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Intelligent recognition materials for extraction and detection

NEWS

Issue 6—Nov. 2012

MIP 2012

Paris • 27th - 30th August 2012



The IRMED teams
presented their results
at the
7th INTERNATIONAL
CONFERENCE

on
Molecularly Imprinted Polymers -
Science and Technology

MIP2012





The 7th International Conference on Molecularly Imprinted Polymers MIP 2012

The MIP2012 took place in Paris, France from 27th to 30th August 2012. The conference was organized by Prof. Karsten Haupt from the Centre National de la Recherche Scientifique at Compiègne University of Technology and Dr Valerie Pichon from ESPCI ParisTech.



Around 200 participants from across Europe and the world came to one of the biggest MIP conference in the world. MIP2012 brought together renowned scientists and promising young researchers to discuss issues of current and future innovation in the field of molecular imprinting.

The conference was a great opportunity to meet the pioneers in the field of molecular imprinting. Everyday you read the names of famous authors in scientific papers and you ask yourself: when will I have the possibility to speak with such a great scientist?

Well, MIP 2012 offered this great opportunity to me and all the young researchers that are at the beginning of their career.

The first day was hard. We arrived in Paris and set up everything to guarantee a warm welcome to people coming from 31 different countries.

The conference was opened by Prof. Karsten Haupt who welcomed all the scientists and thanked them for sharing and present their work and results during these four days.

The programme of the conference was very intensive. 48 oral presentations were held in three days accompanied by 130 poster presentations split over two sessions. This means that every sector of the molecular imprinting technology was kept into consideration. PhD students, postdocs, professors, all the scientists were involved in the conference and gave their contribution to the world of science.

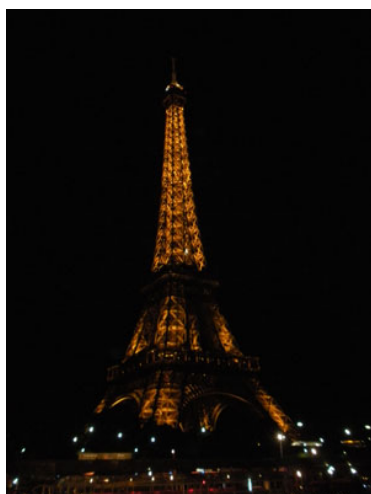
The large number of presentations and discussions that took place at this conference were of great interest and inspiring to young scientists. The poster session was an opportunity to exchange information on their latest research progress.

The keynote lecture by Dr Marina Resmini from Queen Mary, University of London, entitled: “Metal coordination geometry vs template: Impact on the phosphatase-like activity of imprinted nanogels” was innovative and created interests among the audience. The Industrial Session held by POLYINTELL was well attended. Kaynoush Naraghi, co-founder and President of the company and with an entrepreneurial esprit, gave a talk entitled: “POLYINTELL – A MIP success story” that was very uplifting and motivating to young scientists willing to further their career in Industry.

Consequently, the conference included a beautiful cruise on the Seine river and the gala dinner in a famous French cabaret.

The cruise allowed people to discover the beauties of Paris by night such as the Eiffel Tower, Notre-Dame, the Louvre museum and Orsay museum.

The gala dinner took place at “The Paradise Latin”. This theater is one of oldest of Paris and it was built by Gustave Eiffel in 1889. There we ate a typical French dinner accompanied by a show with dancers, acrobats and, obviously, French Cancan!



Apart from work it is not possible to forget that the conference was held in one of the most romantic cities of the world: Paris!

In conclusion, MIP 2012 was an international conference where not only scientific achievements were shared but even a great opportunity to integrate more and more different cultures, which is the final aim of scientific and human community.

Serena@CNRS

Anti-doping for the Olympic and Paralympic games, London 2012!



While I was at the IRMED 2011 summer school on the Ile d'Oléron, France, I received an email asking for any PhD students who were available over summer 2012 to do the analysis of blood and urine of the athletes for the Olympic and Paralympic games. When I read it I thought what a once in a lifetime opportunity, but as I was already on a year out from my studies working at Polyintell in France I didn't think I would be able to take anymore leave during my PhD so I thought nothing more about it. However a couple of days later Dr Resmini approached me, as she too had received the same email and recommended I applied for the position as she was aware of my aspirations to return to industry after my PhD and thought it would be a valuable experience.

It wasn't until my first week of training that I realised just how big an operation the anti-doping would be. I was one of around 100 students, from across the globe, participating in the wet lab side of the testing, there was also senior staff doing the data analysis as well as admin and lab operations, security, cleaning staff and internationals to be flown in who had done the anti-doping for other big events such as previous Olympic games. I was given three weeks of training before the Olympics started and also took part in a 'stress test.' This involved testing the shift rotation to ensure quick, but efficient handovers were in place as the lab was to run 24hours a day on 8 hour shifts, and check that all the SOP's were working well.

During the Olympic and Paralympic games we were obviously very busy in the labs and there was a definite buzz, often with people coming back from seeing event themselves and we felt very proud of the work

we were doing. As busy as it could be in the lab, we were all put up in the same hotel in Harlow for the 2 months of the testing and as we were given a food allowance, all those off shift at meal times would meet up and go to the restaurant of choice for that evening, even doing the odd BBQ round the back of the hotel at lunchtimes. We were also given access to 'The Essex Room,' a room in our hotel that the staff had set up for us to enable us to socialise with many sofas, chairs, tables and a big TV! We all gathered there on the night of the opening ceremony to watch all that unfolded and throughout the Olympics and Paralympics we would often socialise there, watching events and relaxing. We were all 'shipped' from the lab to our hotel at the beginning and end of the shift but there was a slight scare half way through the Olympics as the press had found one of the hotels that some of the senior analysts were staying in. We were told to be on high alert and to report anyone asking suspicious questions, not to talk openly about anything going on in the lab at anytime, even to make sure our lanyards were not visible when we were not on the GSK site! But thankfully we were never found and managed to avoid any hounding from the press!

It was a brilliant experience for me, all be it tiring at times especially when working nights! But I thoroughly enjoyed it and I feel really proud of the work I did whilst I was there and privileged to have been part of the anti-doping team for London 2012. But I have to say I am glad to be back at home (with my dog!) and returning to my PhD and looking forward to the next adventure that being part of European team will almost certainly bring!

Judith@QMUL



Olympics and Paralympics at QMUL

Queen Mary University of London (QMUL) was the closest research-led university to the Olympic stadium. Many hundreds of QM staff and students have taken up volunteering roles and two QM students carried the Olympic flame. During the Olympic and Paralympic Games, QMUL welcomed over 3000 Olympic guests. The prestigious Octagon venue became the base for Team GB and the residence halls were home to over 26 countries! Guests ranged from trainers, coaches, mechanics and physiotherapists to press and media and even some athletes including Mo Farah, who stayed at QMUL for a few nights leading up to his 5000m gold medal performance!



I still remember the day in September when I arrived in London for the Post-doctoral position interview for the European Commission IRMED project at Queen Mary, University of London. I was looking for a job, after finishing my Ph.D in Milano, Italy.

It wasn't my first time in the city, but it sounded like that because I was only a 10 years old kid when I first landed on the Island for a holiday. So I can admit that that day in September was like my first day in London as a grown up man.

I arrived with just my bag and a few things for a couple of days and with a few expectations, facing a new world, facing a different reality and a different language. I can still remember the smell of the streets; smoke, fried chicken and chips. I could feel the rain and heavy humidity. I found a hotel near the university and from there I watched the busy cosmopolitan streets with people walking fast and carelessly, the sounds of so many different languages as well as Italian. What a mixture of cultures! I found myself alone in a foreign land trying to put order in my life. It was a time of reflexion and choices for my future life and career.

This first night was nerve wrecking. I revised for the interview the following day and around 1 am went

for a quick walk to relax my nerve. As I approached the street and lit a cigarette, I saw a guy armed with a knife running behind another young man shouting and screaming. Well, that cut short of my walk and I got quickly back to my hotel room. So, no sleep that night! Just thinking about my presentation and possible questions about chemistry.

It was already morning when I looked out the window, and a few hours afterwards, I was standing in front of three professors. They were so nice and friendly that the tension immediately disappeared. I have to say that I had a really good impression of Dr. Resmini.

I was rather positive but I couldn't help thinking that those two days were just a kind of holiday. On my way back to the airport, I thought about the last question before shaking hands. It sounded





like:”How many days do you need to reply in case we decide to hire you?” My answer was: “Just the time to read the e-mail and send the message.”

After a short visit my brother, who lives in the South of England, I went back to Italy with a feeling of relief, a feeling that I did something that could change my life, even if was almost sure I would not go back to London, I was happy with myself.

It was around midnight, my mother was sleeping, when I opened my e-mail. The third one was from Dr. Resmini. I felt a bit nervous. I first lit up a cigarette and then I pushed the button. I read this e-mail several times, sitting on the chair, in silence, in the darkness. I was scratching my head with one hand when the other was holding the cigarette. I was selected for the position. I could not believe it. I was speechless, thoughtless. I woke up my mother and everything, from that moment, became different.

I could talk about these two years for so long as you could bare hearing. I met so many people, so many things happened. I could talk and write for hours

non-stop about my job, my colleagues, my friends. I could, but I won't. I prefer to try explaining how I changed. I changed because I worked in a different country, talked a different language with people from Spain, China, France, Russia, and so many other Countries. I also changed because of a different weather. I learnt a lot about my job, about chemistry... new techniques. I learnt because I got more responsibilities, because I had to try to transfer my modest knowledge and my small experience to younger students. I learnt a lot because I got the chance to travel around the world for conferences. I learnt because in some of them I had to present my research. I got better. I had the possibility to go to the USA, to Israel, France (several times), Poland. I met new people. Yet... from other Countries (States, Cyprus, East Europe). I got amazing and unforgettable moments. Some were good and others less so good. I had to face my weaknesses and my fears. I definitely changed. I'm now approaching the end of this wonderful experience. I am on my way to move away. I will probably start again everything from the beginning. But of one thing I am sure, I will always remember every day of these last two years. I could talk about many staff. But I won't. The only thing I want to talk about is about how much I owe to the European Commission and my boss for this wonderful career opportunity. Honestly. I changed and I got better because of her. Because of that mail she sent to me that day, because the chance she gave me. I really just want to say thank you, for this great opportunity. The opportunity to challenge myself. The opportunity of this wonderful experience of life.

Dr Paolo Bonomi (ER, QMUL)



Outreach Activities



QMUL hosts winner of prestigious Nuffield Foundation Science summer bursary



Dr Resmini Group: Giorgio, Gabriele, Judith, Paolo, Alina, Hui Hui, Diana

During the summer 2012 Dr. Marina Resmini hosted in her laboratory a young and very enthusiastic student.

Alina is a pupil at the Battersea Park School of London where she studies A level chemistry, biology and mathematics. She originally grew up in Romania but moved to the UK two years ago with her family.

Alina joined the Resmini Group in July for six weeks. During this period she was supported by a bursary offered by the Nuffield Foundation Science Bursaries for students in the first year of a post-16 science, technology, engineering and maths (STEM) course.

Although she is only 17 years old, Alina showed a strong passion for science and in particular for chemistry and she was keen to learn. She was supervised by Dr. Resmini from whom she learned the great mysteries of organic chemistry! But not only...

With the help of the researchers in the laboratory, Alina developed her own project on the preparation of nanoparticles for transdermal drug delivery. To address this goal, she first acquired basic knowledge in carrying out elementary techniques that allowed her to prepare nanogels and nanoparticles, performing multistep organic synthesis as well as physico-chemical characterization of the obtained material.

By working on such a multidisciplinary project, she had the opportunity to understand the importance of liaising chemical approaches to material preparation with biological problems, in order to develop novel efficient nanomaterials for biomedical applications.

The project was divided into three main parts dedicated to the acquisition of skills in:

- analytical techniques,
- nanomaterials preparation and characterization;
- organic synthesis.



outstanding scientists who are dedicating their life to research and see what this means. By being in contact with those researchers, Alina learned how to approach scientific problems, how to use the scientific literature and how to write a scientific laboratory book, reporting all the details of her working day.

All of this has been done thanks to Marina's support for outreach activities in science. Dr Resmini is a STEM ambassador and she strongly supports the



Despite the short period of time, Alina carried out quite a lot of work, acquiring fundamental knowledge of organic chemistry, but also of analytical chemistry and biology, thanks to the constant support of knowledgeable scientists in the group.

In addition to all of this, this experience gave the young student the opportunity to get in touch with



promotion of science to young people.

This training gave Alina additional motivation to continue studying chemistry, a subject that will offer plenty of opportunities for a successful career.



*Article written by Dr Diana Velluto
Marie Curie Intra-European Fellow, QMUL*

Dr Resmini's paper on "Modulation of imprinting efficiency in nanogels with catalytic activity in the Kemp elimination" was selected by Wiley Publications as one of the Hottest articles in Organic Chemistry.

<http://dmmsclick.wiley.com/view.asp?m=1wr3hd71fochzaaisp3w&u=2014626&f=h>

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Hottest articles in Organic Chemistry Selected from the journals...



Modulation of imprinting efficiency in nanogels with catalytic activity in the Kemp elimination
Paolo Bonomi, Ania Servant, Marina Resmini
Journal of Molecular Recognition

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Forthcoming

Network Events

jan 2013

3rd IRMED Workshops

Project Progression

London, UK

jul 2013

3rd IRMED Scientific Meeting

Innovative thinking

Val de Reuil, France

other forthcoming conferences

27-31 May 2013

E-MRS Spring Meeting 2013

Strasbourg, France

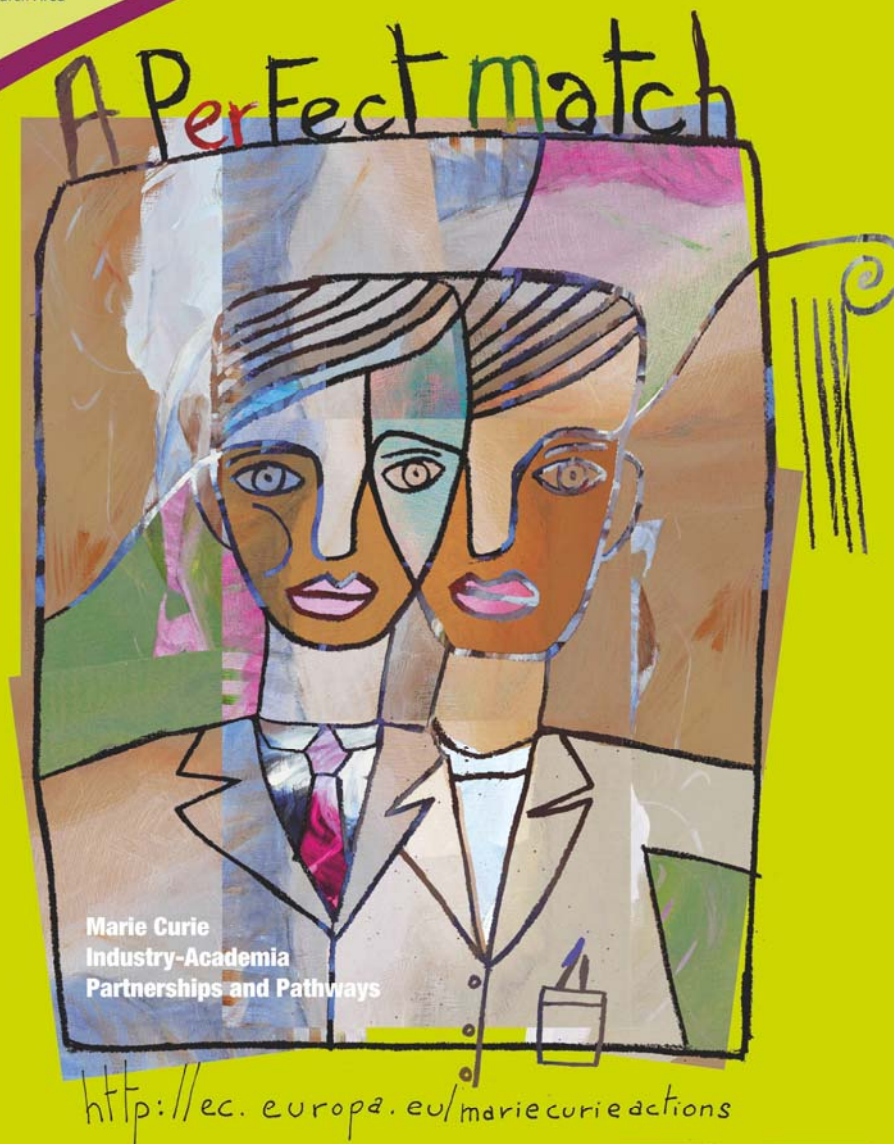
<http://www.emrs-strasbourg.com/index.php>

8-11 July 2013

11th International Conference on Materials Chemistry (MC11)

University of Warwick, UK

<http://www.rsc.org/ConferencesAndEvents/RSCConferences/MC11/index.asp>



contact

Dr Marina Resmini
IRMED Coordinator
Reader in Organic Chemistry
School of Biological and Chemical Sciences
Queen Mary, University of London
Mile End road, London E1 4NS, UK



Tel. +44 (0)207 882 3268
E-mail: m.resmini@qmul.ac.uk
<http://www.irmed.qmul.ac.uk>