

INcitate knowledge

Carlos Barcia González, 41 years

"Ramón y Cajal" Tenure track professorship

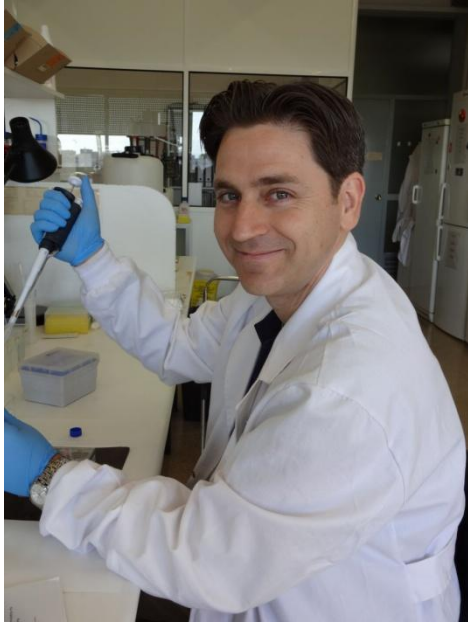
Neuroimmunity research team; SGR, Biomedical Research in Neuro-degeneration.

1.- What research are you currently developing?

The research that I am currently developing is focused on the immune responses in the brain. Non-neuronal cells, such as glial cells and blood infiltrated immune cells are critically involved in the resolution of brain injuries, covering neurodegenerative diseases and other insults, including brain tumors. I am very interested in studying the function of lymphocytes and microglia within the inflamed brain parenchyma, particularly on the interactions that take place between immune cells and other target cells.

2.- How is the day-to-day inside your laboratory?

I guess the routine of my laboratory is quite similar to many other labs: from the bench to the computer and from the computer to the bench. For me, the day-to-day research requires a lot of microscope and patience for the analysis of the results, being ready for trouble-shooting and trying to innovate with new perspectives and views. Regarding my approach towards research, I try to be open to the unknown and not to define the pathways and ideas too much, usually the projects are built according with the results that show up, step by step, brick by brick, patiently, like building an old cathedral, as Gaudi used to say when he started *La Sagrada Familia*. This idea is, somehow, inspirational to me; you get the general idea of your project but you do not really know where your research is going or what the final result will be. In addition, I consider very important the visual and appealing aspect of my research. I like the final result to be beautiful, so the display of the results is crucial to me. As one of my former advisors at UCLA said: *"if something is real, is got to be beautiful too"*.



3.- What therapeutic applications do you think can your research have?

Knowing the factors and molecules involved in the process of intercellular communication, involving neurons and non-neuronal cells, will be very useful to define therapeutic targets. The manipulation of these interactions will provide the final goal to stimulate or diminish the immune responses and inflammation within the brain. The output of this strategy can range from controlling neuro-degeneration with anti-inflammatory drugs, to eliminate brain tumors with antibody-based immunotherapies. Understanding how

cells interact and “talk to each other” will be important for the future of medicine.

4.- How you encourage future scientists to be part of neuroscience research?

I think Neuroscience is a really large topic, and a very promising field, with a lot of opportunities. I would encourage them to be enthusiastic in whatever they do. I really believe that new people can bring new ideas and participate in the creative process for the scientific community. I consider that the most important aspect is to motivate and be motivated. Probably the search for a lab position, finding a fellowship and a good PhD adviser is a hard task and not always successful these days. Sometimes you have to end up in a place where there is an opportunity, even though is not the place of your dreams. In an ideal world, as Steve Jobs once said, I would tell them “find what you love”, but being more realistic, I will tell them “at least try to love what you do”. Novel neuroscientists have to believe that the field is wide and the research they do, if it has good quality, it will have an international and global impact.