

REPORT on the PROTEOGLYCAN GORDON RESEARCH SEMINAR AND CONFERENCE: ANDOVER NH,
USA 05-11 July 2014

As soon as I arrived at the Proteoglycan Gordon Research Seminar (GRS), that was held in July 2014, I immediately perceived a unique environment with true friendliness and warmth accompanied by a special scientific atmosphere. I felt at home being so well welcomed by the community of about 40 PhD students and Post-Docs, some of them having participated to the conference before. This same atmosphere of great both scientific and human interactions well extended for the whole GRS and GRC, leaving special memories that encourage me to participate again. Given the multidisciplinary of the seminar and conference, I strongly feel it is one of the best opportunities to facilitate cutting-edge ideas derived from the complementarity of Chemistry, Biology, Physics and Bioinformatics.

The GRS started with the keynote lecture of Pyong Woo Park (Children's Hospital, Harvard Medical School, Boston) who explained new pathogenic roles of Syndecan-1 and Syndecan-3, which are found to be related to several pathologies. Syndecan-1 and Syndecan-3 influenced the host-infection of pathogens (such as *S. Aureus* and *S. Pneumonia*) by different mechanisms. Working on Heparan Sulphate (HS) I found this talk instructive as well as the results shown by the group in Rice University, Houston, Texas regarding the key role of GAGs on aortic diseases, and the relation between exogenous TGF- β , ERK inhibition pathway and the homeostasis of GAGs. I was impressed by the level of the all the presentations and by the talented young researchers I met. As an example the results of complex computational chemistry studies on the contribution of Asparagine residues on the protein binding domain, it has been explained in a logic and easy-comprehensible manner. Presentations were followed by poster sessions where young researchers had the possibility to explain their projects and to freely interact with the other participants by lively discussions. Was in that occasion that I found several ideas for my project and important contacts that have already turned in collaborations.

As Post Doc at the Département de Chimie Moléculaire, at the Université Joseph Fourier, Grenoble, France, I was proposing a new method to characterize the interaction between protein and HS immobilized on bio-mimetic surfaces by the use of surface sensitive techniques such as Quartz Crystal Microbalance (QCM-D). With my group we observed that some HS binding proteins cross-link the HS chains. The use of our bio-mimetic substrates interested several great scientist working on proteoglycans clusterization and their downstream signal activation.

The unique collaborative environment that I experienced in proteoglycan GRS and GRC was an enriching experience that I hope to repeat in 2016.