

Interview with Hugues BLASCO
Post Doc – IEM-CNRS, Montpellier, France



Hugues Blasco was a Post Doc within the framework of CARENA (oct 2011- oct 2012) at The European Membrane Institute (IEM) in Montpellier, France under the direction of Dr. Anne JULBE.

Can you tell us something about you? Where are you from? How did you end up ?

During my PhD at the Institut d'Electronique du Sud (University of Montpellier 2) I developed a new acoustic method for characterizing the mechanical properties of muscles, focusing at clinical applications for Duchenne muscular dystrophy. In 2011 I was recruited at the Institut Européen des Membranes as a Post-Doc in the group of Anne Julbe ("Ceramic and hybrid membranes by sol-gel and solution Chemistry"-DM3 department). I am involved in the European CARENA project (WP4) as a specialist of acoustic techniques, to study the potential of acoustic emission for membrane characterization during gas permeation and membrane reactor operations. Interdisciplinary is really the key-word of my work, with high risk but also great potential for original publications in collaboration with high level and motivated partners.

What was the topic of your Post Doc?

Information on membrane characteristic is essential for membrane user, manufacturer, and scientist to choose an appropriate membrane for specific application, controlling membrane quality or understanding transport mechanism. For example the absence of on-line diagnostic tool is a strong barrier for industry to implement this technology. Our prior and ambitious topic is to develop the feasibility of acoustic emission for on-line detection of defect or failure for membrane reactor in operation.

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The second topic is to evaluate the potential of acoustic emission for studying the transport mechanisms through inorganic membrane systems. Acoustic emission (AE) is the phenomenon of transient elastic wave generation in stressed materials. When the material is submitted to stress at a certain level, a rapid release of strain energy occurs as elastic waves which can be detected and analyzed.

What do you find unique for your field of research ?

As a young physicist it is a wonderful opportunity to have a chance to work in this reputed team of material scientists and to be involved in the membrane world through such an exciting European Project. Anne also gave me the chance to be a member of the organization Committee of the IMeTI-CARENA workshop held in Montpellier in March 27-28th, 2012. This was really a great experience, which provided me with a series of attractive contacts and additional new ideas.

What do you think is the most satisfying part of this project?

In my opinion, the most satisfying part of this project is the European collaboration between countries. It's a real pleasure to exchange and discuss information with top-level scientists having different time horizon.

I hope my expertise in acoustics will bring new opportunities for *operando* membrane characterization and will open new prospects for both the academic and industrial partners associated to the project. It will be for me a good satisfaction. Another satisfaction point, it's a real pleasure to work with Anne Julbe & André Ayrat and their dynamic team in a famous laboratory with high level expertise.

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CARENA is a large-scale integrating project funded by the EC

Do you have some advice to PhD Student considering taking a Post Doc?

It's the best chance of getting a job in a field that you are passionate about, so make sure you to do what you do want to do. Keep in mind that you have to be flexible, you need to take every opportunity to get the best of them. Initiate collaborations and communicate your results and keep the objective to publish in Nature or Science a day. Creating collaborations, both within your own department and at other institutions is always a rewarding experience. It can lead to exciting new research and help you develop new skills outside from your area of expertise. Have fun with serious things, enjoy yourself with science and you'll become a great generous researcher.

What are your plans after completing your Post Doc?

I can honestly say that despite my misgivings about actually finding an academic job in the current disturbed market, I love what I do and I'm passionate about my research. I'll keep working at the IEM in order to complete my expertise in the membrane area, to publish my results and to extend my list of contacts. Waiting for a good opportunity, I will continue to do good « acoustic work » to boost my chances and get a permanent job, still with a smile !

Thank you Hugues for giving us a glimpse into your brand-new research activities!

CARENA in brief

Starting date: 1st June 2011

Project duration: 2011 – 2015

Number of partners: 19

Coordinator: Arend de Groot, ECN, the Netherlands

Project Reference: FP7-NMP-2010-LARGE-4



IEM building

