

## Interview with **Stefano LAZZARI**

Researcher at the University of Genoa, Italy  
XERIC's Deputy Coordinator



**Dr Stefano Lazzari** is a researcher in the Department of Architectural Sciences at the University of Genoa, Italy. Stefano's work falls within the Industrial Engineering and Environmental Engineering branches. Stefano brings into XERIC his expertise in modelling heat transfer and optimizing the performance of heat exchangers.



### **What made you opt for a career as a researcher? How would you define your job?**

I would say that I like to study, to face new problems as well as to teach what I have learned. There is no better place to work other than the University if these are your favourite activities! My job is challenging, very dynamic and gives me the chance to see both the perspective of students and that of the companies that ask for consultancy.

### **We'd like to catch a glimpse of your daily activities. What is a typical day for you?**

Since my job is very dynamic, there is no typical day in the strict sense of the word. I can say that usual activity is made of lectures, examinations, meetings, writing of research papers and review of papers submitted for publication on journals and conference by Colleagues from all over the world. Besides this, since I am involved in XERIC as both researcher and Deputy Coordinator, my work consists in both proceeding with the development of the XERIC system towards the final goal and in helping the Coordinator in keeping the teams strictly connected, trying to overcome any issues by having my eye on the project's various tasks and activities. This is why I am used to working hard all day long and often also in the weekend!

**Your expertise spans the chemical engineering, industrial engineering and environmental branches. What do you bring to the transdisciplinary XERIC project? And what are you expecting from your participation in XERIC?**

The XERIC project is very ambitious and challenging, since it involves many different aspects going from fundamental heat and mass transfer optimization to performance evaluation by means of numerical modeling, from membrane development to product manufacturing, from electronic management of the system to dissemination activities. I am proud of being part of such a transdisciplinary project and I am doing my best in order to help designing the innovative component (called three-fluids membrane contactor, 3F-CMC) and to enhance the performance of the overall air conditioning system.

Having the maximum respect towards the high professionalism and effort provided by all other partners I am growing both from a professional standpoint and from a personal standpoint. Working together is stimulating and, I am confident about this, will give the desired results in the end.

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

We are only in the first year of the project and, thus, the complete answer cannot be given yet. Anyway, the European call for projects itself was highly-demanding and just having been funded is extremely satisfying. Indeed it means that the fundamental idea underneath XERIC is definitely worth the effort.



Personally speaking, I find very satisfying when any suggestion of change in the 3F-CMC design turns to be an enhancement in the overall air conditioning system, according to preliminary numerical evaluations. Since some modifications are not easy to be implemented from the manufacturing standpoint, finding the right compromise with the industrial partners is always a great victory!

**And the most frustrating part?**

Fortunately, we have not faced yet any unsolvable problem, so the many difficulties we have encountered and overcome are more a satisfying part than a frustrating part of the project!

**You've recently participated in HERB, an EU-funded project bringing together 18 EU partners. What was your role in this project?**

In the Holistic Energy Efficient Retrofitting of Residential Buildings (HERB) project, the research group of the University of Bologna, where I have been working from 1999 to 2014, was responsible for the optimization of air-water and ground-water heat pumps for air conditioning in residential buildings. Moreover, our group gave the technical and scientific support to the City of Bologna for the realization of the proposed high efficiency energy retrofitting solutions on a building owned by the municipality of Bologna. In detail, I was responsible for the dynamic simulation of the building, aimed at determining the energy performance before and after any energy retrofitting.

**XERIC brings together research labs and industry. How do you view research-industry collaborations within the framework of the project? Shifting the focus to a bigger frame, how do you view the future of research: will most research be carried out via public-private collaborations?**

Until now, the cooperation between research groups from the University and industrial partners works in a very efficient way. This is probably due to the presence in the consortium of ITWM that, being a pure research center, often acts as a translator between the opposite approaches of Academia and Industry. This is why I feel that this kind of European-funded projects can really help in promoting public-private collaborations in research activities. Especially in this critical moment in the world economy, the industry has an increasing need in shifting outside the risk connected with the investment in research and, on the opposite, the University should not lose the chance to focus its research also on practical commercial problems. Therefore, in my opinion the future will see more patents made by Universities.

**Thanks for answering my questions Stefano and all the best for XERIC!**



### **Stefano's skills**

Heat Transfer - Fluid Mechanics -  
Energy Engineering - Refrigeration & Air  
Conditioning – Low enthalpy geothermal  
energy - Computational Fluid Dynamics -  
Comsol Multiphysics

### **Role of the University of Genoa (UNIGE) in XERIC**

UNIGE in the project acts as Third Party of TICASS (Innovative Technologies for Environmental Control and Sustainable Development), which is a non-profit Consortium based in Italy, in the Liguria region. UNIGE and TICASS work side by side to design and model the 3F-CMC and the overall climate control system.

UNIGE co-invented and patented the three-fluids-combined membrane contactor.

#### **XERIC in brief**

**XERIC is a European Research & Innovation Project**

**Start date:**  
1<sup>st</sup> June 2015

**End date:**  
31<sup>st</sup> May 2018

**Number of partners: 8**

**Coordinator:**  
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