

Alessia Golluscio

Postdoctoral Associate

Field of Study*Physiology & Biophysics***What impact do you want your research to have?**

I wish my research to have a significant impact on improving people's health and to improve and advance science. Every piece of research contributes toward the advancement of scientific knowledge. As my research is focused on ion channels, important membrane proteins involved in several cellular processes and human conditions is important for us to deeply uncover both the structural and the therapeutical properties of these proteins. Dysfunctions of these proteins are linked to several human disorders. Therefore, understanding how the channels work and how we can target these proteins for future therapies is one of the biggest aims and impact I can wish for in my research. There are still so many features of ion channels that are not yet fully understood, and as such, more research is needed.

What inspired you to pursue your area of research?

One of the biggest factors was my curiosity, during my early life and throughout my university experience as a biology student, to understand things down to the roots. I was always curious to know why and how things around me work and therefore I chose to pursue research. Specifically, regarding my research area, I was extremely fascinated by ion channels and how they contribute so significantly to cellular functions. After my internship as a master's student in a physiology laboratory where I started to study ion channels from a molecular point of view rather than from textbooks, I was sure that ion channels were my field of interest.

What is most exciting about your research?

The most exciting part is that every day there is something new to discover. Every experiment is designed to uncover, prove, or confirm a hypothesis from a structural, mechanistic, or clinical point of view, according to your field of study. However, unexpected results can turn out to be of particular interest. So, from every perspective, there is always something new to learn, elaborate, think, and yet describe. I am very excited about the opportunity of discovering the mechanism of action of drugs on ion channels, and how we can use them in the short run to explain molecular mechanisms that are still not fully elucidated and eventually, treat human conditions. Every single discovery brings research closer to having an impact on people's lives.

What makes your research unique?

Ion channels are fascinating proteins and their contribution to numerous cellular processes make them an important target for treating several human conditions. Finding compounds that can selectively target them, would be of high impact for the advancement of science, and eventually, for therapies. Thanks to the advancement of science, we are also able to combine computational studies and electrophysiology to study even in deeper details these proteins, reaching a better understanding of both molecular and structural features of channels.

What are your plans after finishing your postdoc at the University?

I would love to pursue a career in academia and eventually have my own line of research alongside with teaching students.

