

**Nomination of the School of Electronics, Electrical Engineering and Computer Science at Queen's University Belfast for the 2017 Minerva Informatics Equality Award: *Supporting the transition of female PhD and postdoctoral researchers into faculty positions***

Head of School:

**PROFESSOR DIMITRIOS NIKOLOPOULOS**

Room 01.007

Computer Science Building

18 Malone Road

Belfast

Northern Ireland

BT9 5BN

+44 028 90974647

ees-hos@qub.ac.uk

**Abstract/Summary**

The School of Electronics, Electrical Engineering and Computer Science (EEECs) at Queen's University Belfast dedicates significant effort to support the transition of female PhD students and postdoctoral researchers into research and academic positions. This effort also focuses on career planning, training, networking and building confidence. The school is a recipient of the Silver Investors in People (IIP) Award and a Health and Wellbeing Good Practice Award, indicating a positive working environment and excellent working conditions for all staff and students. The school also holds a silver Athena SWAN award, reflecting our continuing and best practice efforts to support female staff and students.

## 1. Description of the Initiatives

To support and increase the female representation in EECS at a faculty level, the School's initiative focuses on three core objectives:

- 1) To help female staff/students plan their academic career and support them at key transition points
- 2) To build the confidence of female staff/students within the School
- 3) To create a positive working environment in the School for females to work and study.

**1.1. Support for Career Planning and Progression:** The School of EECS has key measures in place to ensure all PhD students and staff are significantly supported to plan and progress their careers. The School actively supports female PhD students and encourages them to consider a post-doctoral research career. In 2015, a 3 year **Structured Development Plan (SDP)** was introduced for all EECS PhD students (£10K annual investment), to provide students with relevant training opportunities. A considerable amount of training takes place in year 1 (16 courses, of which half are technical). In year 2, all PhDs attend an Innovation Summer School week organised by the School, to introduce students to the concepts of entrepreneurship and innovation. In year 3, the SDP focuses on interview preparation.

For all new staff, a one-day mandatory induction, outlines the support the School offers. All new female staff are provided with a mentor (a senior staff member) during their probation period. Line managers are trained in conducting appraisals, and all staff have a personal development plan as an appraisal outcome, including a detailed career plan and immediate development needs. These individual plans are collated into the School Training Plan (annual budget >£250K) and the School's Human Resources Executive (a HR Consultant funded by the School) ensures all training is actioned during the year. Additionally, female-specific career development opportunities are promoted and the Head of School personally encourages participation, providing the necessary finance. For example in 2016, 4 female staff attended a "Women in Leadership in a Changing World Conference". Female role models are extremely important and female academics within the School feature predominantly in promotional material. In particular, Professor Máire O'Neill, as a successful research leader and a mother of three young children, is an excellent role model. Máire acts as mentor for both PhD students and early-career academic staff. She has given talks at Queen's Gender Initiative events on 'Women in Leadership', 'How to be a Professor by 40' and 'How to win Research Money'. The School successfully introduced peer mentoring in 2012 for PhD students and in 2013 for researchers. In the last 3 years, 25% of the mentees were female.

The School invests significantly in **funding part-time study for female staff**, and provides 100% financial support to female Research Assistants (RAs) to undertake a part time PhD (investment of £2K per annum per RA). This significant investment demonstrates a clear commitment to female PhD students and researchers that the School supports their long-term career aims.

**1.2. Development and Support of Confident Communication and Teaching Skills:** The School recognises that lack of confidence is a key reason why female staff do not apply for promotion opportunities, and have introduced initiatives to instil confidence in the female staff and students within the School. EECS offers female postdoc researchers the opportunity to apply for **Teaching Fellowships**, which allow postdoc researchers to acquire valuable teaching experience, without having a negative impact on their research. For this, the School provides funding to extend their current research contract by one month to carry out teaching duties. The researchers are matched with an academic mentor to co-teach a module over a twelve week period. The taught module is aligned with the researchers' teaching preferences, where possible. In the pilot in 2015/16 we offered 3 fellowships (1 female). Due to the success of the scheme, in 2016/17 we extended the scheme and offered 7 fellowships (4 females). PhD students also have the opportunity to **demonstrate in undergraduate practical classes**, enhancing communication and supervisory skills. Last year, 11 female PhD students demonstrated in undergraduate classes.

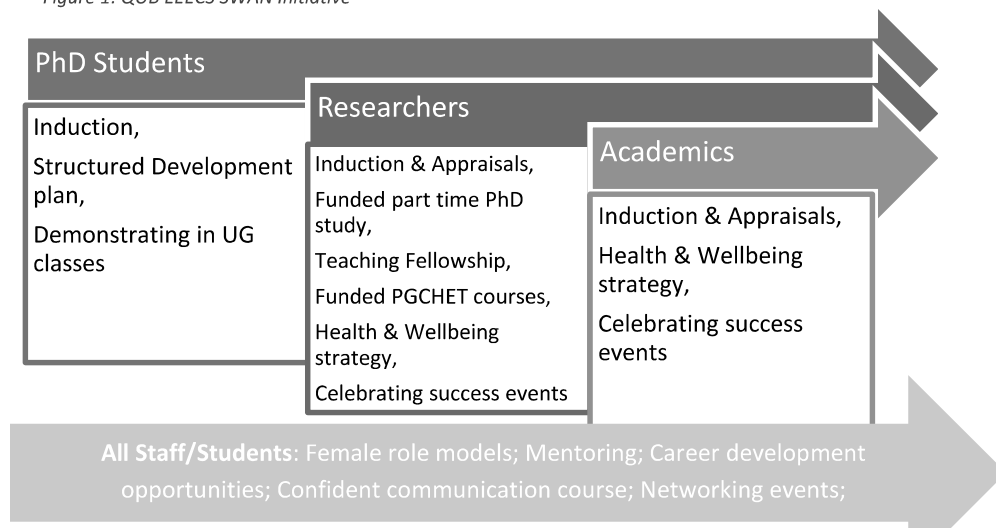
The School supports female research staff to undertake the Postgraduate Certificate in Higher Education Teaching (**PGCHET**), accredited by the Higher Education Academy. The PGCHET provides a formal qualification in teaching in higher education (mandatory for new academic staff). The PGCHET is funded at a University level for Academic staff but not for research staff. The School provides the necessary additional funding (£1700) for female research staff, who plan to pursue an academic career.

Following extremely positive feedback from four female members of staff who attended a Communication Masterclass at the University of York in 2013, the School introduced an annual one-day **Confident Communications and Presentation Course** in 2014, delivered by Actress and Voice Coach Victoria Pritchard. This course is offered to all female PhD students, research and academic staff (including female only sessions). It is entirely practical, including vocal and physical exercises, body language techniques, camera work and group discussion. On completion, participants receive an individual report, outlining their key strengths and a summary of learning points. Every year female staff and PhD students feed back to the School how beneficial they have found this course. On average, 8 female staff/students attend this course annually.

**1.3. Development and Support of Networking and Wellbeing:** One of the School's priorities is to create a **positive working environment**, to encourage the female students, researchers and academics to continue their career in the School. **Regular PhD and Staff surveys**, and focus group sessions have been held since 2011. Several **networking opportunities** have been launched by the School. This includes monthly 'brown bag' events, with industry invited guests, to encourage knowledge-sharing, and the formation of an Engineering and Physical Sciences Faculty Network, which holds annual events. In 2011, a School Research Society was established to enhance the quality of the research experience. It has a calendar of networking events in place, including at least one female focused event. The School uses female internal and external speakers, and meetings or events are scheduled between core hours (10am-4pm), where possible. Recently the School has introduced twice yearly '**celebrating success**' events to recognise significant achievements within the School. The School holds charity coffee morning events with all proceeds going towards staff nominated charities (to date raising over £4K including funds for female focused charities such as breast cancer, Little Princess Trust etc.) As well as formal networking events, the School hosts a broad range of social activities including at least two family fun days, a summer BBQ and a Christmas quiz held annually.

The School is fully committed to its **health and wellbeing strategy**, with the goal of healthier and happier staff. Annually, the School offers all staff Lifestyle Assessments through Chest, Heart and Stroke (30 female staff participated in 2017). Female staff are also offered breast screening, cancer awareness sessions, healthy lifestyle and work-life balance workshops. One recent School scheme enables staff to have a loan of a Fitbit device, to promote healthy living and for School team building challenges (23 females are currently participating). Part of improving the quality of the working environment for female staff is a **mandatory inclusion workshop** for all staff which focuses on unconscious bias (particularly gender bias). The School will extend this mandatory session out to all PhDs next year.

Figure 1: QUB EEECS SWAN Initiative



## 2. Evidence of Impact

**2.1. Recent student/staff transitions:** In the last three years, **four** female staff including one postdoc, one research fellow and two senior engineers, have **successfully transitioned to lecturer posts** in the School. In the same period (2014-2017), at least **four** female PhD students have secured research posts within the School. The School strongly believes that our targeted initiative has made a significant contribution to the progression of those successful female staff members and indeed all members of staff. In the past three years, the School has 100% probation success rate amongst female research and academic staff, which suggests that the appraisal system and the mentoring scheme have also been very effective.

Table 1: Number of female EEECS Staff/Students

EEECS Staff Ratios	No. of Females	Total No.
Professors	1	15
Senior Academics	1	16
Lecturers	5	26
Lecturers of Education	1	12
Research Fellows	5	40
Research Assistants	1	17
PhD students	20	141

In particular, it has been noted by the School that the **Teaching Fellowship (TF)** has a great impact on the junior academic staff. Two participants (1 male, 1 female) from the latest TF cohort were appointed as lecturers this year, which demonstrates clear evidence of the success of this initiative. Comments from the recent cohort of TF researchers are displayed below:

*'The teaching fellowship provided me with further opportunity to prepare, plan and deliver lecture material, as well as more one-to-one interaction with the students. I think this is helpful for my long-term career plan in academia. The fellowship gave me the opportunity to lecture and to realise that I enjoy lecturing, motivating me to pursue an academic career.'*

*'The fellowship gave me more confidence and more relevant, concrete teaching experience to apply for the lecturer post - without which I almost certainly wouldn't have got the job at this stage of my career.'*

One of the four recently appointed female academics was sponsored by the School to undertake the PGCHET qualification as a postdoctoral researcher. Asked for some feedback on the course, she stated that *'the PGCHET is a great help for people on early career stage who have no previous teaching experience'*. Alongside the teaching experience offered by the School's initiative, the **Confident Communications and Presentation Course** was also very much valued by staff and students. One of the early career female academics said that *'This session might have a life-changing impact for me in the future to deliver my lectures to students, and present to an audience'*.

The School is supportive of female staff undertaking their **PhD while working as a Research Associate**. One of the female researchers who has taken part in this program has commented:

*'My long term plan is to pursue career as an academic and having a PhD is an essential for this pathway. I received full support from the School to pursue my PhD. As an international student, the fee for part-time PhD is four times as that for Home/EU students. According to Queen's policy, an international staff member is charged at Home/EU rate bringing the cost down to one fourth. EEECS further offered to cover the tuition fee, which takes away the financial burden from me. This policy at both university and school level is commendable, especially for an international staff'*

**2.2. Survey Outcomes:** Every year the School runs a PhD Student Opinion Survey (most recently January 2017) and there are surveys every 2 years for staff (most recently December 2015). The School was delighted to see positive outcomes of both surveys; see Tables 1 and 2 for selected results from female

PhDs and staff. In the surveys, both students and staff were asked to identify the positive initiatives that the School should continue. The most common answers among the female PhDs were training opportunities and social events. The female staff selected networking, training and development opportunities and the fact that the School actively encourages gender equality and diversity. This evidence indicates the success of the School's initiative, and particularly the creation of networking events and a positive working environment. This initiative will hopefully continue to encourage more female PhD students and researchers to consider academic careers and assist them in these career transitions.

Table 2: Selected results of 2017 PhD Student Survey (females only)

PhD Survey statements	Percentage of Female students that agreed with statement
The School is committed to equality and opportunity	100%
The School is committed to developing its PhD students	100%
I get up in the morning and look forward to going to my place of study	100%
I am given opportunities for personal development and growth	100%
I am considering a postdoctoral career in the School	72%
My PhD has met my expectation to date	91%
If I had to make the choice again I would still choose to do a PhD	100%
The School provides adequate networking and social opportunities for PhD students	100%

Table 3: Selected Results of 2015 EEECS Staff Survey (females only)

Staff Survey statements	Percentage of Female staff that agreed with statement
I get up in the morning and look forward to going to my place of work	100%
I am treated with dignity and respect	100%
The School is committed to equality and opportunity	83%
All meetings are completed in core hours to enable those with caring responsibilities to attend	100%
I believe men and women are paid an equal amount for doing the same work	100%
My line manager provides me with support when needed.	100%
I am given opportunities for personal development and growth in my current role	100%
The School is committed to training and developing its employees	83%
The School promotes its goal to have healthier and happier staff	83%
Appraisal is used to identify my development requirements for the coming year and my line manager is effective in carrying out my appraisal	83%

**2.3. Awards received:** In recognition of supporting female research staff and PhD students, the School is very proud to hold a **Silver Athena SWAN Award**<sup>1</sup> (1 of only 4 Schools in the UK to achieve this in EEE or CS). In addition, as proof of our efforts to create a positive working environment, the School was awarded with **Silver Investors in People (IIP) Award**<sup>2</sup> and a **Health and Wellbeing Good Practice Award**, international accreditations that are indicative of excellent employment standards. In summary, the School of EEECS aspires to continue to support female students and staff to reach their personal career goals and is keen to share their best practice initiative with other institutions.

<sup>1</sup> <http://www.ecu.ac.uk/equality-charters/athena-swan/athena-swan-members/>

<sup>2</sup> <https://www.investorsinpeople.com/accredited-silver-gold-platinum>