

October 19th, 2023: An Interview with Dr. Gaelle Lentini

Gaelle Lentini is a biologist focusing her research on parasites causing human diseases. For her PhD, she joined the lab of Maryse Lebrun at the University of Montpellier, where she characterized molecular players involved in the host cell invasion by *Toxoplasma gondii*. Then, she pursued her interest in parasitology as a post-doc in the lab of Barbara Burleigh at Harvard T.H Chan School of Public Health where she discovered that intracellular *Trypanosoma cruzi* parasites maintain a close contact with the host cell mitochondria via their short flagellum. Back in Europe, she led her own project at the University of Geneva in the lab of Dominique Soldati-Favre, and discovered effectors involved in the peculiar cytokinesis process of *Toxoplasma gondii*. Since September 2023, Gaelle is a group leader (SNSF Ambizione Fellow) at the Institute of Cell Biology (UNIBE). We caught up with Gaelle to discuss the path to her current position and her passion for parasitology.



You started your Ambizione Fellow position one month ago. How has the start as a group leader been for you?

It is an exciting time, and it feels like being on a roller coaster. In a lab that is already running, you have everything at hand and some staff available to help you to get settled. Starting with an empty lab is definitively a big challenge. Becoming a group leader requires sustained effort and work. It is not just about papers but also about developing a sharp mind, learning how to write and communicate your ideas and accepting that you don't succeed alone. It has also been quite a journey to get all the authorizations to work on a Class 3 Pathogen. In this context, the Ambizione funding scheme is truly

beneficial as I am teaming with Pr. Torsten Ochsenteiter that supports me for my career development and allows me to parasite his lab as much as I want until I get completely settled 😊.

What is the study focus of your research group in Bern? Which questions would you like to answer in the coming years?

My research focuses on the molecular mechanism of egress of *Trypanosoma cruzi*, a human parasite causing Chagas disease. Parasites are fascinating organisms that survive at the expense of their host by developing highly specialized virulence mechanisms. From an evolutionary perspective, parasitism could also be seen as

a symbiotic interaction preceding mutualism or commensalism.

What fascinates you most about *T. cruzi*?

Chagas disease is a neglected tropical disease affecting 7-8 million people and causing more than 10,000 deaths globally. Research on *T. cruzi* has been lagging due to the complexity to genetically manipulate the parasite and to its classification as a Biosafety Level 3 organism. However, recent advances in genetics have incredibly empowered our ability to generate knock out and to study gene functions in this parasite. Therefore, it is a fantastic time in science to start studying *T. cruzi* biology and I am extremely excited to dissect its fascinating biology.

Which is your own favorite paper from your career?

I can't tell you as it is not published yet 😊. For me, the unachieved endeavors are always the funniest and more enjoyable ones. But to spoil you a bit, it is about cytokinesis and cellular abscission in *Toxoplasma gondii*.

What were major personal changes since you were a PhD student?

Definitely learning to deal with frustration, failures, and stress. And all of it come in a high rate and with regularity. But when you start seeing failures as exploration opportunities, frustration as preceding moment of success and stress as challenges that give you a chance to grow, you will be the happiest scientist in the world.

Is there anything that you would like to see change in academia?

The dogma regarding international mobility. I do think that mobility is a wonderful opportunity that we have in academia. However, during my experience as supervisor, I often heard that mobility is an

obstacle to pursue in science for many students. Institutional, sectorial, and intellectual mobilities are also important parameters that should be seen as options for researchers that can't or don't want to move abroad.

You are a role model for many young female scientists. Which advice would you give to them?

While women are found less frequently than men at leader positions, I always choose to join laboratories run by females. They have been my role models and I wish everyone could find his own. The gender balance is now a priority in several organizations and many opportunities are available. Outreaching activities is also a good way to spread the word. It is a wonderful time to be a woman in science and we should embrace it.

As a young group leader and mother, which advice could you give to other young mothers that would like to manage family and career?

As parents, no matter your professional sector, you always face the challenge to balance family and career. The time with my twin daughters is precious and I fully take advantage of the flexibility that offers academia to take the most of it. I also try to maximize my efficiency when I am at work to get the most done during the day. And you know what? Kid chat and games are a wonderful way to boost your creativity!

Last question: if you did not become a scientist, what would you be doing instead?

As a typical French, I do love cheese. I also do like outdoor activities and hand work. So, I think, if we were not here around this table speaking about science, I would be offering you a nice apero with cheese and wine coming from my farm.