below the national average for on-campus taught programmes. There is no data on the national average for on-line programmes, and the low percentage may be reflection of the particular market sector for these programmes. A project, investigating gender balance in online students, and perceived barriers and benefits, which will

be funded by the Laureate partnership. The output of this will be assessed and an action plan developed for the online programme delivery (**Action 4.2**).

- (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.

The School offers both full-time and part-time postgraduate research (PGR) degrees. Table 6 shows the PGR student population. Female students account for approximately 24%. No women were registered for part-time studies, however there are also very few men who study via the part-time route.

		2009-2010			2010-2011			2011-2012			2012-2013			2013-2014		
		M	F	% F	M	F	% F	M	F	% F	M	F	% F	M	F	% F
School	Full time	63	15	19.2	62	14	18.4	76	18	19.1	68	18	20.9	72	23	24.2
	Part time	4	0	0.0	3	0	0.0	1	0	0.0	0	0		0	0	
	Total	67	15	18.3	65	14	17.7	77	18	18.9	68	18	20.9	72	23	24.2
CS	Full time	16	6	27.3	22	4	15.4	24	4	14.3	27	10	27.0	30	14	31.8
	Part time	0	0		0	0		0	0		0	0		0	0	
	Total	16	6	27.3	22	4	15.4	24	4	14.3	27	10	27.0	30	14	31.8
EEE	Full time	47	9	16.1	40	10	20.0	52	14	21.2	60	13	17.8	75	14	15.7
	Part time	4	0	0.0	3	0	0.0	1	0	0.0	1	0	0.0	0	0	
	Total	51	9	15.0	43	10	18.9	53	14	20.9	61	13	17.6	75	14	15.7

Table 6: Postgraduate research student population

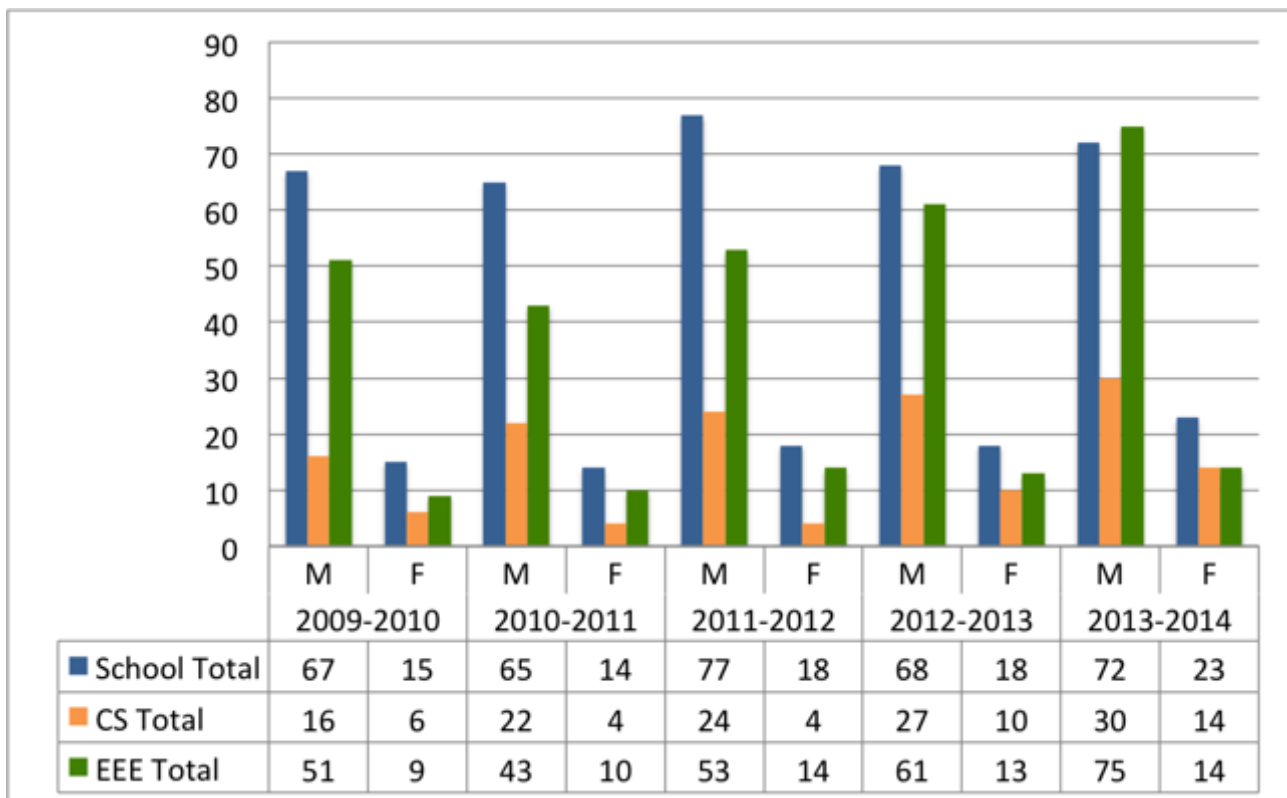


Chart 6: Postgraduate research student population

- (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.**

Tables 7 to 9 show applications, offers and acceptances for the various degrees. Offers have been recorded only since 2012.

Undergraduates		2010-2011			2011-2012			2012-2013			2013-2014		
		M	F	%F	M	F	%F	M	F	%F	M	F	%F
School	App	1155	240	17	1218	235	16	1297	234	15	1468	315	18
	Off	0	0		0	0		934	194	17	1095	256	19
	Acc	269	94	26	259	78	23	311	90	22	393	139	26
CS	App	453	132	23	505	120	19	557	129	19	713	201	22
	Off							397	108	21	515	168	25
	Acc	113	64	36	107	40	27	118	54	31	131	95	42
EEE	App	702	108	13	713	115	14	740	105	12	755	114	13
	Off							537	86	14	580	88	13
	Acc	156	30	16	152	38	20	193	36	16	262	44	14

Table 7: Undergraduates: applications, offers and acceptances

PGT		2010-2011			2011-2012			2012-2013			2013-2014		
		M	F	%F	M	F	%F	M	F	%F	M	F	%F
School	App	1212	224	16	1050	216	17	1064	236	18	870	239	22
	Off	680	149	18	548	142	21	490	147	23	439	152	26
	Acc	80	22	22	91	8	8	67	10	13	41	10	20
CS	App	550	108	16	426	128	23	491	131	21	371	113	23
	Off	339	74	18	252	89	26	236	87	27	161	64	28
	Acc	47	13	22	36	5	12	33	7	18	12	6	33
EEE	App	64	18	22	100	15	13	149	25	14	140	29	17
	Off	30	12	29	64	8	11	83	14	14	80	26	25
	Acc	11	5	31	26	6	19	30	4	12	28	6	18

Table 8: PGT: applications, offers and acceptances

PGR		2010-2011			2011-2012			2012-2013			2013-2014		
		M	F	%F	M	F	%F	M	F	%F	M	F	%F
School	App	120	31	21	170	37	18	234	43	16	242	55	19
	Off	44	13	23	84	16	16	106	22	17	114	40	26
	Acc	21	5	19	36	10	22	45	11	20	44	11	20
CS	App	56	13	19	70	22	24	85	18	17	102	26	20
	Off	14	1	7	20	8	29	23	8	26	34	14	29
	Acc	10	0	0	10	4	29	15	7	32	16	5	24
EEE	App	64	18	22	100	15	13	149	25	14	140	29	17
	Off	30	12	29	64	8	11	83	14	14	80	26	25
	Acc	11	5	31	26	6	19	30	4	12	28	6	18

Table 9: PGR: applications, offers and acceptances

Chart 7 plots the proportions of female students who have applied, received an offer, and accepted the offer, summarised at School and departmental level.

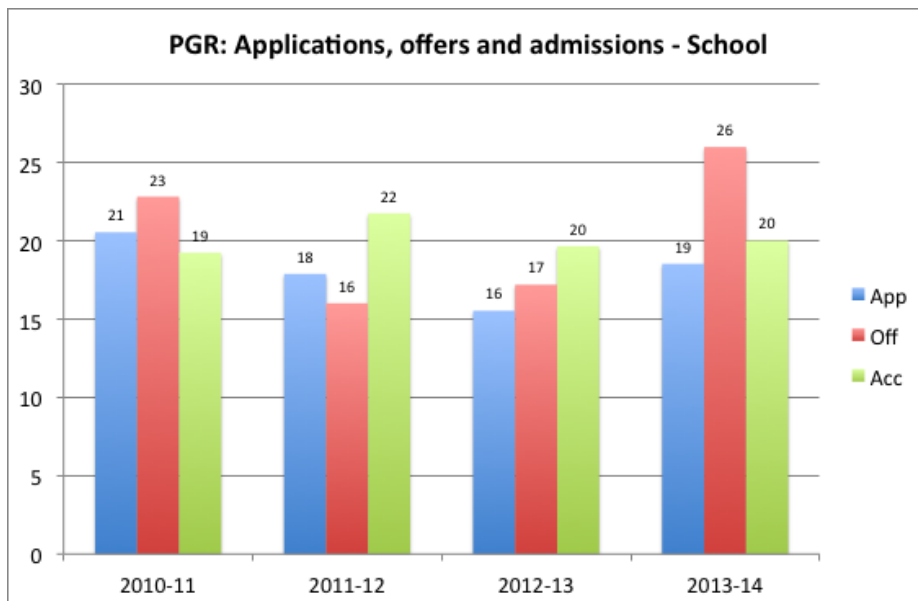
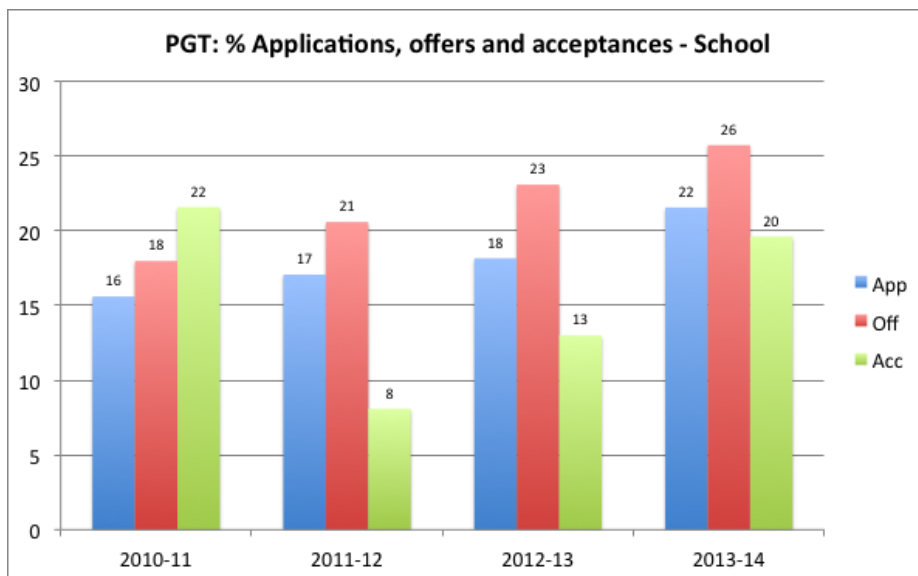
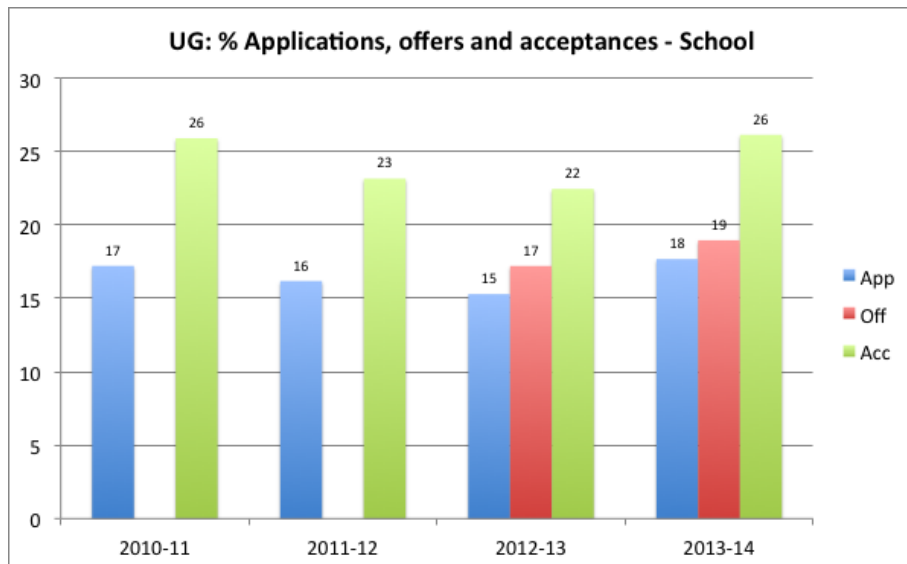


Chart 7: Applications, Offers and Acceptances from female population

The trend for UG is more-or-less flat in the School. The data indicates that female applicants are more likely to accept an offer than male applicants (54.3% in 2013/14). This feature is exploited in the active recruitment strategy explained in 3.b.iii (**action 4.2**).

For PGT applications the percentage of females has risen over the last 5 years by 6.6% to 21.6% with the biggest rise in EEE (8.4%) The proportion of offers increased in the 2 years and there has been an increase in the acceptance rate.

For PGR applications, there has been small raises in the percentage of female applicants applying, being made offers and accepting those offers.

- (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.

Table 10, and Chart 8, show the proportion of male and female students for each degree classification. The majority of female students do very well, outperforming their male counterparts, as they constitute around 30% of the 1st and 2-1, whilst being around 22% of the overall population. However, it appears that the two Departments differ substantially. Up until 2012, the percentage of female students graduating with a First Class degree in CS was nearly half that of the one in EEE. It appears that female CS students find it harder to graduate with top grades. In order to have a better understanding of any barriers, a “Tea club” initiative (**action 4.4**) has been initiated (see flyer on Figure 4). These are informal gatherings (with tea and cakes), held once every other month during term, where female students are encouraged to interact with peers and staff members, to get to know each other and chat casually about a wide range of issues that impact women in computing, both in academic and industry settings. Topics brought up for discussions ranged from questions about studying abroad to gender issues in classrooms and workplaces.

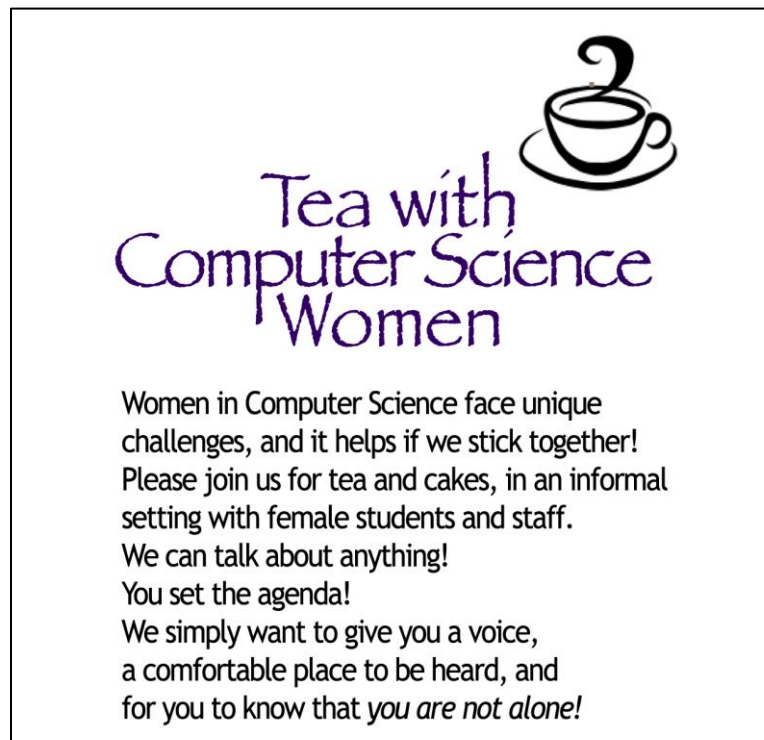


Figure 4: Flyer for the Tea Club

The action plan (**action 4.4**) focuses on other activities aimed at improving the female student experience, by for example, allocating a female advisor to female students, while making sure the assignment does not make the balance of student allocation among the staff unbalanced. Of the 216 new female students entering the school in 2014, 147 (68%) were allocated a female advisor. Also, on arrival students receive details of their advisors and, for female students with male advisors, this includes a statement that they could request a female member of staff if they wished. One student requested this, and a swap was made between advisors. Other initiatives include supporting top female students participate to events like the BCSWomen Lovelace Colloquium or through the IET Women's Network. A prize for "outstanding performance from a female student" has also been established.

		1st		2i		2ii		3rd		Pass	
		M	F	M	F	M	F	M	F	M	F
2009/10	School	50	13	40	10	25	5	9	1	3	0
	CS	19	3	19	7	14	4	3	0	1	0
	EEE	31	10	21	3	11	1	6	1	2	0
2010/11	School	59	22	41	14	35	7	17	1	0	0
	CS	21	10	18	12	7	5	3	0	0	0
	EEE	38	12	23	2	28	2	14	1	0	0
2011/12	School	62	35	59	29	47	10	16	1	8	0
	CS	35	17	29	23	21	8	4	1	3	0
	EEE	27	18	30	6	26	2	12	0	5	0
2012/13	School	79	30	55	24	42	14	20	1	4	1
	CS	37	15	23	15	13	8	4	1	3	0
	EEE	42	15	32	9	29	6	16	0	1	1

Table 10: Degree classification by gender

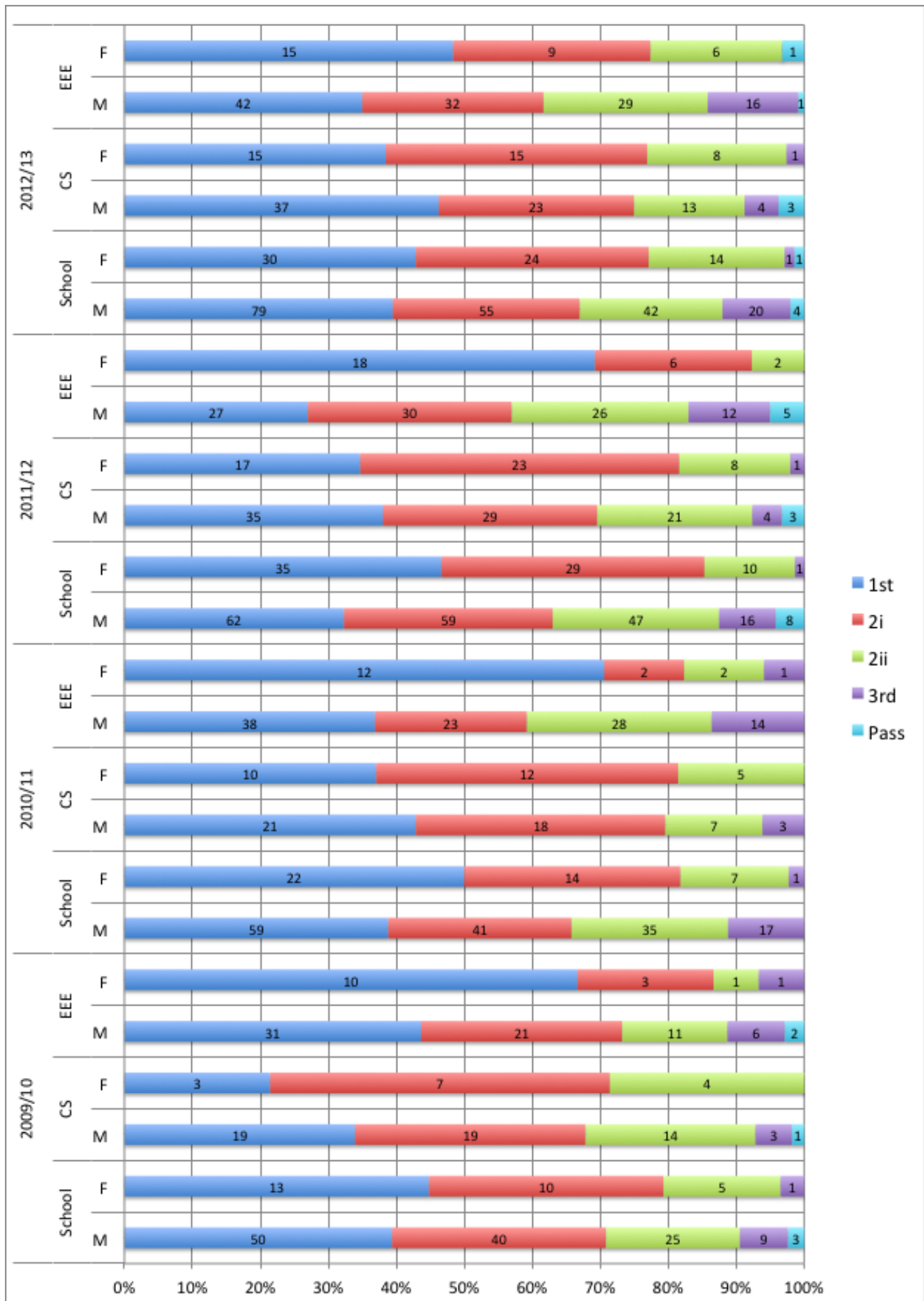


Chart 8: Proportion Degree Classifications Female/Male Population

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/levels

The University has three career pathways: the two “academic” pathways are the Teaching and Research path, and the Teaching and Scholarship path, the latter introduced in 2011 with a focus on teaching and pedagogy, and which still represents the minority of staff (around 5% in all Schools). The Research path is academic-related and includes mainly post doctoral research associates at grades 6 and 7. Grades 7 and 8 correspond to the lecturer scale; grade 9 is the senior lecturer/reader.

Chart 9 shows the numbers and proportion of staff by grade on January 2014.

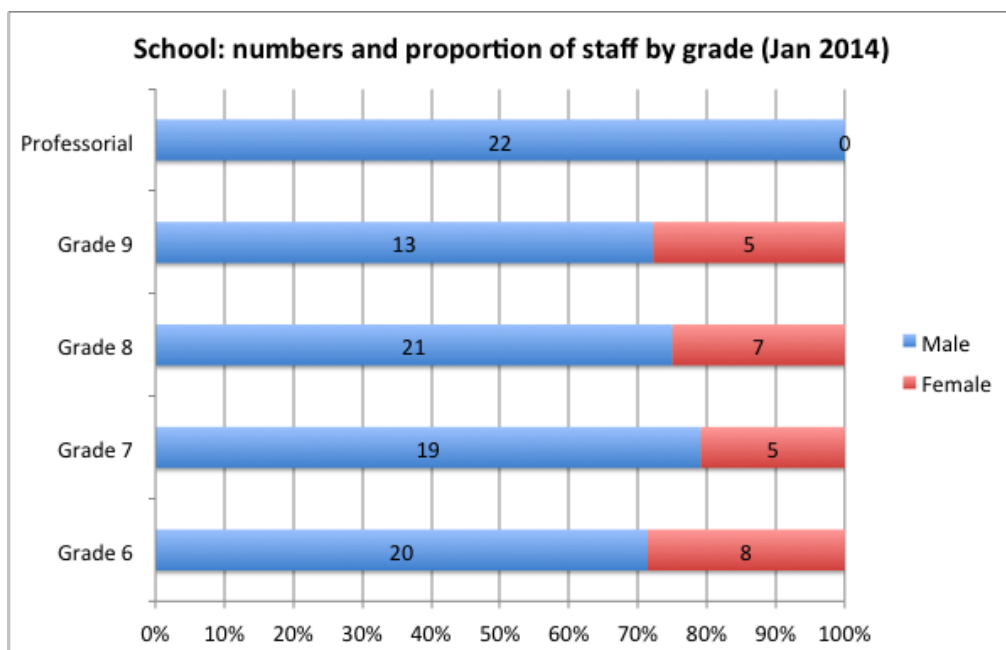


Chart 9: School staff by grade

Charts 10 and 11 show the numbers of all staff by grade for the past 4 years in the two Departments.

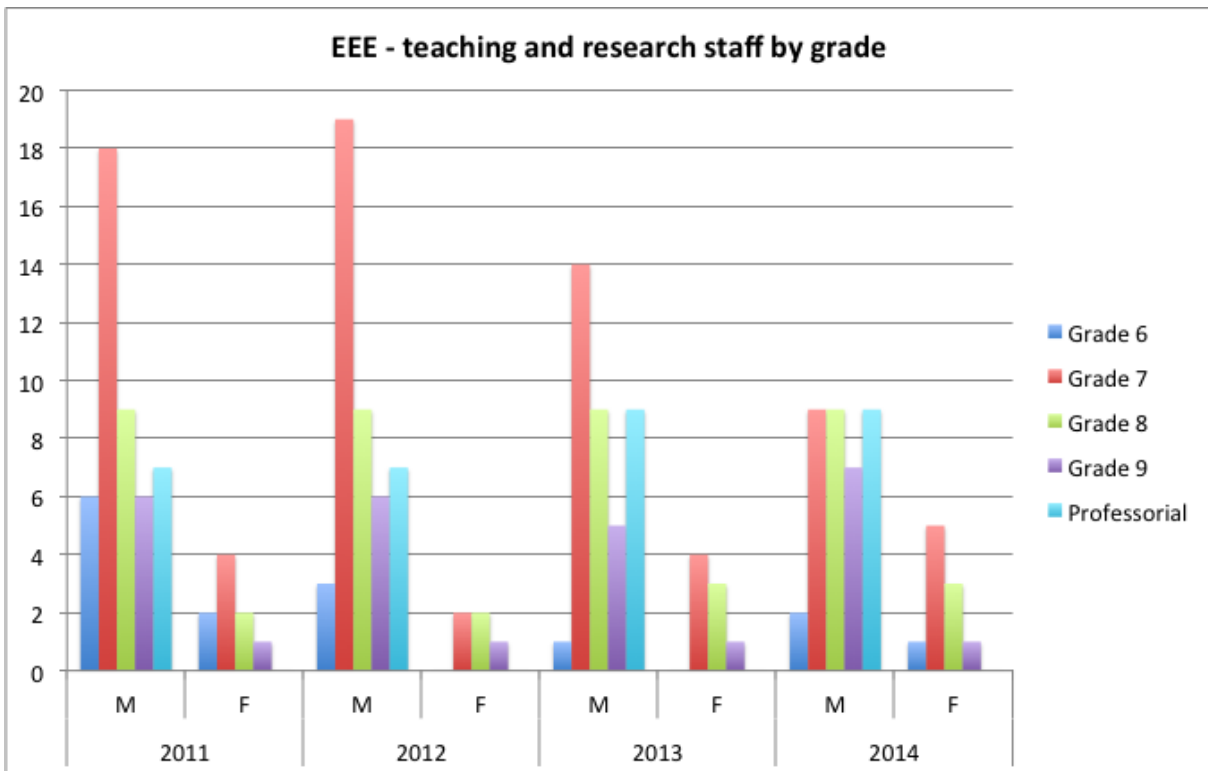


Chart 10: EEE staff by grade

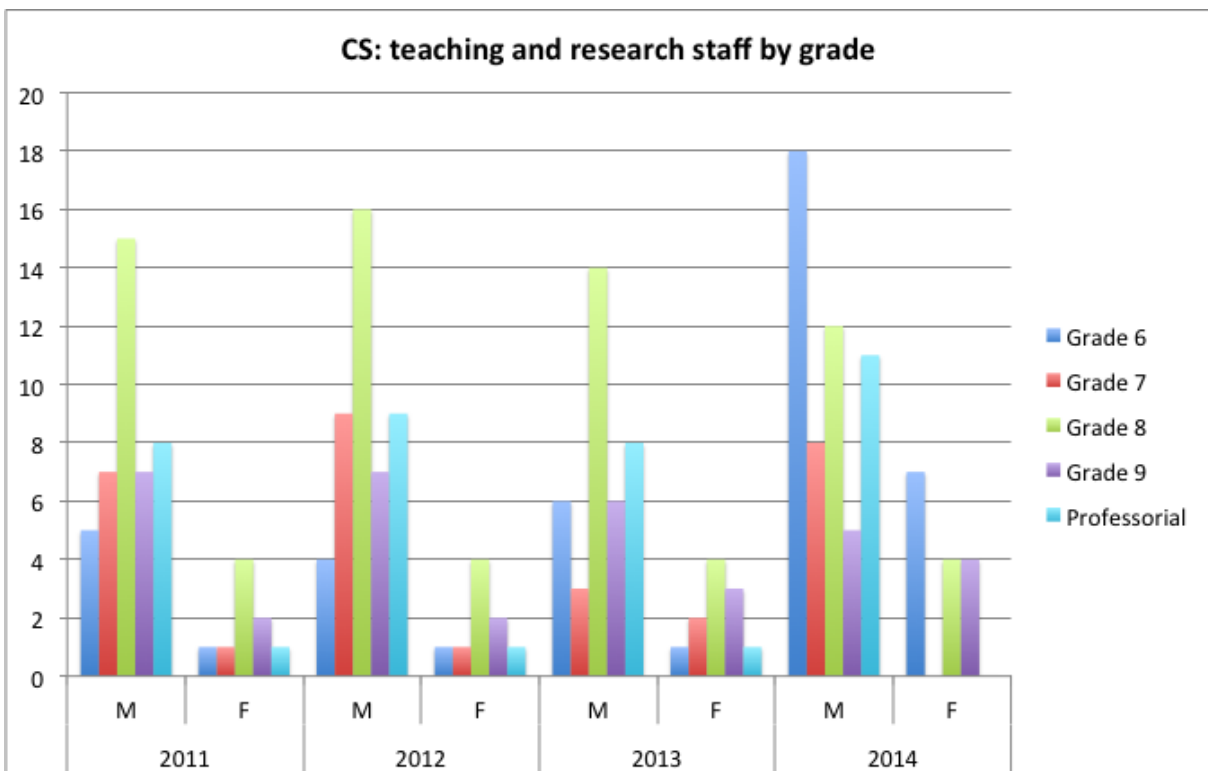


Chart 11: CS staff by grade

Charts 12 to 15 provide the proportion of the two academic pathways against benchmarks both at national level and within the Russell Group. The Teaching and Scholarship pathway counts too few staff for the comparison to be of any

significance. Again, in order to compare with the national average, data is split by department, comparing the data from EEE with those related to "Electrical, Electronic & Computer Engineering", and the ones from CS with those related to "IT & Systems Sciences, Computer Software Engineering". When looking at these comparisons, we see that these numbers are in line, if not better, than those of other institutions.

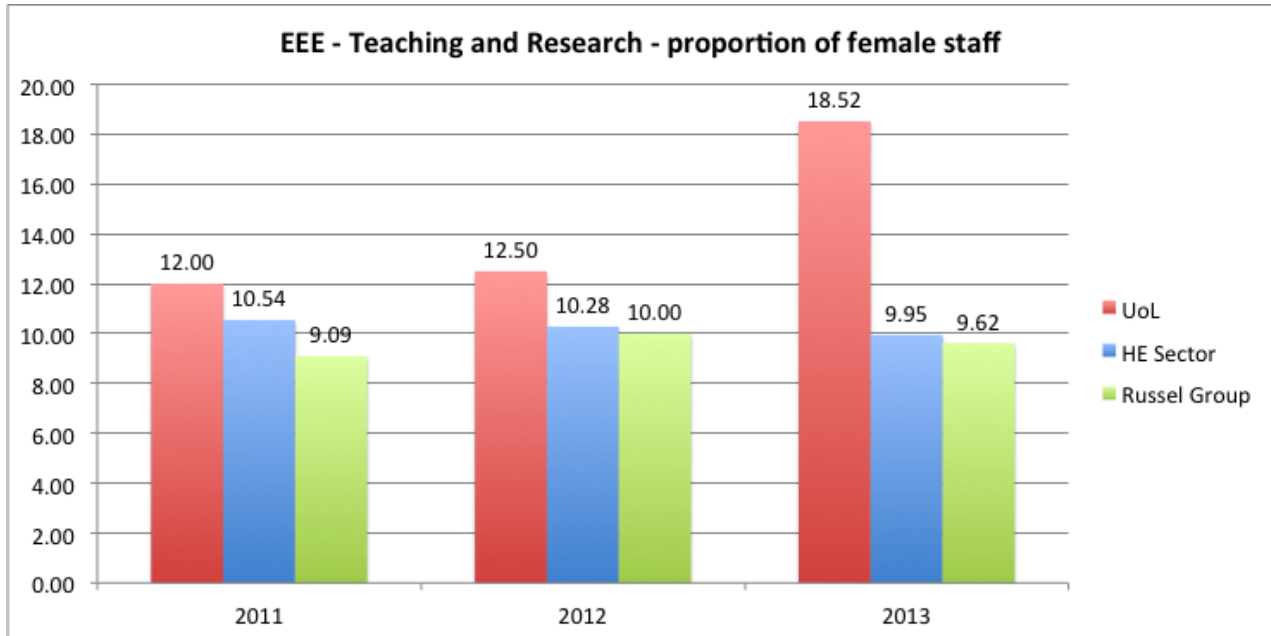


Chart 12: comparison of EEE T&R staff against national and Russell Group figures

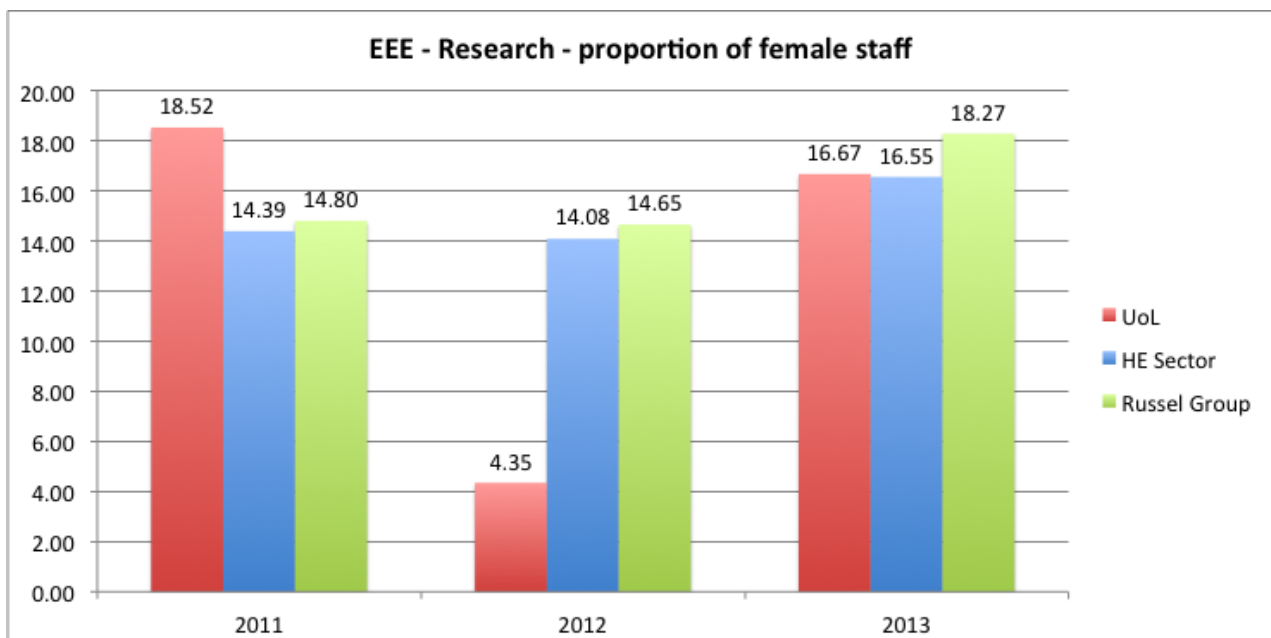


Chart 13: comparison of EEE Research staff against national and Russell Group figures

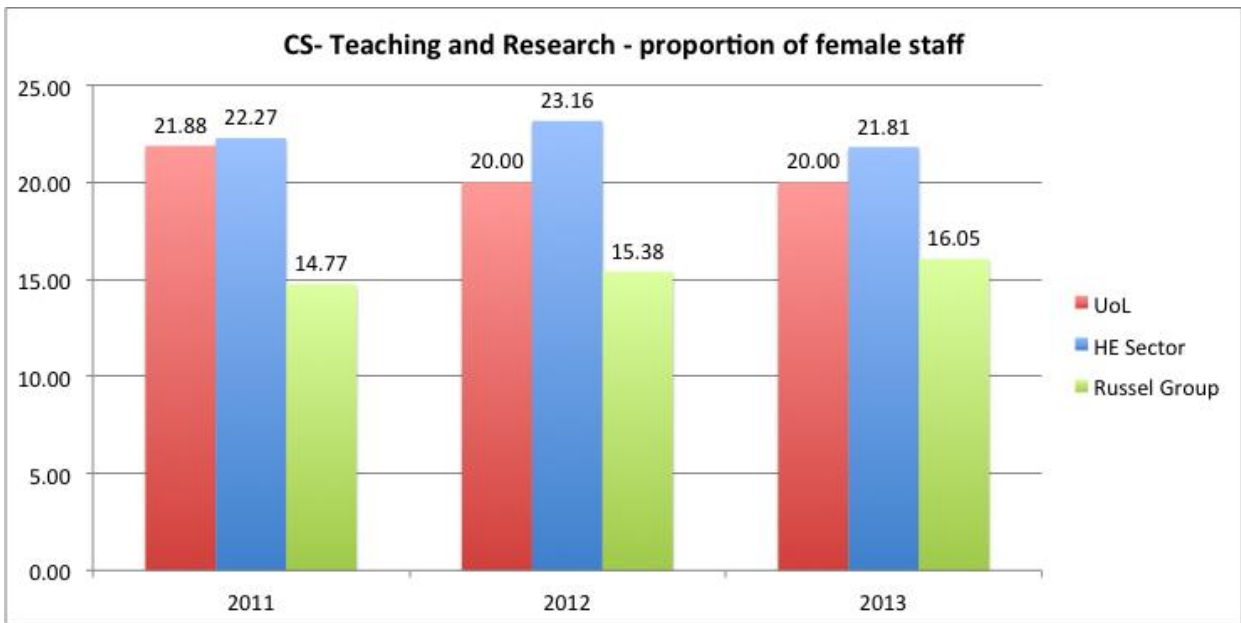


Chart 14: comparison of CS T&R staff against national and Russell Group figures

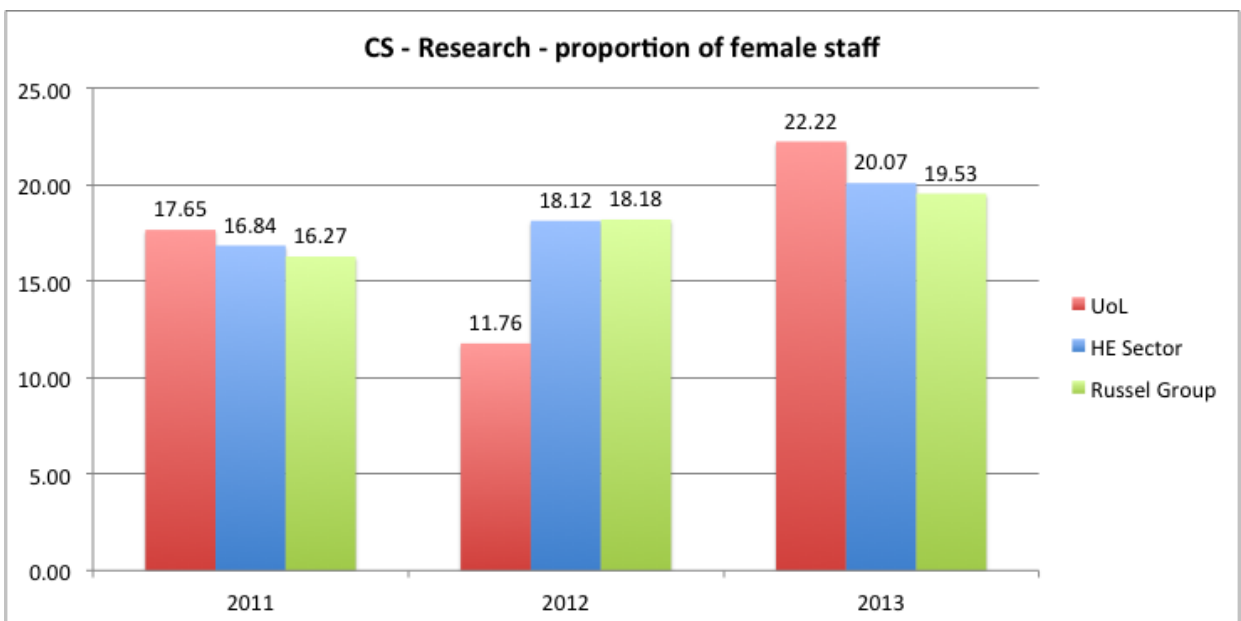


Chart 15: comparison of EEE Research staff against national and Russell Group figures

While there is no clear “leaky pipeline” phenomenon in moving to the senior side of the scale, the two departments are both struggling at senior level, especially at professorial level, with zero female. A system of “peer assistance” has been put in place to help staff applying for promotion prepare a more convincing case (**Action 2.2**). Also, support is given to female staff wishing to undertake leadership courses by contributing to expenses and allowing for time off (**Action 2.2**).

- (viii) **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.

Table 11 provides details of staff leaving from academic, research and teaching roles over the last five years. The staff situation is pretty stable overall, and very few female staff leave the School in general. The majority of staff leaving are those on fixed-term research contract. Particularly relevant, in 2013, three Professors, including the only female professor in the School, situated in Computer Science, left, to move to the University of Oxford.

School		2010		2011		2012		2013		2014		%F
		M	F	M	F	M	F	M	F	M	F	
Teaching & Scholarship	Grade 6	1	0	0	0	0	0	0	0	0	0	0%
	Grade 7	0	0	0	2	0	0	0	0	0	0	100%
Research	Grade 6	2	0	4	2	3	2	0	0	1	0	29%
	Grade 7	5	0	4	2	11	0	5	2	4	0	12%
	Grade 8	0	0	0	0	3	0	0	0	0	0	0%
	Grade 9	0	0	0	0	1	0	0	0	0	0	0%
Teaching and Research	Grade 7	1	0	0	0	0	0	1	0	0	0	0%
	Grade 8	0	0	0	0	1	0	1	0	2	0	0%
	Grade 9	3	0	0	0	1	0	0	0	0	0	0%
	Professorial	0	0	1	0	3	0	2	1	2	0	11%
TOTAL		12	0	9	6	23	2	9	3	9	0	15%

Table 11: Gender breakdown of turnover - School

(word count 1995/2000)

4. Supporting and advancing women's careers: maximum 5000 words

Key career transition points

- 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) **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.

The statistics on job application, separated by department, year and type of position, are shown in Tables 12 to 14. Note that in 2013, a research position was appointed at School level and not assigned to any specific department.

School			Male			Female		
			Applic	Shortlist	Appoint	Applic	Shortlist	Appoint
2010	Research	Grade 6	26	0	0	10	0	1
		Grade 7	155	0	8	24	0	0
		R TOTAL	181	0	8	34	0	1
	Academic	Grade 6	4	0	1	0	0	0
		Grade 8	127	0	3	22	0	0
		T&R TOTAL	131	0	4	22	0	0
TOTAL			312	0	12	56	0	1
2011	Research	Grade 6	31	1	1	3	0	0
		Grade 7	48	10	5	13	2	0
		R TOTAL	79	11	6	16	2	0
	Academic	Grade 7	47	2	1	7	0	0
		Grade 8	55	7	2	15	0	0
		T&R TOTAL	102	9	3	22	0	0
TOTAL			181	20	9	38	2	0
2012	Research	Grade 6	24	7	3	7	2	1
		Grade 7	58	7	3	8	3	1
		R TOTAL	82	14	6	15	5	2
	Academic	Grade 7	8	0	0	3	0	1
		Grade 8	74	13	1	19	2	1
		Professorial	7	0	1	0	0	0
T&R TOTAL	89	13	2	22	2	2		
TOTAL			171	27	8	37	7	4
2013	Research	Grade 6	27	2	1	5	1	1
		Grade 7	117	21	6	18	3	2
		R TOTAL	144	23	7	23	4	3
	Academic	Grade 8	231	14	1	16	0	0
		Professorial	34	0	1	2	0	0
		T&R TOTAL	265	14	2	18	0	0
TOTAL			409	37	9	41	4	3

Table 12: Job applications per year and position – School

CS			Male			Female		
			Applic	Shortlist	Appoint	Applic	Shortlist	Appoint
2010	Research	Grade 6	8		0	7		1
		Grade 7	90		5	12		0
		R TOTAL	98	0	5	19	0	1
	Academic	Grade 8	29		1	6		0
		T&R TOTAL	29	0	1	6	0	0
TOTAL			127	0	6	25	0	1
2011	Research	Grade 7	29	4	1	5	1	0
		R TOTAL	29	4	1	5	1	0
	Academic	Grade 8	26	3	1	7	0	0
		T&R TOTAL	26	3	1	7	0	0
TOTAL			55	7	2	12	1	0
2012	Research	Grade 6	12	2	1	6	1	0
		Grade 7	28	5	2	7	2	0
		R TOTAL	40	7	3	13	3	0
	Academic	Grade 7	8		0	3		1
		T&R TOTAL	8	0	0	3	0	1
TOTAL			48	7	3	16	3	1
2013	Research	Grade 6	21	1	0	5	1	1
		Grade 7	30	9	2	2	0	0
		R TOTAL	51	10	2	7	1	1
	Academic	Professorial	34		1	2		0
		T&R TOTAL	34	0	1	2	0	0
TOTAL			85	10	3	9	1	1

Table 13: Job applications per year and position – CS

EEE			Male			Female		
			Applic	Shortlist	Appoint	Applic	Shortlist	Appoint
2010	Research	Grade 6	18		0	3		0
		Grade 7	65		3	12		0
		R TOTAL	83	0	3	15	0	0
	Academic	Grade 6	4		1	0		0
		Grade 8	98		2	16		0
		T&R TOTAL	102	0	3	16	0	0
TOTAL			185	0	6	31	0	0
2011	Research	Grade 6	31	1	1	3	0	0
		Grade 7	19	6	4	8	1	0
		R TOTAL	50	7	5	11	1	0
	Academic	Grade 7	47	2	1	7	0	0
		Grade 8	29	4	1	8	0	0
		T&R TOTAL	76	6	2	15	0	0
TOTAL			126	13	7	26	1	0
2012	Research	Grade 6	12	5	2	1	1	1
		Grade 7	30	2	1	1	1	1
		R TOTAL	42	7	3	2	2	2
	Academic	Grade 8	74	13	1	19	2	1
		Professorial	7		1	0		0
		T&R TOTAL	81	13	2	19	2	1
TOTAL			123	20	5	21	4	3
2013	Research	Grade 6	6	1	1	0	0	0
		Grade 7	87	12	4	16	3	2
		R TOTAL	93	13	5	16	3	2
	Academic	Grade 8	231	14	1	16	0	0
		T&R TOTAL	231	14	1	16	0	0
TOTAL			324	27	6	32	3	2

Table 14: Job applications per year and position – EEE

Charts 16 to 18 show the percentage of female who have applied, have been shortlisted, and have been appointed, at School and departmental level.

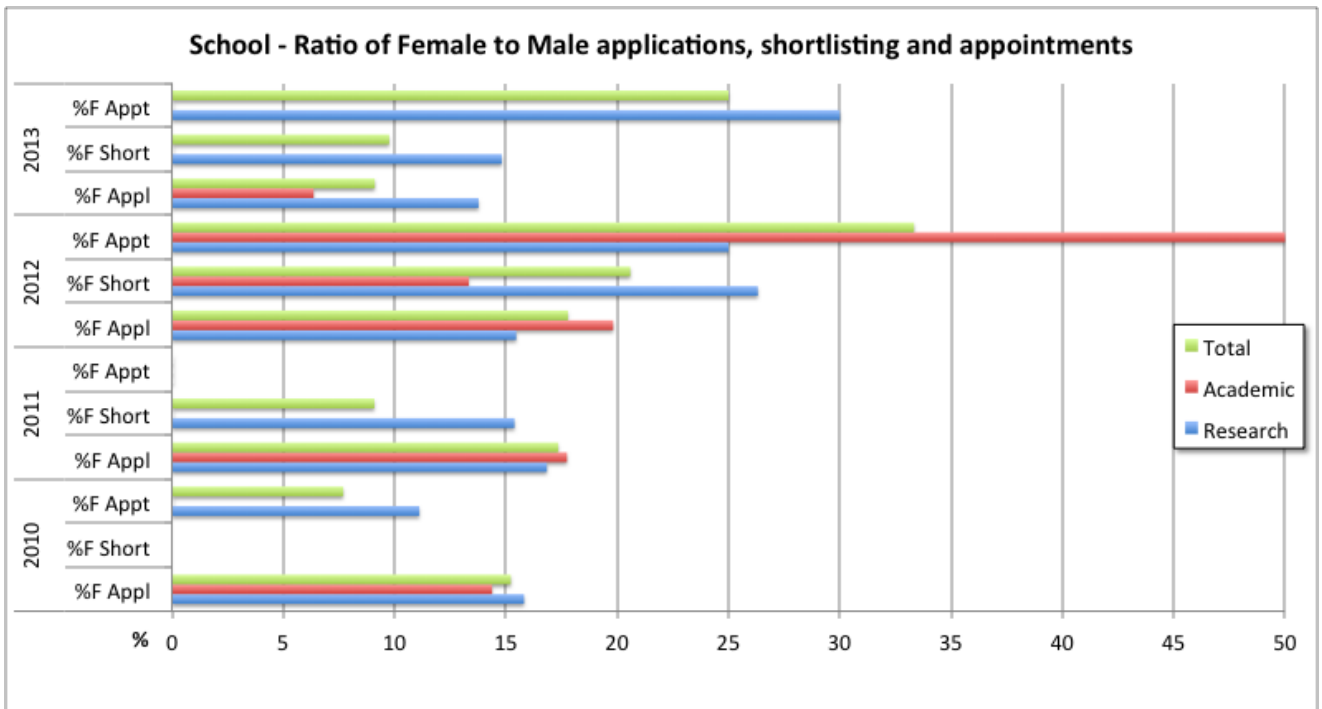


Chart 16: Ratio of Female/Male data on appointments - School

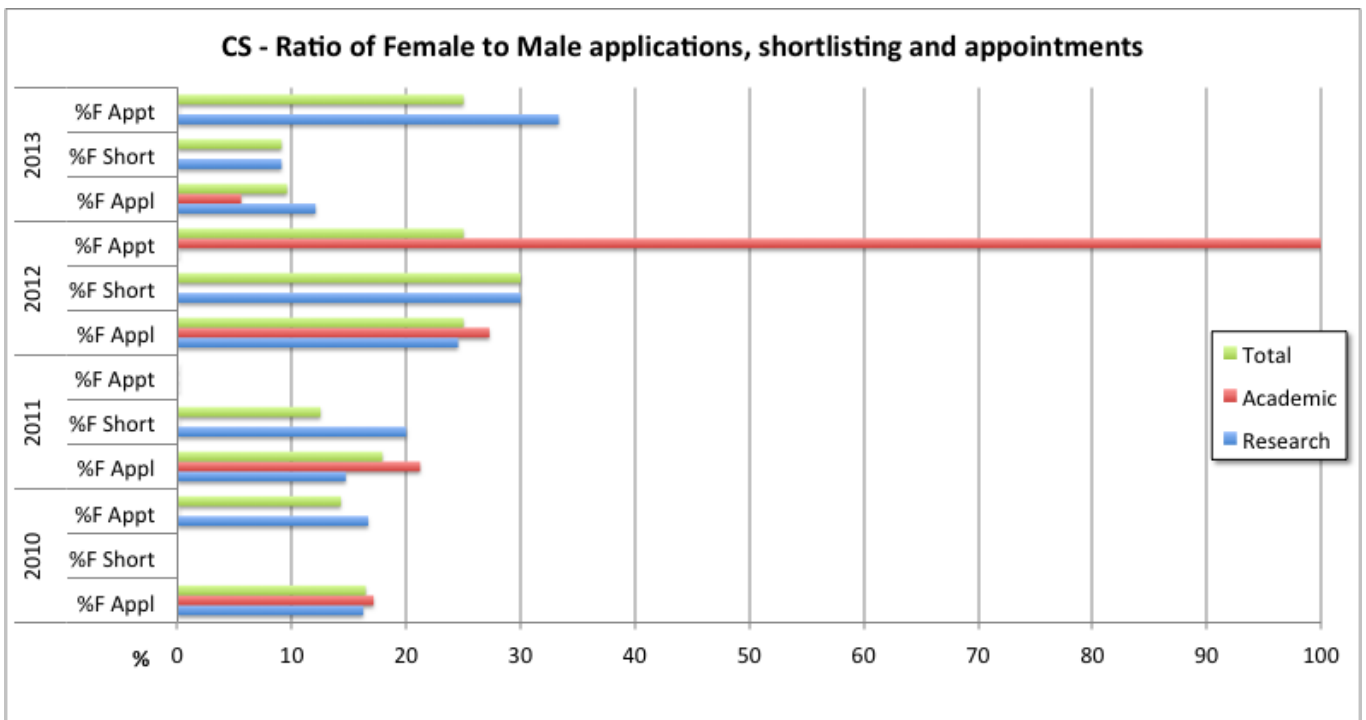


Chart 17: Ratio of Female/Male data on appointments - CS

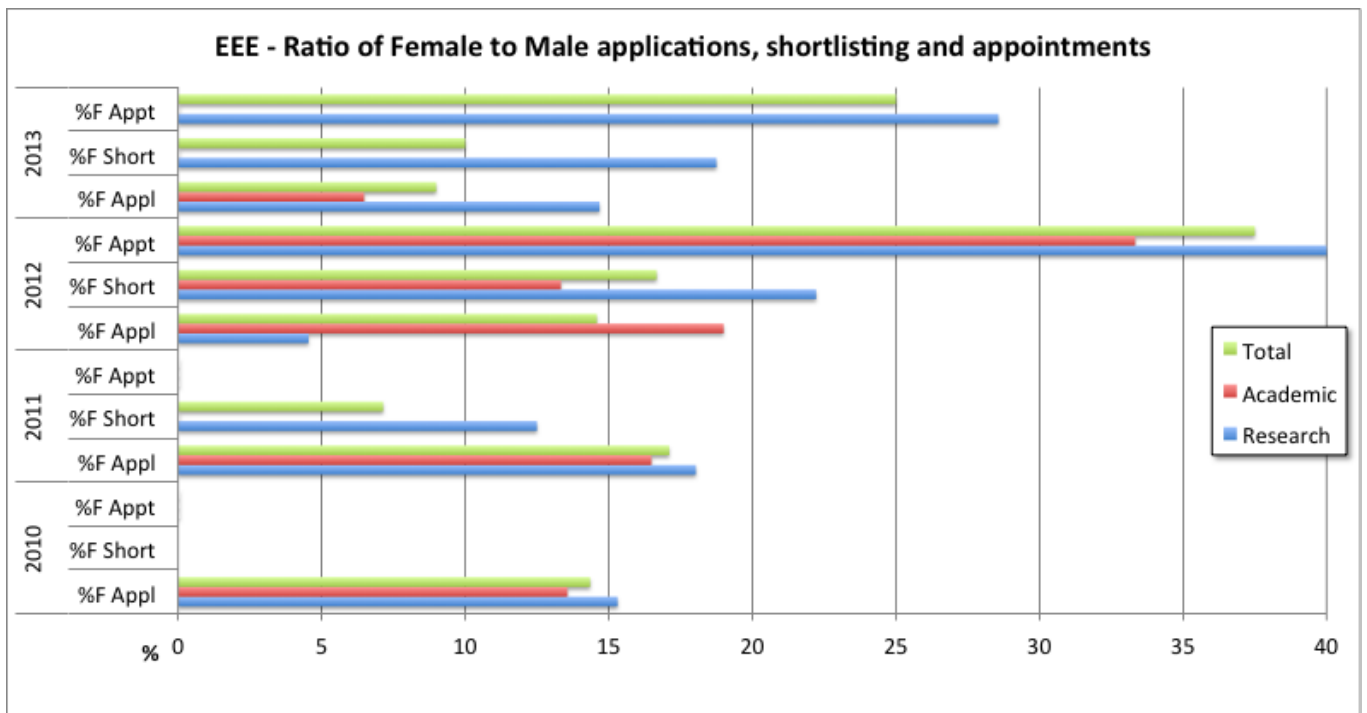


Chart 18: Ratio of Female/Male data on appointments - EEE

While we could not identify bias in the selection process, the rate of application (and subsequently appointment) from female scholars is not encouraging. Especially disappointing is the result for professorial appointments, since often a consultation takes place among the various research groups to approach potential candidates. This suggests therefore that female academic names are rarely put forward. This is definitely an issue that needs attention and positive action, both in the marketing and in the process of informal consultation and approach to potential candidates (**action 2.1**). Also, interview panels, which have been so far predominantly male dominated, need to be more balanced on the academic side. This may involve inviting female academics from other Schools (again **action 2.1** is addressing this) to be on the panel. Further actions planned are the development of “Recruitment Guidelines” for the School and Selection Panels (again **action 2.1**).

- (ii) **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.

Table 15 shows the promotion data in the School.

YEAR	GENDER	No. ELIGIBLE	APPLIED	%ge	SUCCESS	%
2010	male	51	0	0.0%	0	0.0%
	female	11	0	0.0%	0	0.0%
2011	male	52	5	9.6%	4	80.0%
	female	11	1	9.1%	1	100.0%
2012	male	50	8	16.0%	7	87.5%
	female	12	1	8.3%	0	0.0%
2013	male	60	6	10.0%	3	50.0%
	female	13	2	15.2%	1	50.0%

Table 15: Promotion data – School

During the period 2010-2013, the statistics show no clear pattern between the percentage of males and females applying for promotion and their respective success rates. However, the low numbers across the period should be taken into account.

The school has induction and training programs designed for early career researchers including both female and male staff. Induction is for the new staff to meet key members and other colleagues within the department in order to assist a smooth start. Monthly mentoring meet with HoD or line manager is arranged to provide additional support.

Action 2.2 includes an enhancement of the annual appraisal process which will identify interim objectives with a view of applying for promotion in 3 or 5 years, and will also help formally monitor career velocity for all staff. In terms of assessing specific barriers, a focus group/questionnaire study will be carried out to gather issues from staff who have gone for review.

- 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) **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 recruitment processes in the departments are the same, and comply with the University’s equal opportunities policy to address agenda imbalance. However, both departments are poor at attracting female applicants. During the development of this application we have had another round of recruitment. In the further particulars, the following text was included: “Applications from female candidates are encouraged including those who wish to return to academia following a career break”. Given the lack of data on the number of female applicants, those who are short listed and those who serve on interview panels, it is difficult to assess the

impact of this insert. In response to this, the action plan proposes that a new recruitment database will be established (**action 1.2**). It is also planned to ensure that members of staff participating in interview panels must have undertaken Diversity & Equality training (**action 2.1**), which, at the moment, was completed by around 50% of academic staff. As discussed previously, the low number of applicants is also an indication that females are not put forward at the same rate as males, when informal consultations are carried out. The SAT team felt that female scholars outside the school should be given more visibility, for instance by achieving a better balance on the list of speakers on the seminar series, which has been predominantly male over many years. This has been formalised by the setting up of a series of lunch seminar, with invited female speakers and panel discussion (**action 5.2**).

- (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.

While the number of applications for career transition is too low to report on any significant trend, the School has established a “Peer assist” system (**Action 2.2**) for staff seeking promotion: a team of critical readers for promotion applications, ensuring that all cases are not only prepared to similar high standards, but also present similar levels of confidence and achievement. This action is not gender specific, but it is expected will impact more female staff, as it is widely recognised that female applicants are not as self assured as male applicants in emphasising their achievements.

The School participates in the wider mentoring initiative established by the University and the one established by the University-wide Athena SWAN group, both promoted widely among staff. **Action 2.2** will explore mechanisms to encourage staff to participate as mentors.

The School supports the participation of one female member of staff to the Aurora-HE leadership foundation course, a women-only leadership development initiative by the Leadership Foundation for Higher Education, which addresses the issue of the low number of women in senior posts in HE. Thus far, one member of staff has been sponsored, spending one day per month of her time, over a period of five months with her fees and expenses covered by the School. A new call for applications to the scheme has been issued recently.

The School is actively involved in the University wide LivWiSE initiative, a joint initiative by the Faculties of Science and Engineering at the University of Liverpool. LivWiSE is a student/staff society, which aims to raise the profile of women in science, both locally and nationally. A member of staff in the School, Dr. Katie Atkinson, is part of the steering committee of LivWiSE with the specific remit of looking after links with the Industrial Liaison Committee in the School.

Career development

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?

Each member of academic staff participates in the University's Professional Development Review (PDR) annually. Staff are asked to complete a portfolio of activity covering their research, teaching, administration, pastoral work, CPD and outreach. PDR reviewers are appointed by HoDs, and are selected by role, being all professors in the School: this means that since 2013 (when Prof. Leslie Goldberg left) they have all been male. For the 2014 round, two senior female members of staff have been asked to participate as interviewers, with the aim of augmenting the pool in the future years (**Action 2.2**).

The PDR meeting is a discussion on the current contributions, future plans and development needs which are recorded on a common University form, and covers four areas: Role; Contribution and Performance, Plans and Priority and Development and Support. Emphasis is particularly placed on the plans for maintaining a research programme at the right level, on the effectiveness of teaching delivery and on plans for enhancement of these activities.

Staff have an opportunity to raise concerns about any personal or work-related issues affecting their performance. This includes gender issues. Staff can also discuss support they might need in terms of career progression or training. A report is completed at the end of the meeting, agreed upon by both interviewer and interviewee.

In the latest University wide Staff Survey, ran in 2013, and completed by 66 out of 108 staff in the School, staff were asked to comment on their PDR interviews. While data has not been broken down between administrative and academic staff, only half of female staff replying said that the PDR was useful for them, against 82% of male staff; 63% of female staff said that the PDR left them feeling their work was valued, against 88% of male staff. Furthermore, only 29% of female staff said that they agreed a personal development plan as a result of the PDR interview, against the 57% of male staff.

Whilst all areas are covered by the PDR interview, an important part in the interview of an academic on a Teaching & Research career path is devoted to research output for academic staff. Guarantees need to be made that a balanced approach to appraisal is given. For instance, the percentage of female members of staff engaged actively in the wide range of outreach activities pursued across the School **far exceeds** the percentage of male members of staff engaged in these activities, and it was felt this was not given enough weight in the PDR process or the promotion criteria. This is reflected in the staff submitted for the latest Research

Assessments: in RAE 2008 92% of the eligible male staff was submitted, against 89% of female, and in REF 2014 82.4% of the eligible male staff was submitted, against only 60% of the female.

The action plan addresses in various ways these issues. All staff are requested to be up to date with the latest Diversity and Equality training (**action 2.1**), and any other training on unconscious bias, and 2 female senior members of staff (one for CS and one for EEE) have been invited to the PDR interviewing team, and assigned to a female staff on request. The peer assist system and other measures in **action 2.2** are also expected to improve promotion rates for female staff, and increase awareness of gender issues in career progression. The strategy for allocation of leadership and decisional roles to member of staff is also under revision (**action 2.3**). Also, the PDR process will be reviewed (**action 2.2**) to make sure that it is relevant to all staff and that a medium and long term perspective is explicitly included, making sure nobody is overlooked when considering promotion.

- (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?

Both Departments have induction procedures for new staff. This involves an orientation, safety procedures and risk assessments (where applicable) and meetings with key staff within the School. In EEE, Early Career Researchers (ECR) meet with the Head of Department on a six-weekly basis for mentoring. This lasts until the end of their probationary period (i.e. three years). In both departments, ECRs are allocated a mentor. The Heads of Department try to ensure that the mentor has similar research interests to the ECR, but factors such as workload are also taken into account. The Departments do, however, endeavour to assign a female mentor to female members of staff where possible. This mentoring period lasts until the end of the probationary period where usually the Head of Research Group or another senior member of staff will continue the mentoring on an informal basis.

The School's Action Plan encourages (**action 2.2**) and promotes (**action 5.1**) female staff to participate in additional mentoring offered by Athena SWAN and LivWISE. This would also have the benefit of increasing networking opportunities for female staff and bolstering personal and professional support structures.

- (iii) **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.

While female UG students generally do well in attaining the highest degree in the School, the CS contingent seems less successful than their EEE counterpart. The Department of CS has initiated an action of mutual support among female

undergraduates, with the “Tea with Computer Science Women”, a series of meetings started in October 2013, gathering together female undergraduate students and female members of staff in an informal setting to talk about any challenges that female computer scientists face. The group meets one Wednesday afternoon (a non-lecture slot) every other month and will also be open to female students and staff from EEE (**action 4.4**).

The School has operated a policy of allocating female students to female academic advisors, when possible and maintaining a balanced ratio of students per staff member; however, the ever growing numbers of female XJTLU students has made this less easy to implement. With the new academic year 2014/15, female students who have been allocated a male advisor will receive, with the name of their advisor, a note saying that they can request a female advisor instead. A reshuffling of allocations can then be done as a result of this expression of preference. This is not ideal, but consultation with the student office revealed it would be not practical to ask for this preference before students arrive in Liverpool. Only one student requested for an advisor change this year, but we will monitor the outcome of this action and inform a new policy for the coming year (**action 4.4**).

For PhD students, an advisory team of two main supervisors and two advisors ensure enough balance of the many aspects of progression. The choice of the advisory team is primarily driven by research topics, and not pastoral needs. The Director of Postgraduate Research study serves also as first point of contact and personal tutor for the PhD students. This role, in CS, is held by a female senior academic, and a male in EEE. The CS female staff member will be available to female students in EEE to talk about specific related gender-related issues.

The School participation in the LivWISE University initiative means that female students are given the opportunity to access the mentoring services provided. EEE students have also access to the IET Women’s Network Mentoring scheme and this will be made available to students in CS. Female PhD students will be financially supported in participating to LivWISE events, and other Women in Science initiatives (**action 2.4**).

The School supports female students’ participation in nationwide and international initiatives. For example, several UG students in CS are currently involved in **RoboGals**, an initiative that reaches out to high school girls through educational robotics activities, and six of these (4 female and 2 male) constitute the executive committee of the Liverpool charter, with one female student as president (Angelika Johansson, currently in year 3). This was a grassroots operation, but the Department offered the use of the robots in the teaching labs, as well as training. The initiative is very successful: the club has recently become an official society of the Liverpool Guild of Students. They produce a newsletter (see Figure 5), maintain a Facebook page, and have recently featured in an interview on Liverpool Student Radio. The School will increase further visibility of these initiatives, through the school website and the bulletin (**action 4.1**).



The start of an Era

It is with great delight that The University of Liverpool's Guild of Students welcomes Robogals Liverpool to its family of society's

As mentioned previously we are a new society that has just formed to try and encourage young women to get into engineering. As with any society forming it is a massive task for anyone to take on, but with your professional committee leading and organizing events and get-to-gathers the society is certainly in some well experienced hands. As you can see pictured on the right, the Robogals society is a vibrant society with lots of high aim goals we want to

achieve throughout the year. This includes going to local schools and getting more interest in engineering from girls between the ages of 8-15. 2013 is certainly going to be a massive year for us. How would you like to be part of it? Now is a great time to join and see what we are all about. We are open to anyone in the University and more importantly you don't even have to be doing any specific course to be part of the society. You just need a keen



passion to change the way young women think of a career in engineering.

The Current committee is as follows: President: Angelina, Schools Manager: Ella, Training Manager: Rose, Secretary/Treasurer: Hannah, Marketing Manager: Jonathan, Sponsorship Manager: Andrew

Looking forward

A final note just to give you some bullet points of items that are currently being discussed a committee level. As already mentioned, 2013 is going to be a massive year for us to build the foundations of the society, hopefully leaving a lasting legacy that will shape the university

forever, and only you by joining us can make that come true. After all, members make a society. Things that are currently being discussed include:

- Bowling
- Website for the Society
- Go-Carting



- Guest Speakers from local businesses involved in robotics
- And Many More

Figure 5: Robogals Liverpool - a page from the September 2013 newsletter

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.

Figure 6 shows the structure of the School Committees. The Head of School, advised by a Senior Management Team (SMT), the School Professors Team (SPT),

the Finance Team (FT) and by the Infra Structure and Safety Committee (ISSC), oversees the management of the School. Various subcommittees of the SMT, including the Athena SWAN SAT, have remit on specific topics.

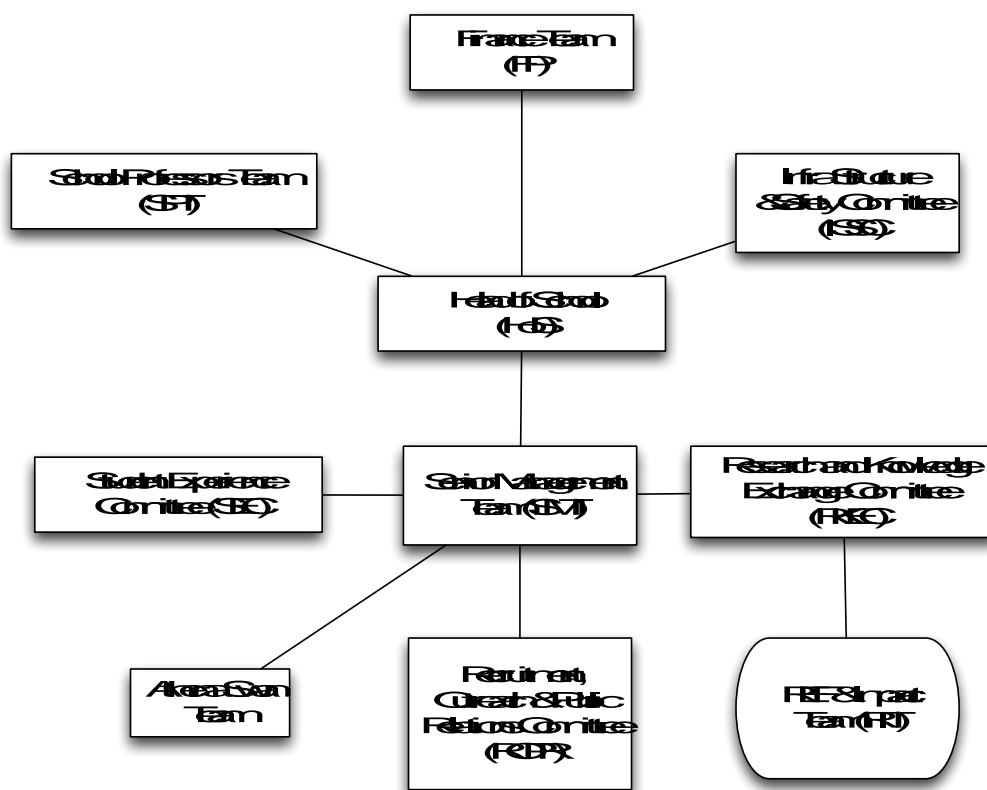


Figure 6: School Structure

The composition of these at October 2014 is shown in the following table 16:

	Male	Female	Academic F	% Academic F	Chair
Senior Management Team	5	3	1	12.5%	Male
School Professors	20	0	0	0	Male
Infra Structure and Safety	7	1	0	0	Male
Finance Team	3	2	0	0	Female
Student Experience	11	1	0	0	Male
Recruitment, Outreach & PR	7	4	2	18.1%	Male
Research and Knowledge Exchange	11	2	1	7.7%	Male
REF and Impact	5	0	0	0	Male
Athena SWAN SAT	5	6	3	27.3%	Female

Table 16: Committee structure at July 2014

The preponderance of male in the decision loci, and the very low numbers of female academics is cause for concern. This reflects the lack of female professors in the School, as participation to these committees is generally by role.

The Board of Studies in the School are organised as follows, and again the low female academic presence is noticeable:

	Academics		Prof. Staff		Students		Total		
	M	F	M	F	M	F	M	F	%F
Board of Studies EEE	13	4	0	1	1	0	14	5	26%
Board of Studies CS	11	2	0	2	0	1	11	5	31%
Board of Studies online CS	7	2	4	3	0	0	11	5	31%

Currently, three degree programmes have a female Director of Studies (2 in CS, 1 in EEE) and female members of staff sit as School representative on various working groups in the University (e.g. eLearning network, Diversity and Equality network, Study Abroad Team, Online Programmes Operational Group).

In Summer 2014 a process has been initiated to reconstitute these committees, to improve gender balance (**action 2.3**).

- (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.](#)

Table 17 shows the number and ratio of male and female staff on fixed-term contracts. Fix term staff are mainly researchers employed on fixed-term research grants. The great increase in teaching and scholarship fixed term staff in 2014 is due to a change in employment legislation whereby any casual staff with a contract over 8 weeks must be included as a staff group, and the number accounts for the various PGR students who act as teaching assistants. The relative high percentage of fixed-term staff in EEE in recent years can partly be explained by some temporary hirings to address the problematic Staff-Student Ratio in that Department: from 2014/15, it is anticipated that permanent positions will become available to deal with this problem.

The University policy is that anyone employed on a fixed term contract for 4 years or more becomes eligible to move to an open-ended contract. The proportion of females on fixed term contracts is generally higher than the proportion of males. This is in line with figures reported elsewhere in the UK. Since research that is funded externally is always fixed term, it is difficult to tackle this issue directly. **Action 2** outlines initiatives to attract and support females applying for lectureships. Basic training in teaching practice undertaken by new academics (Certificate of Professional Skills) is being made available at School level to PDRAs. Suitably qualified FTC female researchers will automatically be placed in a pool of applicants for any advertised academic position within the School (**Action 2.1**, item 2).

		2010			2011			2012			2013			2014		
		M	F	%F	M	F	%F	M	F	%F	M	F	%F	M	F	%F
Teaching and Scholarship	Perm	0	0		0	0		0	0		1	0	0	2	0	0
	Fix term	4	1	20	4	1	20	3	1	25	0	0		20	7	26
	% fix term	100	100		100	100		100	100		0			91	100	
Research	Perm	12	0	0	13	0	0	24	1	4	10	1	9	8	1	11
	Fix term	25	8	24	25	7	22	14	2	13	22	5	19	11	5	31
	% fix term	68	100		66	100		37	67		69	83		58	83	
Teaching and Research	Perm	46	10	18	46	10	18	49	10	17	48	12	20	52	11	17
	Fix term	1	0	0	2	0	0	0	0		0	1	100	2	1	33
	% fix term	2	0		4	0		0	0		0	8		4	8	
Total	Perm	58	10	15	59	10	14	73	11	13	59	13	18	62	12	16
	Fix term	30	9	23	31	8	21	17	3	15	22	6	21	33	13	28
	% fix term	34	47		34	44		19	21		27	32		35	52	

Table 17: Number and proportion of females/males on fixed term contracts

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?

The School has a number of committees looking after various aspects of the School’s operation and strategy. These committees are chaired by senior academic staff. However, as outlined above, this precludes female staff because of the lack of female professors. This is also reflected in the school representation at university level strategic committees. The School will review how committee representation and chairs are assigned, with a lesser emphasis on seniority, while avoiding committee overload for female staff (**action 2.3**).

- (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.

Numerous types of activity contribute to staff workload within the school. Teaching and research academic staff undertake a variety of research, teaching and administrative duties. The distribution of this can vary depending on factors like general teaching load, the seniority of the staff member, and other periodic activities. In contrast, research staff are typically employed on externally funded research projects whose duties are defined by the funding bodies. Support and

administrative staff have duties which are more tightly defined to their specific roles.

Teaching and research academic staff maintain a substantial research programme, and all contribute towards teaching. Duties within each department are allocated by the HoDs with a yearly revision of allocated tasks, done in conjunction with teaching allocation. This allocation of tasks takes into account: ensuring an appropriate balance (for example: more teaching vs less administration); the capability and skills of staff to undertake the assigned tasks, given as preferred choice; and personal circumstances (for example, the allocation of activities that occur outside standard working hours, such as outreach and open days are biased towards academic members that don't have family commitments). There is a rotation of administrative jobs every 3-4 years, and staff members are encouraged to discuss their load with the HoD at any time. The aim of the allocation is to maintain equity in contribution, to create space for new research and teaching initiatives, and to provide support for research activities that lead onto impact. New appointees start with initially low teaching allocations to allow them to establish their academic careers. Typically this has meant increasing to a full teaching contribution over the first three years of appointment.

As of 2013/14, EEE have started to quantify workload for each staff member, in terms of teaching load (i.e. number of credits taught, and loadings for other activities) to graphically monitor and assess workloads. This is to be extended to the whole School. An action in the plan is aimed at the publication of a transparent workload model for the School, to be used as part of the PDR assessment, and yearly allocations will be made public for all staff (**action 2.2**).

- (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.

Teaching is timetabled between 9am and 5pm, Monday through Friday. While there has been, in the past, attention paid to individual requests, for example to accommodate personal constraints in the teaching timetable, this has always been on an *ad hoc* basis. Similarly, there has never been a formal definition of core hours for general meetings. The action plan has already introduced this notion and now School level Committee Meetings are scheduled to a regular timeslot of a Wednesday afternoon between 2.00 and 4.00pm. This will allow for maximum availability as there is no teaching on Wednesday afternoon, and also allows committee members with childcare/caring commitments to attend all meetings (**action 3.1**).

A great cause of concern among staff was the timetabling of the CS research seminar series, at 4pm every Tuesday. Whilst the heritage of this arrangement stems from previously mandated seminar attendance by MSc students, and hence needed to be scheduled in accordance to the MSc teaching timetable, even when this constraint was no longer applicable, the seminar series maintained the same time slot, more out of inertia than for conscious decision. This has, however,

significant impact on members of staff with family commitments, who have over the years deserted these meetings. Also, a seminar which finishes around 5pm, or later if discussions are initiated, means that it is necessary for most speakers to spend the night in Liverpool, and this might not be a feasible option for speakers with family commitments. An analysis of the number of female and male invited speakers seems to indicate that the inconvenience of the slot also impacted the numbers of female speakers in the series. After consultation with the Athena SWAN team, it has been decided to move the seminar slot to a 1pm start, from the academic year 2014/15 (**action 3.1**).

The School has also established, and provided budget of £3000, for an *Athena SWAN lunch seminar series*, starting in academic year 2014/15, at School level. There will be two seminars per semester, one in CS and one in EEE, with female speaker and discussion panel to follow. Lunch will be provided to foster a convivial atmosphere (**action 5.2**).

- (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.

The School has a family-oriented culture, perhaps encouraged by the presence of a number of dual career couples both within the School itself and within the University (and other institutions). Formal outreach publications (the website, brochures) are attentive in promoting an inclusive atmosphere.

The staff overall supports the work of the Athena team: at a recent School Away Day, amongst other activity, the SAT proposed an activity on gender issues: the 65 staff members present at the Away Day were divided in groups and encouraged to discuss and report on a set of questions devised by the SAT team. Concerns on the low number of female students were shared by all. The consensus was that encouraging more women into STEM subjects does matter, and more women in these subject areas would be to the benefit of everyone. Difficulties were identified in terms of cultural issues, which are difficult to tackle at University level. Some felt that lack of current female academic advisors to provide pastoral support to female students was an issue. Interestingly, low numbers of female academics in STEM careers was of less concern, some groups reported that appointments should solely be based on merit. This reaction highlights a common misconception in the assessment of the issue, and calls for more awareness action from the Athena team in the future, e.g. workshops on unconscious bias have been planned for all staff to benefit from (**action 2.1**).

The action plan (**action 5.1**) aims at a greater student involvement in Athena SWAN events, as well as the introduction of Equality and Diversity awareness activities during freshers week. An “Athena SWAN student prize” has been established to be awarded to a (male or female) student promoting the cause of women in science.

- (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.

The School operates a number of policies and initiatives for outreach.

For Open days and UCAS visits the School regularly presents a diverse range of staff and student helpers. Staff on duty is established on a rota basis. The action plan propose to introduce specific Athena SWAN activities for the open days (**action 4.3**).

A “Lego Rovers Days” activity, developed and delivered by Dr Louise Dennis, from CS , and organised via the STEM ambassador scheme, is aimed at school aged children to teach them the challenges of space exploration by also introducing Artificial Intelligence concepts, allowing children to program robots via a simple interface. The website is attentive in including pictures of female children involved in the days (Figure 76).

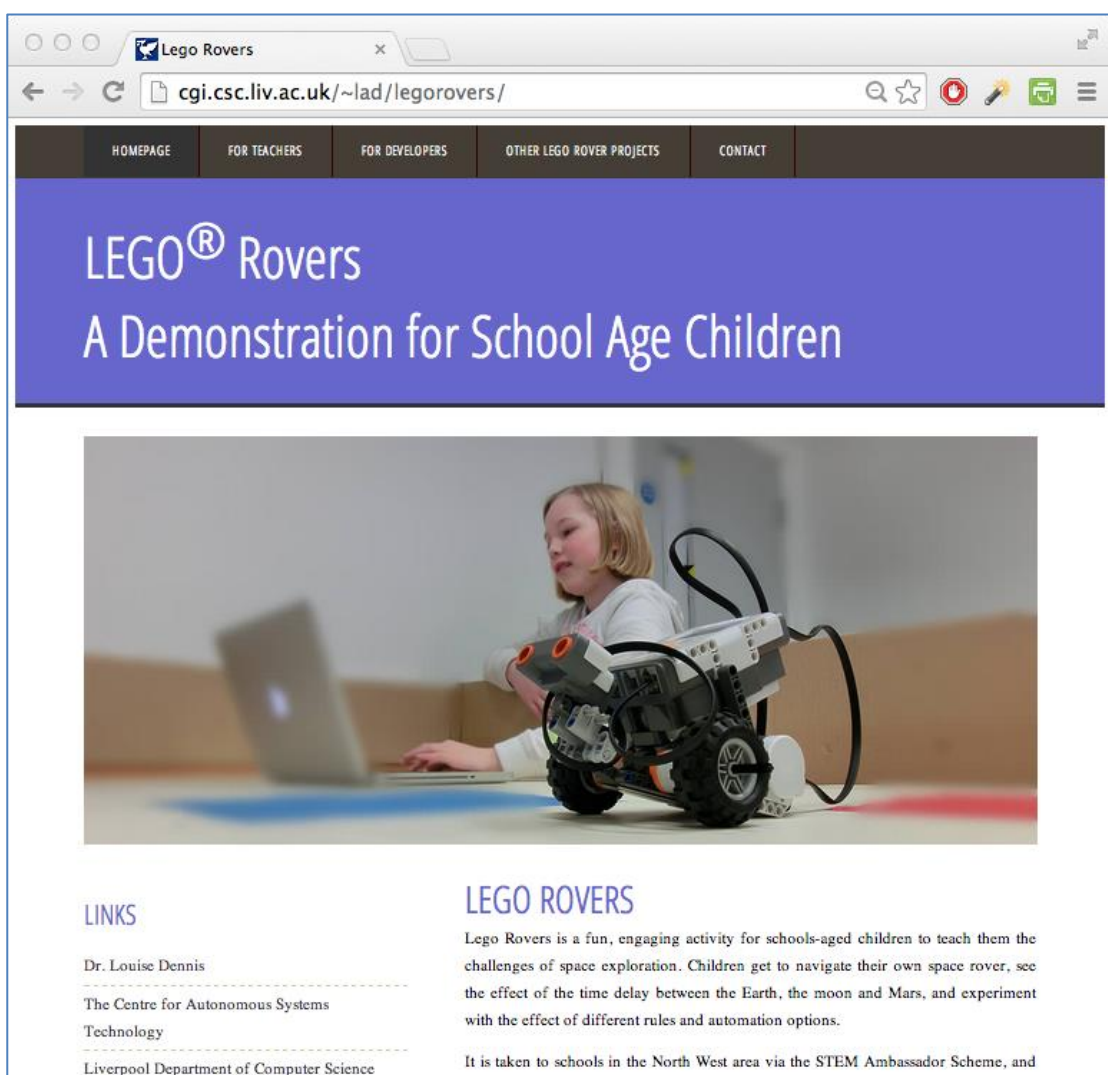


Figure 7: Lego Rovers Day website

A female member of staff ran one *Café Scientifique* event on February 2014, at Prenton High School for Girls: and there were about 13 Year 11 students present. The topic discussed was Artificial Intelligence and issues related to it.

The School is heavily involved in the “Computing At School (CAS)” initiative, and had been the first in the country to sponsor a female “CAS Master Teacher” in a local grammar school. CAS Master Teachers delivers CPD to other teachers and schools and so contributes to developing the computing curriculum across all schools.

In EEE the Schools Outreach Team is composed of undergraduate volunteers and coordinated by a female member of staff. A range of practical activities for all age groups to promote engineering are run by the team which contains a large proportion of women.

EEE along with the school of Engineering have been involved annually with the Engineering Education Scheme since 2007 and EEE have invited Schools for the Faraday Challenge where 70% of the students were female.

There have been a number of all girl schools attending the School outreach events over the years, such as: Altrincham Grammar School for Girls, Alderley Edge School for Girls, Manchester High School for Girls, Skipton Girls' High School, Weatherhead High School, and Wirral Grammar School for Girls. The School is attentive to invite all girl schools, and maintains a list on the percentage of female participants in outreach activities. Attention is also put in making sure visits from a female schools are welcomed by female member of staff (Figure 8).



Figure 8: Dr. Atkinson and Dr. Grasso on a Python Day for the Weatherhead High School

Recently, a female member of staff featured on “Flipside”, an award winning science and technology magazine aimed at students in secondary education. The piece was about about Artificial Intelligence and was to coincide with the release of “The Machine”, a new sci-fi thriller (see **Figure 9**).

Furthermore, the School will increase activities towards primary schools in the region (**action 4.3**) on the basis of research indicating that female pupils are “put off science” very early in school.



Figure 9: A member of staff on an interview for Flipside

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.

As shown in Table 18, there were only three members of staff (2 academics and 1 support staff) taking maternity leave in the period under consideration, two in 2010 and one in 2012. All cases were in the Computer Science Department. In all three cases, staff returned to work after the Statutory Maternity Leave period, and are still in work.

	2010	2011	2012	2013
N# of women who went on Mat leave	2	0	1	0
N# off for Stat Mat Leave only	2	0	1	0
N# off for Stat + Add Mat Leave	0	0	0	0
N# who returned to work	2	0	0	0
N# who didn't return to work	0	0	0	0
N# still in work + 6 months	2	0	1	0
N# still in work + 12 months	2	0	1	0

Table 18: Maternity leave - School

- (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.

Official records show only four cases of paternity leave over the past years (2 in 2010, one in 2012 and one in 2014) and one case of parental leave in 2011. Numbers however do not account for cases in which the leave was agreed informally with line managers, and not reported to HR. Given the flexible nature of academic work, this is expected. Informal conversations with the male staff who had children during this timeframe revealed that most of them did take some time off after the birth of their baby, but either did not, or did not remember whether, communicated this to HR. Only one staff member said he did not take any time off, by conscious decision. While it is good that the vast majority of fathers took time off, the action plan aims at emphasising the cultural reasons why paternity leave should be formally recorded, with actions of awareness, as well as better record keeping (**action 3.2**).

- (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.

There have been no formal applications for flexible working in the School in the time period, though informal arrangements have been agreed with individual members of staff. The SAT intends to investigate how staff perceive flexible working, and whether the lack of formal requests is more due to the nature of academic work than to perceived barriers or ostracism (**action 3.2**).

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.

The positions of the two Departments in the School regarding flexible working are different, reflecting the heritage of a time before the School was established.

In CS many staff have a “research only day” each week when they work from home. Online communication mechanisms, such as Skype, are very much used among staff to remain in contact with students when they work from home, so that students are not disadvantaged. For other academic staff with no teaching commitments, flexible working arrangements remain at an informal level.

In EEE, arrangements are more formal. There is flexible working support for a female member of staff regarding childcare, and also flexible working support for a male member of staff regarding care for an elderly relative. In addition, a male member of academic staff in EEE’s has family based in London and has a 2-year old young child. A flexible working agreement was in place for the academic member to work from home on Friday.

While both approaches have their benefits, the CS informal approach is perceived by staff to offer more flexibility to achieve a satisfactory balance between work and life, and is regarded very highly by staff in the department. The SAT team intends to explore this aspect further, coming to a common policy that can incorporate the best of the two practices in a way that explicitly strikes a balance that works for staff in both departments (**Action 3.1**).

- (ii) **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 does not provide any specific maternity package, beyond the University policy. Informal interviews revealed that the experience of the members of staff going out on maternity leave has been very diverse, with some engaging more easily than others on their return. Some more insights come from the results of the staff survey ran in 2013, which suggest that 46% of female staff in the School feel they do not have a good work-life balance, with 14% strongly disagreeing, as opposed to 30% of male staff, with only 4% male strongly disagreeing. Also, only 47% of female staff perceive the University support them in achieving work life balance, against the 65% of male staff. Clearly staff can have different experiences of the maternity leave and return to work period, hence, in order to have a unified and informed approach, a “return to work scheme” will be established (**action 3.2**).

This will be informed by a preliminary focus study aimed at canvassing opinions from staff who recently have been on leave regarding the perceived barriers and facilitations. Then, the package will be put together, which will cover not only a collection of measures to be put in place when staff return from leave (e.g. reduced teaching load, or specific support to get back up to speed in research) but also a phase of awareness and preparation before the leave takes place, to help gauge expectations better. This is inspired by the “wellbeing plan” recommended by the *Institute of Health Visiting* to address post-natal anxiety and depression, to help anticipate and face issues that might arise later on. The package is expected order to help especially research staff out on leave to keep a suitable level of engagement, without compromising their personal life – work balance.

(word count 4993/5000)

5. Any other comments: maximum 500 words

Please comment here on any other elements which are relevant to the application, e.g. other SET-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 School has engaged in a number of activities, led by the Athena SWAN team, to raise awareness, or visibility, with respect to women in Science. Among others, on 16th October 2013, the School celebrated Ada Lovelace Day with coffee and cakes in the afternoon taking place in the foyer of the EEE department (the choice was made for logistic reasons, as EEE offers a wider space with seats and tables, so passers-by could choose to spend a few minutes relaxing as well as chatting). The students in the School were involved in the preparation of the event, for example, they did some research on women scientists, and prepared small posters which were pinned around the foyer, to create a mini exhibition. The afternoon was meant to be fun (a game of “draw your computer scientists/engineers” provided many laughs), but also an opportunity for reflection. Two boards were placed by the entrance, with blocks of post-it notes and pens, and attendees were asked, in their own time, to indicate “why it matters” for them personally or for society as a whole, that women are not well-represented in science. Post-it notes were collected and analysed by the SAT team as a way to gauge informal feedback on the event, and more importantly on the issue itself. The analysis revealed that some stereotypes and barriers need to be addressed (e.g., notes like “*The female brain is wired for multi-tasking*” or “*Girls can be more careful at work/labs*” appeared often), but also that the perception is that women need encouragement to pursue and stay in the profession (“*Girls should be encouraged to choose more professional career paths!! They are generally scared but they should overcome this fear!!*”) and that there is some awareness that women can bring a broader perspective to the discipline (“*There are certain issues which pertain only to women. Having more women in engineering them will mean that such issues will be addressed*”).



Figure 10: Pictures from Ada Lovelace Day 2013

In the latest University wide Staff Survey, ran in 2013, and completed by 66 out of 108 staff in the School, staff there asked to comment, among others, on the claim “The University respects people equally regardless of their gender”, by selecting one our of 4 statements (agree, tend to agree, tend to disagree and disagree). Results showed a 10 % point shift to tend to disagree (+8 % points) and disagree (+2 % points). The second largest shift was in the category that “I feel the University acts fairly, regarding age, disability.....gender...with regard to career progression” showed a 9 % point shift to tend to disagree (+5 % points) and disagree (+4 % points). The total percentage of staff in the return selecting these statements was 13% and 21% respectively. These changes are unwelcome and may be linked given other circumstantial evidence that we have. To aid understanding of these issues, a specific staff survey will be initiated by the School (**Action 3.1**).

(word count 487/500)

6. 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**.

The action plan does not need to cover all areas at Bronze; however the expectation is that the department will have the organisational structure to move forward, including collecting the necessary data.

REFER BACK TO ACTION PLAN IN THE DOCUMENT

Action No.	Description of Action and actions already taken	Further Action Required	Success Measure and Impact	Timescale	Responsibility
1	Ensuring baseline data and supporting evidence are collected and integrated with School strategy				
1.1	<p>Ensure gender equality issues are integrated in the School strategy.</p> <p>Actions already taken: 1. "Athena SWAN" is a standing item in staff meetings, both at School and at Departmental level, and staff "away days" 2. The "Athena SWAN" School lead is now member of the Senior Management Team (SMT)</p>	Athena SAT lead to act as point of contact for staff to raise issues for the attention of the SMT	Success: Issues raised freely by staff. Measure: Actions completed and reported back to Staff. Impact: Medium through a continuous dialogue with Staff leading to overall improvement.	Quarterly, via call for agenda items.	SAT
		Annual report on the progress of Athena SWAN action plan, and update on School data	Success: Changes in School operations and strategy to deliver on the diversity and gender agenda. Measure: Annual updates to the School Strategy and improvement in Statistics for the School. Impact: High.	Annual (spring)	SAT+SMT
1.2	Improve data on job applications.	Formalise data collection on shortlisted candidates vis a vis all applicants.	Success: Data collection started. Measure: Analysis of data and trends. Impact: High, used to inform changes in the staff gender profile.	Start Data Collection September 2014.	SMT
		Record of gender balance of selection panels	Success: Start data collection. Measure: Analysis of Data and Trends. Impact: Medium, this will help understand where barriers are in the recruitment process.	Start Data Collection September 2014.	SMT
		Design a feedback form to gather insights on aspects of the application process and interview from all applicant shortlisted and interviewed	Success: Feedback form designed. Measure: Feedback form in use. Impact: Medium/High as this will provide value information from candidates and understand where barriers are in the recruitment process.	Complete 2014	SAT + HoS/D
2	Improve gender balance in academic staff				

2.1	<p>Achieve better gender balance in academic applications.</p> <p>Actions already taken:</p> <ol style="list-style-type: none"> 1. Job description and advert standard text now include Athena SWAN logo and reference to family friendly policies. Adverts clearly indicate that female applicants are encouraged. 2. Promote active searching for suitable female candidates. 3. E&D training required for all academic staff; currently 40% staff trained. 4. Suitably qualified FTC female researchers will automatically be placed in a pool of applicants for any advertised academic position within the School (Action 2.1, item 2). 	<p>Ensure the constitution of interview panels include at least 25% female academic representation.</p>	<p>Success: gender balance in interview panels averaging one quarter of components. Measure: through data collection. Impact: Medium/High, bringing in different perspectives in the the selection process decisions.</p>	<p>Complete end of 2014</p>	<p>HoS</p>
		<p>Development of "Recruitment Guidelines" for distribution among Heads of Research Groups and Selection Panels, including establishing a "recruiting team" to actively search for female candidates.</p>	<p>Success: increased percentage of female applicants. Measure: Though data collection. Impact: High, provide a greater cohort of female candidates from which to recruit.</p>	<p>Increase percentage of job applicants to be female by the end of 2016.</p>	<p>HoS</p>
		<p>Extend E&D training requirement to all staff and PhD students.</p>	<p>Success: 100% staff successfully completed training. Measure: Data from central records. Impact: Medium as everyone will have an understanding of the issues.</p>	<p>100% of all academic staff trained by December 2015. 100% of all staff and PhD students trained by December 2017.</p>	<p>HoS</p>
		<p>Organise workshops and events on unconscious bias.</p>	<p>Success: All Staff attend a workshop and increase their awareness of the problem plus annual item for a Staff meeting. Measure: A post workshop questionnaire to assess Staff understanding of the problem. Impact: Medium with Staff awareness of the problem increased.</p>	<p>Workshop complete March 2015 and on a staff meeting agenda once per year.</p>	<p>SAT/HoS + HR</p>
2.2	<p>Improve awareness, interest and application level by females, for promotion. Distribution over junior/senior levels of staff should become similar for males and females.</p> <p>Actions already taken:</p> <ol style="list-style-type: none"> 1. "Peer assist" system for staff seeking promotion: this ensures staff provide the 	<p>Questionnaire/focus group to gather issues from staff going for review.</p>	<p>Success: all female staff are actively monitored with an eye on progression. Female staff seeking promotion will be offered support from recent successful cases. Measure: From statistical data. Impact: High with more Female Staff in Senior roles and taking on leadership roles.</p>	<p>Annually, in parallel with annual review</p>	<p>HoS and HoDs</p>

	<p>evidence to satisfy the criteria for promotion and to ensure that all cases are prepared to the same standards.</p> <p>2. Support was given to a female member of staff to attend leadership courses.</p> <p>3. Integrate CS and EEE PDR processes.</p> <p>4. One female PDR interviewer in place for each Department, to whom female staff can request to be assigned to.</p> <p>5. Promote mentoring scheme in the University.</p> <p>6. Transparent work and task allocation available to all staff on School web site.</p>	<p>Ensure all staff is engaged in PDR process, and accurate recording of interviews are maintained.</p>	<p>Success: 100% staff reviewed and outcome recorded. Measure: through data. Impact: High with all staff engaged in professional review.</p>	<p>100% staff engage in PDR in 2015, and annually.</p>	<p>HoS and HoDs</p>
		<p>Increase number of female PDR reviewers.</p>	<p>Success: an increase in the number of female PDR reviewers. Measure: statistics on staff undergoing PDR training. Impact: High with more interaction of female staff in the PDR process.</p>	<p>At least two Female PDR reviewers by December 2016. Staff who desire so, will have a female PDR interviewer from 2015.</p>	<p>HoS</p>
		<p>Explicitly include a medium and a long term perspectives around the PDR process (identifying interim objectives in order to be ready for review in 3 or 5 years). Review and publicise the criteria for promotion.</p>	<p>Success: Make sure nobody is overlooked when preparing for promotion. Measure: percentage of staff engaging with PDR with a view on promotion. Impact: High, with improved velocity of progression.</p>	<p>2015 PDR and yearly. Revised after each year (reports to HoS).</p>	<p>HoS/HoDs</p>
		<p>Encourage female and male members of staff to participate as mentors (and mentees for junior staff and PhD students).</p>	<p>Success: A larger pool of staff available with healthy balance of female/male Staff. Measure: A list of mentors and their mentees. Impact: Medium with more mentors available</p>	<p>30% of staff trained as mentor by December 2016, with 20% of these as female mentors.</p>	<p>HoS/SAT</p>
		<p>Develop leadership course application criteria and processes, and promote participation to all staff, especially female.</p>	<p>Success: More female staff attending leadership programmes. Measure: through the statistics: Impact: High with increased female input into the decision making processes.</p>	<p>At least one Female Staff per year attending leadership programmes - annually</p>	<p>HoS and HoDs</p>
		<p>2.3</p> <p>Improve gender balance on decision making committees, at School, Faculty and University level.</p> <p>Action already taken: Constitution of School committees is now not based on role, to counterbalance the lack of female professors in the School.</p>	<p>Identify capable female staff members to serve on and chair departmental, school and university committees.</p>	<p>Success: all committees have female membership; 25% of Departmental committees to be chaired by female staff, and/or having a female HoD or HoS. Measure: Paperwork. Impact: High due to the wider experience that the chair will bring and the influence women will have in decision making by bringing in different perspectives.</p>	<p>To be completed by September 2015.</p>

2.4	<p>Support female PhD students shape their career.</p> <p>Actions already taken: 1. Diversity and Equality issues are included in PhD induction material. 2. Promote mentoring schemes for PhD students.</p>	Support for PhD students to participate in LivWISE events and mentoring schemes.	Success: More than 75% of PhD students engaged. Measure: Attendance at meetings. Impact: Medium as it will promote the profile of LivWISE and increase participation.	75% achieved by December 2016.	SAT
		Support student's participation to Women in Science events.	Success: Data available. Measure: Data taken from portfolios. Impact: Medium as decisions can be made to ensure equality.	End of December 2014	SAT
		Female PhD students should have easy access to female staff and peers for support and guidance.	Success: Depending on topic and availability, a female advisor will be assigned to female PhD students. All PhDs who desire so, have a guaranteed female member in their advisory team. Measure: Use available data. Impact: Medium as gender issues can be discussed effectively.	End of July 2015	SAT
		Identify and support female PhD students considering a career in academia. Initiate statistics on PhD students going back to an academic position after their degree.	Success: more female PhD graduates actively looking for a career in academia. Measure: Gather data via a survey. Impact: High as this will encourage more females into academia.	Annually	HoS/HoDs
3	Support a family friendly environment for staff and students				
3.1	<p>Increase work-life balance initiatives within School.</p> <p>Actions already taken: 1. CS seminar series moved to a more accessible time slot for female and part time staff. 2. School level committee meetings scheduled to a regular timeslot of a Wednesday afternoon between 2.00 and 4.00pm. This will allow for maximum availability as there is no teaching and also allows committee members with childcare/caring commitments to attend all meetings.</p>	Run CS+EEE staff survey, to complement the University Staff survey, specifically looking at gender issues.	Success: at least 70% staff engaging in the survey. Measure: from data collection. Impact: Medium/High, gaining better understanding of the issues related to gender which are specific to the School.	Autumn 2015	SAT

3.2	Support staff and students with family. Actions already taken: 1. Raise awareness of maternity and paternity leave and other Institutional family friendly policies. 2. Promote new "Parents and Parents to be Staff Network".	Focus group study set up with staff recently on maternity/parental leave to understand issues and barriers.	Success: All staff who have been on maternity, paternity or parental leave engaged in the group. Measure: From data collection. Impact: Medium as this enable important issues to be addressed.	Study plan drafted by March 2015. Focus groups to be completed by end of 2015. Report on findings by March 2016.	SAT
		Extend funding by 6 months for students on maternity/paternity leave.	Success: At least 70% of students requiring leave to have access to funds. Measure: usage data from these services. Impact: Medium as this will allow students additional funded time for their PhD.	By September 2015	SMT
		Establish "Return to work scheme" to staff back from maternity or parental leave, to help their return to work easier. This support will be tailored to the individual and the circumstances.	Success: Policy developed that details this. Measure: Policy implemented. Impact: High as staff are assist back into their career.	Details of the scheme informed by focus group study results. Scheme implemented by September 2016.	SAT, HoS and HR
4	Improve gender balance in the student population				
4.1	Improve marketing material and visibility of female students/staff. Actions already taken: 1. Publicity material assessed for representation of female perspectives. 2. Targeted Facebook advert (to women aged 16-20) to promote "Electrify" online taster course.	Produce new material which addresses all prospective students.	Success: New material published and used in the School literature. Measure: Material available and is liked by the end users. Impact: High as this material will be used more to engage with females.	Draft by March 2015 and new material published by October 2015	SMT
		Increase social media visibility of female academics (and feed publicity material)	Success: Media exposure to increase. Measure: Through number of publications. Impact: High as this will increase the visibility of female staff	75% of female staff to have some visibility in social media by September 2015	SMT
		Increase visibility of female UG and PG students and female alumni on School website (testimonials, student blogs etc) and of students' society (e.g. Robogals).	Success: Recruit at least one female student per year for a School-page contribution. Measure: Visible on website. Impact: Medium as this will increase visibility.	One female added per year. First complete by September 2015.	SAT

4.2	<p>Increase UG/PGT applications/recruitment from women.</p> <p>Actions already taken:</p> <ol style="list-style-type: none"> 1. Top 35 applicants, to which a further 8 female students are added, are sent personalised correspondence, reflecting the content of their application. Also, a personalised email is sent to the same students after exam results are published. 2. Ada Lovelace prize established for "outstanding performance from a female student" 3. Informal report and presentation on marketing collateral lacking female presence for online PGT programmes. 	<p>Form advisory team on gender balance: focus group or questionnaire work to gain insight on which courses are more attractive to female students.</p>	<p>Success: Increase female student intake. Measure: From admission data. Impact: High as this addresses the gender imbalance.</p>	<p>Increase percentage of female admissions by 10, for both UG and PGT, over three years starting in October 2016</p>	<p>SMT + SAT</p>
		<p>Development of an action plan for addressing the gender imbalance and opportunities for online programmes.</p>	<p>Success: Increase female student intake. Measure: From admission data. Impact: High as this addresses the gender imbalance.</p>	<p>Increase percentage of female admissions by 10 for online PGT, over three years starting in October 2016</p>	<p>SAT + Online Programme Operation Group</p>
4.3	<p>Outreach to female schools:</p> <p>Actions already taken:</p> <ol style="list-style-type: none"> 1. Monitoring of female schools involved in outreach activities. 2. Where possible, female staff or STEM ambassadors are involved in activities with female schools. 	<p>Increase activities towards secondary and primary schools in the region.</p>	<p>Success: 50% of female pupils taking part in outreach. Measure: From data. Impact: High as this will encourage more females to consider science and engineering as a career path.</p>	<p>To reach 50% by the end of December 2015</p>	<p>SAT</p>
		<p>Organise "Athena SWAN activities" in open days.</p>	<p>Success: Activities introduced. Measure: From interest shown in the activities on open days. Impact: Medium as it promotes the Athena Swan agenda.</p>	<p>Introduced by March 2015</p>	<p>SAT</p>
4.4	<p>Develop initiatives to improve female student experience.</p> <p>Actions already taken:</p> <ol style="list-style-type: none"> 1. Where possible, and considering workload, a female advisor is allocated to female students, if requested. 2. Tea club established for CS female students and staff. 3. Support and disseminate female student societies reports, e.g. Robogals. 	<p>Tea club extended to EEE students.</p>	<p>Success: Greater uptake of tea club. Measure: by attendance. Impact: Low but will provide an informal forum for discussion.</p>	<p>30% of staff and students engaged by June 2016</p>	<p>SAT</p>
		<p>Identify and support female final project students (UG and PGT) to present to BCSWomen Lovelace Colloquium, and similar initiatives</p>	<p>Success: Female students making a presentation. Measure: Through attendance. Impact: medium as this would to a good show case for some students giving them confidence.</p>	<p>First female student by July 2016 and aim to have at least one student every year.</p>	<p>SAT</p>

		Establish a culture of peer support among female UG in the School, by setting up a network of students	Success: Network for peer support established. Measure: number of members in the network. Impact: Medium as it will encourage support for the Athena Swan aims.	To be implemented September 2015.	SAT
5	Create a culture of gender awareness among staff and student				
5.1	Promote Athena SWAN initiatives among staff and students. Actions already taken: 1. Regular bulletin with news and updates. 2. Athena SWAN area on School website 3. Athena SWAN activities included in School away day	Organise Athena SWAN and E&D awareness activities during fresher week	Success: Activities delivered. Measure: from interest shown in the activities. Impact: Low but it will highlight E&D issues with students.	To be implemented September 2015.	SAT
		Involve students in Athena SWAN events.	Success: 50% of female students engaged. Measure: By register. Impact: Medium as it publishes the agenda.	50% participant rate achieved by June 2016	SAT
		Athena SWAN prize established for student (male or female) promoting the cause of women in science.	Success: prize awarded. Measure: Publicity. Impact: Medium as it will provide publicity and promote the agenda balance.	First prize awarded by July 2015.	SAT
5.2	Organise Events and meetings. Actions already taken: 1. Annual .budget of 2000£ set for organising events such as Ada Lovelace Day 2. Annual budget of 3000£ set for Athena SWAN lunch seminar series 2 per semester with female speakers and discussion panel + lunch to follow.	Lunch seminar series initiated, with 4 speakers invited per year.	Success: attendance to seminar series. Measure: from interest in the series. Impact: Medium, as research from distinguished female scholars is disseminated.	Annual, four seminars per year, first to be held on January 2015.	SAT + Heads of research labs
		Fund UG/PG student engagement with STEMM ambassadorships	Success: Increase in student participation: Measure: Through the number of students engaging.	Increase STEMM ambassadors by 50%. To be achieved by July 2016	SMT
		increase male participation to Athena SWAN activities	Success: Events with male chair/organiser. Measure: interest shown in the activity. Impact: Low but males will also made aware of Athena Swan.	Annually.	SAT

