First Person – Natalia Mallo

Natalia Mallo is first author on ‘Depletion of a Toxoplasma porin leads to defects in mitochondrial morphology and contacts with the endoplasmic reticulum’, published in JCS. Natalia conducted the research described in this article while a Postdoc Research Associate in Lilach Sheiner’s lab at Wellcome Centre For Integrative Parasitology, University of Glasgow, UK. She now works in the lab of Santiago Cabaleiro at CETGA (Technological Centre of the Aquaculture Cluster), Ribeira, A Coruña, Spain, where her research interests are related to the study of molecular biology of protozoan parasites. Natalia has a special interest in endosymbiotic organelles, such as the mitochondrion, and aims to elucidate organelle functions that can be related to adaptations to parasitic lifestyle.

How would you explain the main findings of your paper in lay terms?

Cells contain organelles that have to interact with each other in order to communicate and transfer metabolites, which is essential for their functions. This is true for protozoan parasites, such as the animal and human parasite Toxoplasma gondii that we studied here. We showed that the porin named voltage dependent anion channel (VDAC) in the mitochondria of T. gondii mediates the contact with the endoplasmic reticulum (ER). We describe the roles of VDAC in metabolite and protein transfer to mitochondria, and its importance for parasite growth and survival, which lays the ground for understanding of its role in this critical organelle–organelle contact in the future.

When doing the research, did you have a particular result or ‘eureka’ moment that has stuck with you?

I will always remember the moment when I saw, under the microscope, a very funny shape of mitochondria in the parasites in which the VDAC gene was knocked down, changing from its particular lasso shape to a ball-like shape – I’m glad our work managed to link this to a contact with the ER.

Why did you choose Journal of Cell Science for your paper?

We chose Journal of Cell Science because of its commitment to publishing research on the cell biology of divergent organisms. We feel that people are not fully informed about the wealth and diversity of model systems that are understudied, and JCS invests in improving this.

Have you had any significant mentors who have helped you beyond supervision in the lab? How was their guidance special?

Dr Lilach Sheiner has been my supervisor during my postdoc but besides that, she has also been very close, listening to my opinions, caring about me and my future and also organising activities outside the lab for everyone. That made me feel that I really belonged to a team and created an inspiring and creative environment to work in. My current PI, Santiago Cabaleiro, is very supportive and confident in me, giving me the opportunity to become a more independent scientist. Further, over the years in science I have met a lot of people who were inspiring in different ways.

What motivated you to pursue a career in science, and what have been the most interesting moments on the path that led you to where you are now?

Since I was little, I have been interested in finding explanations for the things I observed. That attracted me to pursue a career in science, which, while having lots of ups and downs, also results in lots of excitement and satisfaction. The most interesting time was my postdoc at Glasgow University, where I had the chance to learn a lot in a multicultural environment full of talented scientists.

Who are your role models in science? Why?

My role models are women in science who manage to have a healthy work–life balance. I think it is especially difficult to try and have a family without being pushed away from the top in the scientific community.

What’s next for you?

I am currently working at a technological center that functions as the R&D department of a series of aquaculture industry producers, associated with the Aquaculture Cluster, at an international level. This made me change my way of working, because I always need to think in terms of time frames and direct transferability of the results, which has been a challenge, but...
I will always love the freedom of thinking and project design in academia.

Tell us something interesting about yourself that wouldn’t be on your CV
I enjoy the arts and, in my free time, I try to do creative activities; I love exploring new techniques and am also recently having fun sharing this hobby with the tiny human I am raising. I am especially interested in drawing, which is also really helpful for developing observational skills, which are very useful in science.

Reference