



Where I work María Eugenia Francia

Photographed for *Nature* by
Pablo Albarenga.

In this picture taken in September, I'm using a confocal microscope at the Pasteur Institute of Montevideo, one of the Pasteur Network's three South American centres. My team focuses on understanding and combating infectious agents, specifically single-celled protozoan parasites belonging to a diverse group called Apicomplexa.

Here, I'm looking at a colour-coded 3D image of the cytoskeleton of *Toxoplasma gondii*, a parasite that infects people all over the world, with infection rates above 60% in some hot, humid places. The organism can cause vision problems in babies born to infected mothers. It's also a major cause of miscarriages in sheep. Uruguay has more sheep than people, so that's a huge concern.

As a younger scientist, I spent my days at a microscope. Now I'm mostly a manager, running a group of ten people, but I appreciate any chance I get to see these organisms up close. As damaging as they are, these parasites are also beautiful.

This microscope, maintained by the

centre's bioimaging unit, isn't powerful enough to zoom in on the parasite's smallest structures. We get round that by enlarging the parasite itself with an expansion gel.

Using samples from local hospitals and sheep ranches, my laboratory studies *T. gondii* and its close relatives from many angles: genetics, virulence and basic biology. Its method for cell division is very different from ours. Anything that separates these organisms from mammals can be a potential target for drug therapy.

I've made several appearances on Uruguayan television talking about my research and the work of the centre. I'm the only female group leader here, so I also try to encourage and support other women in science. I can talk openly about our lack of representation in science without worrying about my position. I need to capitalize on that privilege for the sake of other women.

María Eugenia Francia is a group leader in the Apicomplexan Biology Laboratory at the Pasteur Institute of Montevideo, Uruguay.

Interview by Chris Woolston.