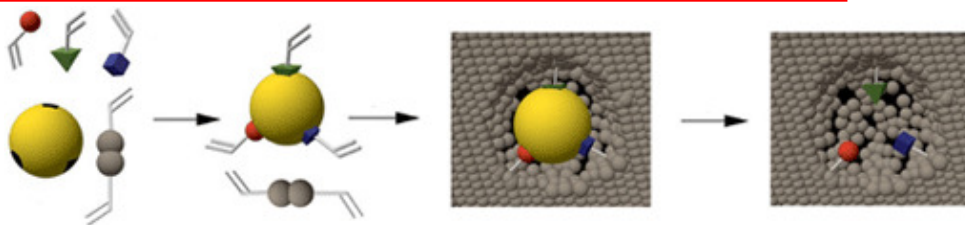


NASCENT Newsletter



Nanomaterials for Application in Sensors, Catalysis and Emerging Technologies

Happy New Year



December 2008

Volume 3, issue 4

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Madrid: La movida de NASCENT

By Rita Jorge (QMUL)



If you are a Portuguese person living abroad, the first assumption people make when trying to guess your nationality is that you are, in fact, Spanish. Now, if you consider the always fickle relationships that neighbouring countries have with each other and the fact that Spain is about 5 times the size of Portugal which always makes us Portuguese feel a bit...hummm... overwhelmed, then you can imagine how many times I had to cry out a big "NO! Not Spanish! Portuguese! Portuguese!"

It was therefore no surprise that my friends and colleagues were nothing short of concerned when they found out that I was going to spend 3 weeks in Madrid, for a secondment at UCM. It is an understatement to say that I loved my time there.

Arriving at a sunny Madrid (at least for someone that lives in London), setting "camp" in a wonderful and lively residence just 10 minutes walk from the lab (compared to the 40 minutes by bus I do in London every day) I soon realised that these were going to be three really good weeks.



But the best was yet to come...Even though I suffered each day from the Spanish eating schedules (lunch is at 3 pm!!!!), the meal time was always accompanied by really nice food in really nice company. The work in the lab was busy and hectic, but there was always time for some "canas e tapas" at night. Or just some "canas". The most surprising thing was seeing so many people, young and old, walking those streets at night, completely unphased by the fact that we were in the middle of

the week, and the next day was a working day. Even more surprising was seeing them arriving at work, fresh and happy, as if they had the full eight hours sleep that my body was severely needing at the time.

Seeing so much fun around you gives you energy and uplifts you. Therefore, you are more motivated to work. This is an equation that I never solved - me with my Portuguese guilt - always thinking that fun and work are enemies and should not be mixed ever. Well, mis hermanos espanoles do it, and might I add, they do it very well. The work rhythm in the lab is quite intense, showing good science in its full blast, but their ability to sit back and relax is also extremely encouraging.

Our goal was the fabrication of catalytic microbeads based on the cobalt tetraazamacrocyclic we are developing at QMUL and using the protocol established by the GSOLFA Group at UCP. There was hard work involved in adapting the several parameters to our needs but due in great part to the big dedication of Elena, Fernando and of course, Maria, I feel that the beginning of a good chapter for my thesis is in the making! And, in fact, working alongside the lovely "ObiWan" Elena, I got myself so enthused about fabricating microbeads I got myself thinking I never had done anything else my whole life.

In the midst of all this work, I also had the wonderful chance to meet up with Aurelien, who was there to visit his old lab mates. We caught up on old times, and showed the people at UCM how we party NASCENT style! But because Portuguese people are in every corner of the world, and are normally surrounded by a good plate of food and a good entourage of friends, I was lucky enough to spend time with two wonderful Portuguese chemists that would be a fantastic addition to NASCENT, had we had the chance to have them - Andre and Bruno. They acted as my mates, my translators, my entertainers and my

cooks for the whole time of my stay in Madrid. For this I will forever be indebted and thankful (Saudades malta!!). They also did me the favour of making fun of my English accent whilst saying my own name in a presentation I did for the group, making me realise that I have probably been immersed in the English culture for waaaaay too long!

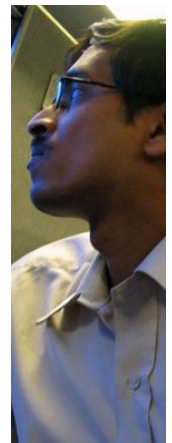
All of this meant that, as I was leaving Madrid, I was more aware of what united me to Spain and to the Spanish people than actually what separated me

from them. We are people of loud laughs, loud and tough love, with an amazing capacity to pull ourselves together, and an amazing capacity of spending hours without sleep, just as long as the right food is around.

So not neighbours...hermanos after all.

Rita

NASCENT



POSTDOCS

Secondment at the UTC Compiègne

By Tomas Martan (CiS Erfurt)

My secondment at the Research Centrum of the UTC Compiègne (see figure 1) started on Thursday October 9th and finished on Friday October 17th.

My task there was to spin-coat and to characterize sensitive polymer layers. These sensitive dyed polymers, designed as an optical-chemical transducer for carbon dioxide detection were spin-coated on different substrates: on Glass, polyethylen-terephth (PET), polyvinylchlorid (PVC), and polycarbonate (PC), which are fully transparent in the visible optical range e.g. ca from 400 nm to 700 nm.



Fig. 1. The Research Centrum of the Compiègne University of Technology.

Different thicknesses of spin-coated layers were measured with the Scanning White Light Interferometric (SWLI) method. In the figure 2 a), there is an example of spin-coated sensitive layer with thickness of 900 nm on glass substrate. Colour changes of sensitive layer are in the figure 2 a) for 0 % concentration of CO₂ (blue colour of sensitive layer) and in figure 2 b) for 100 % concentration of CO₂ (yellow colour of sensitive layer).

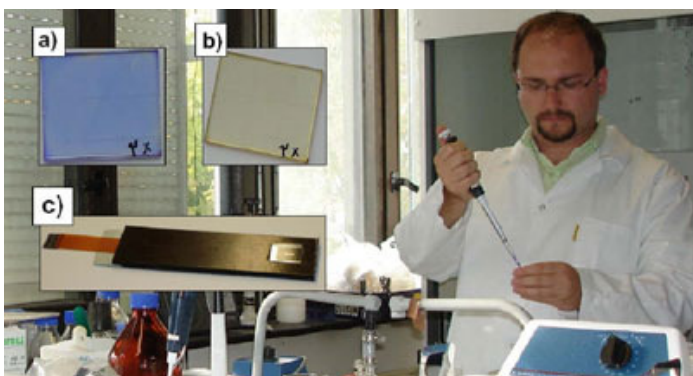


Fig. 2. Change of colour of sensitive layer spin-coated on glass substrate for (a) 0 % and (b) 100 % of CO₂ concentration. (c) the MORES sensor module. Tomas – preparation of sensitive layers (background).

Sensitive layer on glass substrate, covered by porous Teflon foil, was placed on the surface of the MORES sensor module that was further connected with PC over so-called “evaluation board” for data signal processing and evaluation of colour (CO₂ concentration) changes.

The spin-coated layers were further tested with different concentration of (gaseous) CO₂ with spectral analyzer and the MORES sensor module.

During my stay in Compiègne I met not only Karsten and Ana but also Pinar and Kevin. Joint photo from the laboratory is in figure 3. Unfortunately, this photo was taken on Friday October 17th without Kevin because he had to go earlier morning to London than he planed.



Fig. 3. Joint photo from the laboratory: Ana Linares, Tomas Martan, Pinar Cakir (1st line, from left), and Arnaud Cutivet and Karsten Haupt (2nd line, from left).

Last moments in Thuringia

My stay in Erfurt was finished on Sunday December 14th. At the figures 4 to 6 there are photos of “Wainachtsmarkt” from Erfurt, Weimar and Jena, which I visited on my last weekend in Thuringia.



I thank for collaboration Dr. Gerhard Mohr and Professor Karsten Haupt. I also thank my colleagues from the CiS Erfurt: Dr. Olaf Brodersen, Dr. Dietmar Starke, Dr. Matthias Will, Dr. Ralf Müller,

Dipl.-Ing. Stefan Görlandt.

I wish all NASCENT members and all my CiS colleagues a Merry Christmas and Happy and Successful New Year.

TOMAS



The Butterfly Effect

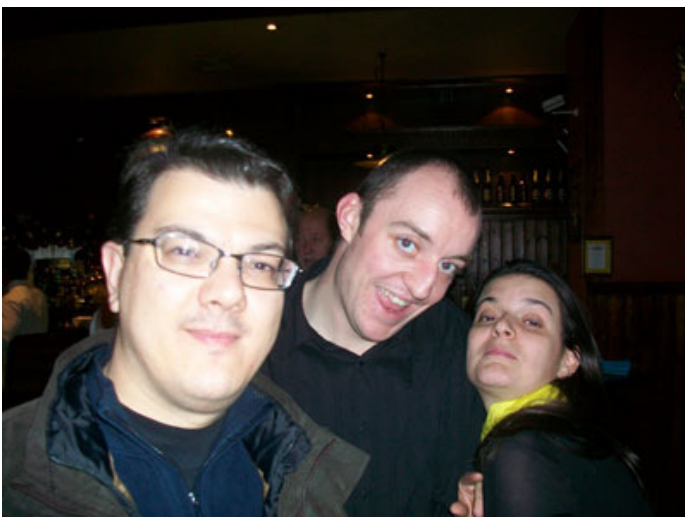
By Dr Kevin Flavin (QMUL)



The world we live in is one of enormous complexity, where a minute change can ultimately result in vastly different outcomes.

The idea that a butterfly's wings might create tiny changes in the atmosphere that may ultimately alter the path of a tornado is referred to as the butterfly effect.

The effect of my butterfly began on a typical wet and windy Irish day in October, just over two years ago, as I drove from my home in County Waterford, where I had a month or so earlier finished my PhD. I was on my way to Cork airport to catch a flight to London, where I had an interview at Queen Mary on the following morning. As the supposedly responsible, well prepared person that I am I arrived at the airport exactly two hours before the flights departure, with plenty of time to spare.... or so I had thought! As I walked towards the desolate check-in desks, with but one stewardess in view, I began to get a peculiar feeling of inevitability. As I presented my passport to the young woman, she told me how lucky I was, that she was closing the desk and that a minute in the difference would have resulted in my missing the plane. My initial thought was...Woops! At that point I didn't think a great deal more about it, just lucky I thought, I got on the plane, went to the interview, was offered the position and relocated to London a month later.



Two years on, once again in a car on my way to an airport, on this occasion with Ana Linares on route to Charles de Gaulle. We were reminiscing about the memorable weekend that had gone before, all the festivities and forgotten moments of the previous nights that had ensued following the successful defence of Arnaud's thesis. Both Aurélien and I had travelled to Compiègne for the occasion, where we both had performed secondments during our time in NASCENT. As I laughed with Ana about some of the funny incidents which had occurred over the weekend, a thought entered my mind. The thought was regarding that solitary minute I had to spare two years earlier. This led me to consider the consequences of turning up a minute later to airport. A missed traffic light, a wrong turn, a different parking space.....



Thoughts of a missed plane, the last plane that evening, turn to thoughts of a missed interview, a missed opportunity. All the great people I had the pleasure of meeting, all the fantastic friends that I have made, all the experiences that I was so lucky to have, all the knowledge I had gained, even the person I had become, all gone in the blink of an eye, all forgotten in a minute. Where would I have been sitting at that exact moment in time, if I had failed to make that plane? Some may call it fate, some may call it destiny, yet others may call it coincidence or luck. I am not sure whether it is fate, or coincidence, all I know is that I am very fortunate that my butterfly lead me to London, that I got to know and work with so many great people during my time in this network and hope that we may be friends and work together for a long time to come.

"Don't be dismayed at goodbyes. A farewell is necessary before you can meet again. And meeting again, after moments or lifetime, is certain for those who are friends." Richard Bach

Kevin

Farewell to the PostDocs

By Rita Jorge (QMUL)



The world The essence of an academic scientific career, so say the experts, is to be willing to shed your blood sweat and tears to your work and still keep a (somewhat) happy face. Of course we all – at least at one point of our career choices – thought science would be a fun and fulfilling career and therefore kept our dreams of driving a fire engine or being a prima ballerina to “the others” and decided to dedicate ourselves to “The Cause”.

What nobody really prepares us to face though, is that the essence of an academic scientific career is also made of many goodbyes. “Groups”, in a scientific context at least, are fleeting concepts, with ever-changing faces, nationalities and moods. And even though, right now, some of us might almost instinctively sign our group’s initials instead of your own signature when we go to the bank, the fact is that during our scientific careers other initials will come into place, other faces will populate the group picture, other projects will consume our thoughts.

It is therefore no surprise that NASCENT’s face is changing. We welcome new faces (hello Jolanta!) but we also say goodbye to some old faces – Aurelien, Tristan, Piotr and now Kevin.

Yes, it’s true, the post-docs are leaving. The ESR’s are quickly getting used to sailing the sea of scientific literature by themselves or fixing alone that moody equipment (all labs have a always-on-the-verge-of-total-breakdown-equipment, right?). Most of all, in the absence of the ER’s, we are all getting used to living without those corridor pep-talks whenever the experiment doesn’t cooperate with our expectations and all the years in the world do not seem enough to finish what needs to be done.

Oh yes, my fellow ESR’s... We are reaching our ‘coming of age’. Of course all of the ER’s are still around, as our increasing Facebook accounts show and as the painfully big phone bills keep reminding us (...hum...any chance on European funding for this too?). But, luckily for all of us, there is another unsaid truth about a scientific career, which is: you say goodbye to friends but you also have the chance to meet new ones all around the world.

So...yes, this is the end of an era, but also the beginning of a new one.

For us at QMUL losing our ER was a hard blow, having almost got used to Kevin’s Irish accent and his uncanny aptitude to not only mispronounce our names but also replace them by embarrassing nicknames (which shall not be referred in order to protect the small dignity of their bearers). We were also getting used to not fighting on Friday nights when he came along with (yet another) tequila shot in hand “with our name on it” (which is the Irish version of a motivational talk).

For all these reasons, we celebrated Kevin’s departure from QMUL in style. The festivities started with a “last day @ QMUL” champagne extravaganza, followed by a nice home cooked meal at Marina’s home (you would understand the importance of “home cooked” if you lived in London) and ending in a big farewell party with everyone at the college. It was at the last party that we finally showed a video made by all of us for Kevin. It was at only at that moment, that, in awe, we saw for the first time Kevin being left speechless without any witty remark in sight. Definitely worth all those hours editing the video!!

Right now Kevin is happily starting a new position at Trinity (in Dublin), which forces us all to visit him soon, or at the very least to wish him the best of (Irish) luck in his future – a bright one we’re sure. And up there in his cold lab he is once again surrounded by a multinational team that will drive him crazy surely as well as we did.

Indeed science is made up of research and publications, but with the presence of such good people it becomes fun, purposeful and also a part of our own lives – it becomes so much more than just a job. The reason why (probably) we would not be a firefighter or a prima ballerina for all the



money in the world...

Rita

PS – For a quick laugh (or a quick tear) check out the farewell video “A song for Kevin” at <http://www.facebook.com/video/video.php?v=549368980234&oid=12407268951>

Bye-bye Arnaud!

Ana Linares (CNRS)



Hi everybody, before all I hope you all have had a very nice Christmas holidays and wish you a happy brain New Year 2009!

As many of you know already, Arnaud's Cutivet viva was accomplished just before Christmas (the best present ever isn't it?). "Le petit Nono", as he is known in Compiègne, gave a great talk in English (not in Franglish, English!) in front of a very international jury with Günter Wülf, Mike Whitcombe and Gero Decher amongst others. Very important personalities from the NASCENT family also attended to this event. I'm talking about the incredible Kevin Flavin and the invincible Aurelien Auger who contributed, with the aide of some family and friends of Arnaud, to make my apartment look like a refugee's camp (and I have to say that I really loved that refugees' camp).



After the speech and the concession of the desired title, Dr. Cutivet gave a cocktail party where he received the lab's present (the true reason of making a PhD) that in this case was a turn-table for vinyl discs that we hope he will enjoy during his unemployment period.

After the cocktail party, Dr. Cutivet and his closest friends and family (around 50 people) went to have dinner to the family bar Joe's Street where we don't know how, two kegs of beer were finished! And finally, the night ended where it had to be, the PHUTURE! (No comments needed).



A lot of personal thoughts came to me that day. On one side the imminent approach of the end of most NASCENT thesis during 2009 and the beginning of the bye-byes to people who were part of your life for a while and people you have met in this way of our PhD. The good point also was to see how peo-



ple come back, and somehow, keeping the family close.

Finally I want to wish to Dr. Cutivet the best in this new step after the PhD, because as everybody knows: *the truth is out there*.

And



NASCENT

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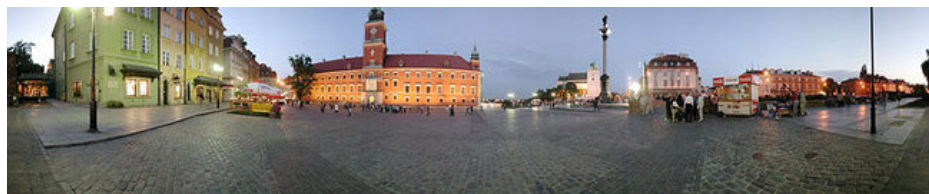
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Please send all your news and photos
to the NASCENT Administrator:
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Historic Centre of Warsaw



Forthcoming NASCENT Events

Third NASCENT Winter Training School

2-6 February 2009 Warsaw, Poland

All you want to know about this
event can be found on the NAS-
CENT Intranet; programme,
maps, transports and directions
to the Hotel and Institute of
Physical Chemistry, Polish Academy of
Sciences.

Remember that the Polish currency is
the Zloty, so you might want to
change some money before you go.

All participants should arrive at War-
saw on Sunday 1st February and leave
on Saturday 7th February.

If you need further information
please contact the NASCENT admin-
istrator or the Polish Team.

Kodak Workshop

May 2009, Cambridge, UK

4th NASCENT

Summer Training School

19-24 July 2009, Budapest, Hungary

3rd NASCENT

International Meeting

26-29 July 2009, Budapest, Hungary

Congratulations to Ievgen Obrastsov who won the Second NASCENT photo contest!



This is the second time that Ievgen wins the NAS-
CENT photo contest. He will receive a surprise prize
at the next NASCENT Winter School next February
in Warsaw.

Photos from all participants can be seen on the
NASCENT Intranet