NASCENT Newsletter

Nanomaterials for Application in Sensors, Catalysis and Emerging Technologies

WISE@QMUL

Photo by Giorgio De Faveri

Amelie Anglade, Prof. Martin, Rebecca Steward, Claire Sarell, Rita Jorge, Prof. Heathcote, Prof. Elphick

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Rita Jorge at the WISE launch party with Professor Ursula Martin, QMUL Vice Principal, Professor Peter Heathcote, Head of School of Biological and Chemical Sciences and Professor Maurice Elphick, Director of Graduate Studies for Science and Engineering and the WISE team.

Inside this issue:

WISE@QMUL

Women In Science and Engeneering

The issue

Rebecca, Amélie, Claire and Rita

Female retention in science, engineering and technology (SET) is an important issue with economic and social implications.[1] Governments spend a lot of money and effort training females to the highest level, and even though women normally achieve quite high marks whilst studying at undergraduate level (denoting academic interest and ability to engage in the scientific work) the female retention in SET research careers is still, in XXIst century, extremely poor.

In chemistry and physics, in the UK, although the proportion of female students is quite different at undergraduate level (40% and 20% respectively), the proportion of female professors is the same in both subjects (around 1%).[1] Several reasons might be proposed for this fact but it remains evident that the biggest drop happens at PhD level. In fact, in a recent study[1], 72% of the inquired first year PhD female students declared future plans to pursue a research career (in academia and/or industry). When their thesis was submitted, the number dropped to a staggering 37%. Needless is to say that the male students did not report the same behaviour (only 2% changed heart about a research career).

So what...?

Well, you can choose to be a part of the statistics or not. Myself and Claire Sarell, another PhD student at Queen Mary (a Biochemist), started to look around and saw the statistic repeated in our own departments. What we also saw is that most students, us included, were basically reporting a lack of faith in their own futures and a great need for encouragement. Nevertheless, whenever a good chat with a friendly academic occurred (be it our own supervisors or not), the confidence levels were boosted up and research seemed like a more enjoyable option.

With that though in mind, we set up the Wise@QMUL Society (**W**omen **I**n **S**cience and **E**ngeneering @Queen Mary University). We wanted to hear from women who had "made it". How they did it and what advice they would give us. We also wanted to hear what options were out there for careers that did not involve academia and find out if maybe those experiences fitted in with our goals for the future.
More than a space for "group complaining" we wanted to create a positive encouraging atmosphere that allowed networking and value creation. And, yes, men were always very welcomed in our meetings!

With the first couple of internal talks, interest arose in other departments and right now, the Wise@Qmul core is composed of two other students (Amelie Anglade and Rebecca Stewart, both electronic engineers) and we have developed a wider scope of action.

We have also been successful in securing funding from the School of Post-Graduate Studies here at QMUL, something that probably wouldn't have happened without the support and encouragement of Dr Marina Resmini, our very own Network Coordinator, Professor Ursula Martin, one of the Vice Principals at Queen Mary and Professor Maurice Elphick, Director of Graduate Studies for Science and Engineering.

WISE launch party

Professor Ursula Martin

The Launch

As a result, we decided to officially launch the WISE Society. Because we don't want to be "just another society", we kept everything very informal, with loads of nibbles and drinks thrown in the mix, and a lot of friendly chat to go with it. More than 40 people showed up for support (including a lot of male postgraduates). From that event, we learnt about what needs to be done and how we can go about and give our own small contribution. The Vice Principal and the Director of Graduate Studies were kind enough to take some time out of their busy schedules to come and talk to us. We could also introduce our forthcoming events for the next year: namely the "Speed Researching". (Check our website for more information: www.wiseqmul.wordpress.com)

Professor Maurice Elphick

What now...?

The main objectives of the society are providing information, encouragement and opportunities for networking. Whatever we do next depends only on the support of our members (who have been quite enthusiastic so far) and our own determination. In the future, we have several talks lined up, with both men and woman, from academia and industry and a lot of social gatherings meant mainly to develop our networking skills.

It is our goal to "be the change we want to see"[2], and through that, to really ACT in our own careers as the main characters, and not REACT to whatever plot was set out before us.

1 – Newsome, J; *The Chemistry PhD: the impact on Women's retention*, RSC, 2007.
2- "You must be the change you wish to see in the world." Mahatma Ghandi.

Rita Jorge

(Photos by Giorgio De Faveri)

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SUCCESS STORY

The European Commission is going to publish a

Success Stories Book

for Marie Curie Actions.

The aim of this publication is to increase the visibility of these actions and the benefit of the related EC funding. As such it is intended for the general public. The projects have been screened against a series of specific criteria which include not only scientific excellence but also their contribution ot the achievement of key policy objectives in the frame of Marie Curie action.

In this context, The Commission's Marie Curie team has selected NASCENT as one of 75 success stories to be featured in the upcoming publication.

Each project will have four printed pages and will include an appealing abstract written to engage the general public, as well as innovative and mind -teasing illustrations.

An article and photos have been sent to the Editor. As soon as the final version is received we will circulate it to everyone.

Watch this space

STOP PRESS

NASCENT's success continues through its ESRs and ERs.

Kevin Flavin, ER at QMUL has been successful in applying for a Marie Curie Reintegration grant. These grants are part of the Marie Curie Actions and are designed to facilitate the return of researchers to their home country.

Kevin writes "The project acronym is "SNAP" for Smart Nanomaterials with Applications in Photodynamic therapy. The aim of the project is to introduce controllable/logical molecular devices onto carbon based nanomaterials (carbon nanotubes and carbon nano-onions), which may be subsequently used as delivery vehicles for photodynamic therapy of tumours.

The long-term strategy of the research is to produce responsive or "intelligent" nanoparticle based delivery systems in which "communication" is achieved between diagnostic, imaging and therapeutic functions."

Congratulations to KEVIN!!!

changes@nascent

POLYINTELL has moved to a new production site with 600m^2 fully equipped laboratories since January 2009, situated at Pharmaparc II, Val de Reuil (90km from Paris). The new building has been designed to optimize both production and customer care.

Tel.: +33 (0)2.32.09.32.70

www.polyintell.com

The building where **Dr Marina Resmini** is housed has changed name and it will be no longer the Walter Besant building, instead it will be:

Joseph Priestley building

please make a note for when you need to send any paperwork.

Conferences

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As The Rakes said: Strasbourg!

By Ana Linares

Hello everyone, here I am again ready to tell you about my last NASCENT experience: the **EMRS 2009** in Strasbourg. For one week I had the opportunity to attend this big international conference organised by the Materials Research Society where we brought two posters and Karsten gave a lecture. The last image I got from Strasbourg before I arrived was a massive wave of demonstrators against authorities during the last OTAN summit in April. When I arrived those were already left leaving the place to another wave, a scientific one that took for a week all the corners of Strasbourg taking pictures and having a walk carrying their posters by the channels of *Little France.*

As usual in this kind of big events, several symposia (19 to be accurate) were programmed at the same time, from solar cells to the use of synchrotron with archaeological remains passing by the always presents carbon nanotubes in all their possible forms. A really strict organisation is needed to not miss a thing, and even like this sooner or later you will arrive at a symposium, take your place and after five minutes listening attentively the speaker you realise that "oh-oh, I think I mistook the room…" Anyway, soon some faces became familiar and the exchange of knowledge start standing in front of a poster followed by a small congregation of last year PhD students from all Europe that decided to go for an authentic *Alsacian* beer by the end of symposium M.

But the main event arrives on Wednesday, the Plenary Lecture, with an amazing guest: the **Nobel Prize** in **Chemistry** Alain Heeger, who received the price in 2000 for his research in semiconducting and metallic polymers. Even if I was very excited and interested in his talk, we have to recognise that even for a Nobel Prize it will be good to have some advice about communication skills from Levi and Marina.

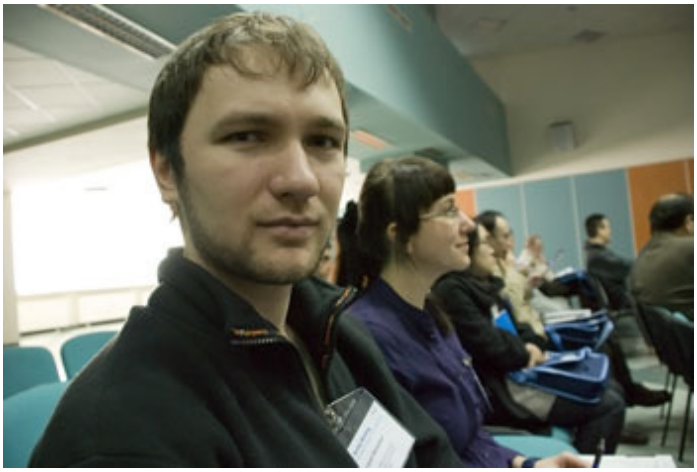
The Student Awards Ceremony followed the Plenary Lecture, where this Finnegan guy from Cambridge obtained the prize from symposium M (my symposium L). The funniest thing was that all the students from symposium M we were sure that he would win just after his first slide, when we saw the lion from Cambridge shield. A colleague from Spain just said, "dear, we can go home, $$%&ng Cambridge".

However, I must confess that I missed you all in the congress. I'm not used anymore to go to any conference or a seminar without any NASCENT partner in the surroundings, and that's something that any Student Award cannot replace! Willing to see you in one month!

Professor Wlodzimierz Kutner delivered a talk at the 20th International Symposium on Bioelectrochemistry and Bioenergetics organized by "The Bioelectrochemical Society" and "The Romanian Society of Pure and Applied Biophysics" in Sibiu (Romania). His talk was entitled: "Determination of some biogenic amines with selective piezoelectric chemosensors featuring recognition films of molecularly imprinted polymers of bis(bithiophene) derivatives". Its authors were, as folllows: W. Kutner, A. Pietrzyk, S. Suriyanarayanan, R. Chitta i F. D'Souza.

Ievgen Obraztsov participated in the 7th Spring Meeting of the International Society of Electrochemistry that was held in Szczyrk, Poland, on 22nd-25th March 2009 He delivered a short oral communication, the presentation title was "Structural Effects in Electrocatalytic Dioxygen Reduction by the Electrochemically Synthesized Polymer of a Cobalt Porphyrin Derivative". Its authors were, as follows: Ievgen Obraztsov, Krzysztof Noworyta, Wlodzimierz Kutner, Channa A. Wjjesinghe and Francis D'Souza.

One paper was just published in The Journal of Physical Chemistry C.



New publications from IPC

1. Pieta, P., Grodzka, E., Winkler, K., Warczak, M., Sadkowski, A., Zukowska, G. Z., Venukadasula, G. M., D'Souza, F., and Kutner, W., J. Phys. Chem. B, 2009, 113, 6682-6691, "Conductive, capacitive and viscoelastic properties of a new composite of the C_{60}Pd conducting polymer and single-wall carbon nanotubes".

2. Pietrzyk, A., Suriyanarayanan, S., Kutner, W., Chitta, R., and D'Souza, F., Anal. Chem. 2009, 81, 2633-2643, "Selective histamine piezoelectric chemosensor using a recognition film of the molecularly imprinted polymer of bis(bithiophene) derivatives".

3. Subbaiyyan, N. K., Obraztsov, I., Wijesinghe, C. A., Tran, K., Kutner, W., and D'Souza, F. J. Phys. Chem. C, 2009, 113, 8982-8989, "Supramolecular donor- acceptor hybrid of electropolymerized zinc porphyrin with axially coordinated fullerene: formation, characterization, and photoelectrochemical properties".

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Please send all your news and photos to the NASCENT Administrator: s.fritche@qmul.ac.uk

Forthcoming NASCENT Events

Széchenyi Chain Bridge, Budapest

4th NASCENT Summer Training School
19-24 July 2009
Budapest, Hungary

3rd NASCENT Scientific International Meeting
27-29 July 2009
Budapest, Hungary

NASCENT represented at International conferences

Gita Dvorakova has been invited to present a poster and **Ania Servant** will be giving a talk at the

European Polymer Congress 2009, EPF'09, Graz, Austria
July 12-17 2009
http://www.epf09.org/

Both Ania Servant and Rita Jorge have been invited to present their research at the

238th American Chemical Society Fall 2009 National Meeting & Exposition
Program Theme: Chemistry and Global Security: Challenges and Opportunities
16-20 August 2009
Washington DC, USA
http://portal.acs.org/portal/acs/corg/content