

newsletter

Issue 5—February 2018



IPCOS consortium at the COBIK workshop in Ljubljana, Slovenia

Welcome to the 5th issue of the IPCOS newsletter.

With the end of the IPCOS programme fast approaching all the ESRs are now in the final year of their PhDs. Luca Redivo, ESR 4, is currently writing his thesis and we wish him good luck for his viva and future career plans. On page 3 he looks back on his time with IPCOS. Luca has found the experience :

“A rewarding and stimulating time, developing and improving my scientific and soft skills, engaged in both academic and industrial research.”

Ana, Rosemarie, Angelo and Anggy are all on their final secondment, you can read about their experiences in the following articles.



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IPCOS Summary

In the second half of 2017 three events were organised as part of the IPCOS training programme.

The first event, the IPCOS Summer School, was held on the beautiful Italian island of Sardinia, where the ESRs and PIs had an eventful few days learning about sensors, nanomaterials and quality control in coffee analysis. You can find out more about the Summer School in Rosemarie's article on page 6.

In November, all ESRs and 2 external PhD students took part in an extra one day workshop in Trieste on Product Design, hosted by Associate Partner T & B Associati. The students spent an intensive day learning about the product design process and were introduced to the ISO9001 quality management system by Dr Adriano Savoini (Scientific Director at T & B Associati). They were also led through the steps undertaken from the first product or service concept developed in a company, down to the release of the validated product available for launch onto the market.

The final event of 2017, the COBIK workshop on Innovation and Entrepreneurship, was held the following week in Slovenia. The ESRs and SiCs travelled to Ljubljana to attend the workshop over two days, which was held at the Hekovnik Startup School (a former tobacco factory). Attendees were given an introduction to marketing, personal branding and how to pitch a product. The ESRs also had the opportunity to develop and pitch their key exploitable results. The participants found the interactive sessions very informative and enlightening.

"As most of us were from a research background, we were required to think outside our comfort zones and I think the workshop really helped to make me think differently on how to present myself on a professional and personal level."

For a more in depth summary of the workshop, please read Anggy's article on page 7.

As we are nearing the end of the network, the final IPCOS meeting is currently being organised and will take place in Trieste between the 10th – 11th of July, 2018. All ESRs will present their results and the Coordinator will give an overview of the programme. This meeting will also be an opportunity for the consortium to discuss and plan the final reports and documents that will need to be submitted to the European Commission in 2019.

Finally, look out for Miro and Luca's paper in Food Chemistry: Rapid Sucrose monitoring in green coffee samples using multienzymatic biosensor. M Stredansky, L Redivo, P Magdolen, A Stredansky and L Navarini, Food Chemistry: 254 (2018), 8-12. The full article will be available online in March 2018.

My IPCOS Journey

Luca Redivo, ESR 4

Three years have gone, and if I look back...wow...what happened!!!



Presenting at EXPO 15

I still remember when I started at the beginning of 2015, some paperwork to enrol as a PhD student at QMUL, lots of articles to read, shyly asking questions about imprinted polymers and other scientific things.

I immediately started with my first academic secondment in Trieste with more documents to read, courses to attend, strange calculations on the computer to run and six months are gone. I then returned to QMUL for 1

year and immersed myself back into the real chemistry world... the lab; with smelly solvents, cool glassware and a lot of experiments to do. Then, it was off to Bratislava to start my industrial placement at Biorealis; again a new place, new work and an opportunity to get excited about electrochemistry, a powerful analytical tool. Finally, my last secondment at illycaffè was spent learning about the complexities of coffee and the scientifically interesting journey from bean to beloved brew.

And three years have just flown by... Well, don't think it was just taking flights, studying and working in the lab. In these years I worked with different colleagues and supervisors and from all of them, I learned a lot scientifically but also on how to relate to other people and how to present your work to others. Besides, thanks to the different expertise of the IPCOS partners, I have learned a lot about entrepreneurship, presenting your research



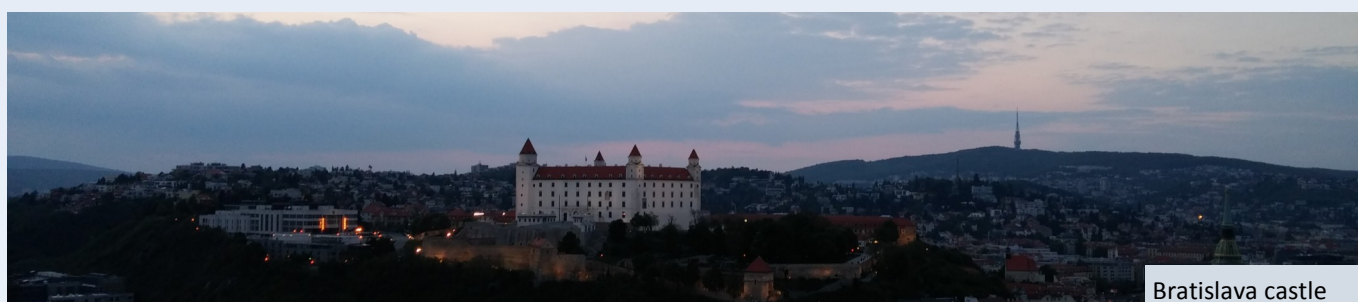
both orally and in the written form, CV writing, unconscious bias, patenting, European food legislation and plenty of other things, all during the IPCOS schools and workshops.

Well, that's a lot you may think... but don't think that's all. I was lucky to present my work at two international events, one at the Milano EXPO



2015, together with my colleagues Anggy and Ana; and then in Lund at the MIP 2016 international conference. I also had the opportunity to present a poster describing my research at two local events held in London.

These are just a few lines on what life has been like for me as ESR 4 in the IPCOS network. I am honoured to have been selected for such an experience and thankful to have been given the opportunity to work with all the partners of the network and to have met all the other ESRs who have become friends and expert scientists with whom I can discuss work and laugh about everything else.



Bratislava castle

My Final Secondment at Demus Lab

An article from Ana Oreski, ESR 3



It has been hard to grasp that three years of my PhD are coming to an end. My last secondment is taking its final breaths, the last experiments are piling up, all the reports that still need to be sent are feasting upon my nerves and, obviously – the unfinished thesis is staring right into my soul. While it should already be in its teenage years, it is still basically using diapers and learning to walk.

Honestly, none of the above would be even half-achievable without a humongous secret stash of airport chocolates from my last trip to Trieste, after the secondment at the Queen Mary University of London concluded. And the equally humongous concentration of coffee in my blood stream, mostly caused by inhaling, drinking and tirelessly testing it to somehow unlock my last achievement in the longest line of them. And for that, I sincerely have to thank DemusLab.

Perhaps the small spin off of Demus S.r.l. needs a short introduction. They are an analytical laboratory and as such perform analysis of caffeine, water and Ochratoxin on samples sent by their parent company and several coffee companies around Italy. They are situated in Area di Ricerca in Padriciano, which is a technological park near Trieste, Italy.

When entering their laboratory, a scent of freshly roasted coffee wraps you in a hug and takes you to your On the way you meet an Elena, the researcher, and soon after again an Elena, the head of the laboratory. No



Coffee beans at different roasting stages

matter the day of the week, the generally sad winter weather in Trieste or the number of samples waiting to be prepared for the day, they always greet you with a smile and a cup of coffee.

A little later, usually, a Mario arrives, who recently celebrated his 46th year in the company and is able to tell fun stories for every single one of them. Occasionally a Giovanni would appear, equilibrating the feminine feel of the place, doing what he professionally should and providing a manly hand while assembling the laboratory equipment.



Coffee extracts from the different roasting stages

If you combine all that with several couriers bringing samples and missing the entrance of the laboratory (to do them justice, there are four doors leading inside), an occasional drop by from Angelo, who supposedly became a wanted bachelor in the Demus establishment, a marathon of jokes to lighten up the mood during work, and several puppy visits, one must be rather lucky to be included in such a warm and friendly environment and call it work.

And while the list of things to finish before exiting the bubble of IPCOS and mercilessly entering the real world is getting longer and longer, it is conversations like the following making it all seem better:

“Iiiiiis the HPLC free tonight? I have samples.”

“Sure. How many samples?”

“38.”

starts praying to several gods of chemistry that the HPLC won't explode

Excuse me while I go prove Gandalf wrong now. And pass. Somehow.

On Demus S.p.A.: Where real coffee is decaffeinated!

Angelo Monteiro, ESR 2.



Four months have passed since I joined Demus S.p.A. in this new adventure of my PhD, same city different company. So far, I can say that I have learnt a lot from my two industrial secondments, first at illycaffè and now at Demus S.p.A., and I hope that it will be even more fruitful.

Demus S.p.A. is a small company in comparison with illycaffè, however, it is one of the main companies decaffeinating and dewaxing green coffee in Europe. Here, I have been given the opportunity to work with the main by-product of their industrial processes, caffeine! As a by-product, caffeine is also sold in its raw form, which is called crude caffeine; however, I hope soon to help the company to sell its own natural pure caffeine, by developing and optimising their own process of purification of crude caffeine!

In comparison with my experience with illycaffè, where I was working at the Aromalab, a facility completely dedicated to research on coffee; in Demus S.p.A. I am in a more interdisciplinary environment where I am constantly in contact with people from different backgrounds including colleagues from finance, management, marketing, and people working at the decaffeinating facilities. This kind of environment, where I am always in contact with the different people that make the business run, made me realise how a company is managed, how problems are solved on a daily basis and how stressful it can be. Moreover, it has also shown me how united and coordinated all the employees need to be to make the most of a business.

Although the main language spoken is Italian, there are people with backgrounds stemming from the four corners of the globe including: Senegal, Peru, Mexico, Slovenia, Croatia, Serbia and Romania. This kind of international environment makes my experience here at the company very rich culturally speaking, allowing the exchange of knowledge and culture.



Working at the Demus S.p.A. plant

My research at Demus S.p.A. is also something completely different from what I've experienced so far. Used to small round-bottom flasks, small conical flasks, weighing milligrams of compound, micropipettes among other small/micro/nano things, here I'm working on a big scale. Finally! Also, the laboratory, where I work, is not fully equipped with all the materials and equipment that I'm used to, which obliges me to be more ingenious (one of the main peculiarities of Portuguese people) and innovative in order to face all the small hindrances that obstruct my path to obtain the purest caffeine!

Overall, I, definitely can say my time at Demus S.p.A. has been fantastic! All the people welcomed me with their arms wide open and have treated me as one of them, maybe because of their interest in Porto wine and the Portuguese custard tarts that I can provide them! In any case, I hope I can help them as much as possible, always aiming for the purest caffeine in the world!

Entrepreneurship, Electrochemistry and Espressos

An article from Rosemarie Anastasiadi, ESR 5.



Miramare Castle , Trieste

From Ljubljana to Trieste, I got to my final stop, joining the illy team at the Aromalab! Luca was already there working with electrochemistry and obtaining very promising results, therefore we decided to change the initial plan and continue with this work. A totally new world of expertise was there for me to 'discover' and I was faced with many new challenges! Moreover, with the new year upon us and Luca's 3rd year completed, it finally hit home that I am also now in my third year, bringing a hint of the pressure that the finishing line and completion of my PhD is fast approaching!



The IPCOS team in Alghero

In the meantime, in September the last IPCOS school took place in the beautiful town of Alghero in Sardinia, offering us the opportunity to listen to some very interesting research from experts in the field related to sensors, biosensors and their applications in a variety of fields, realising what a fascinating and big world it is. During the school a CV writing

workshop also took place, making us think about our next steps. As part of the workshop one of our tasks was to work on some example applications and we received useful advice and feedback from some senior members of the IPCOS team.

In November, the workshop on Innovation & Entrepreneurship at COBIK took place in Ljubljana. Marketing, management, sales and branding experts familiarised us with the steps that follow after obtaining exploitable research results, how to communicate them to a non-scientific audience in a clear and attractive way and of course its importance to achieve it! In order to make the whole experience more realistic we worked on actual results that were developed by us and could be interest-



Alghero foreshore

ing for the market, considering the various parameters that should be taken into account in order to further develop these ideas. The presenters shared their own experiences with us and got us involved by making everyone share their opinions and thoughts.

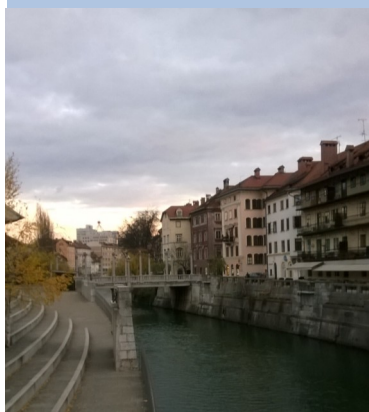
Getting back to Aromalab, I am continuing my research on the electrochemical behaviour of xanthines. Sadly, my fellow ESR, Luca, has left Trieste and has returned to London to wrap up his project and write his thesis. In the meantime, here in the Aromalab, we are mainly interested in caffeine and to prove so we are consuming a number of illy coffees per day... research life!



Cobik workshop on Innovation and Entrepreneurship

An article by Anggy Gutierrez

I think that the workshop at COBIK in Ljubljana was a very valuable experience that took us out of our comfort zones. If I am being honest, at the beginning I was expecting a typical workshop with plenty of lectures on how to set up a startup company and theoretical concepts about project development and marketing, that sometimes for researchers can be a little bit boring. Instead, we participated in the most interactive workshop I have done so far, where both the Professors and Supervisors together with us were constantly encouraged to participate and we had the opportunity not only to learn something new about marketing and how to sell our ideas but also how to express ourselves, gain self-confidence and to identify our skills and take advantage of them. I think that sometimes we are so focused on our lab work that we forget that communication skills are very important in the business world and especially we forget that the importance of our work is perhaps not so obvious to others.



Ljubljana city centre

Before this workshop I would not have said that making a simple and brief public presentation of myself and my skills was so complicated. Making a list of our abilities and weaknesses as well as our motivations in life helped us to understand ourselves a little better, to discover what makes us unique and of course it made us reflect on the things we want to achieve as researchers whether short, medium or long term. As researchers, I think we have the opportunity to offer solutions to a great number society's problems, but whatever field we are focused on, we have learned, thanks to this workshop, that we should be familiar with the audience to which our product or service is directed to. I think we are lucky to attend the kind of events like this workshop; that teaches us to take sci-



Personal branding session with the director of Mediade, Ms Edita Krajnović

ence and research out of the academic field and that allows us to see that with the necessary advice and the right communication skills we can become entrepreneurs and transform our ideas into a possible product or useful service for others.

To conclude, I must say that I found not only the lectures during the workshop very interesting, but also the location: Ljubljana is very nice city and also the dinner was a different



Statue on Ljubljana's famous Dragon bridge

and fantastic experience, where we tasted very good and different dishes that none of us had tried before.



Workshop dinner—tapas at Tabar

Forthcoming events

Network events



- .The End of Network meeting will be held on the 10th-11th July 2018 in Trieste.

Conferences

- Biosensors 2018, Miami, Florida, 12th-15th June, 2018.
- The 10th Conference on Molecular Imprinting, Jerusalem, Israel, 24-28th June, 2018.
- European Materials Research Society meeting, Warsaw, Poland , 17th-20th September, 2018

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