



**Aya Iizuka** is currently a PhD student in Infectious Diseases and Hospital Epidemiology at the University Hospital of Basel, in the Department of Biomedicine. Half Swiss and half Japanese, she grew up in Switzerland and did her undergraduate studies and Master degree at the University of Lausanne (UNIL) where she specialized in Molecular Biology. She speaks French, English, a bit of Japanese, and is currently trying to relearn German.

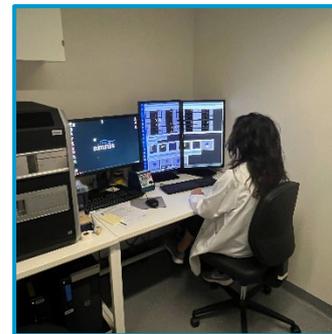
In her PhD research project, she is interested in the interaction between the bacterium *Staphylococcus aureus* (SA) and the human patient. Her group particularly studies deep-seated infections, meaning infections located deep within the body that are hard to remove or treat. Antibiotics that are clinically proven (*in vitro*) to effectively combat this bacterial infection do not always work in patients (*in vivo*) with deep-seated infections. Aya aims to understand better why patients with such deep-seated SA infections have treatment failures. In a typical day, Aya works in a lab examining patient samples that she gets from the clinicians at the University Hospital. She also spends time on the computer running analyses. She interacts with medical doctors, data scientists and biologists on a daily basis, and this is something she really enjoys.

Outside of work, Aya enjoys reading books, listening to podcasts, cooking, hiking and travelling. One of her favorite places is the London Science Museum. Among her favorite podcasts are the ones from Lex Fridman, Alex O'Connor and Etienne Klein.

#### **An interview with Aya Iizuka:**

*The biggest challenge women scientists/clinicians face today is...*

This is a complex question that can be discussed for hours. The task of performing science is demanding irrespective of your gender. Science is challenging, and that is also why we like it! However, when it comes to higher positions in academia, women are indeed less represented. This is not a problem specific to science but a general issue in our society. Ideally, one day, societies will be organized in such a way that combining career and personal life will be an equal challenge regardless of your gender. As long as we speak about “women in science” or “scientific women with a family” there is still challenge. When talking about male scientists, we do not talk about “men in science” or “scientific men with a family”, we simply talk about scientists. Gender biases do exist and discussing this issue is important to improve it.



*I chose a scientific career because...*

...as a child, my favourite topics were mathematics and science. I was genuinely curious about everything, and I quickly developed a strong interest in biology. I remember very well a science course in secondary school in which we learnt about DNA and how it encodes information. It was of course very basic at that time, but I was fascinated. From this moment, I knew I wanted to study biology and understand the code of life. It was only later during my studies that I discovered the fantastic world of microbiology. I also remember very well a bachelor lecture in which we were shown a picture of a foot infected with *S. aureus*. I was fascinated by how such a simple single bacterial cell is able to harm such a complex multicellular organism with a very complex immune system. This triggered my interest in microbiology and pathogenic bacteria.

*If I were not a scientist, I would be...*

It is difficult to picture myself doing anything else besides being a scientist. If I had to choose something else, I think I would be a philosopher. In my leisure time, I enjoy reading philosophy books and discussing the big questions of life.

*What I like most about being part of the NCCR AntiResist project...*

...is certainly the fantastic collaborative spirit that NCCR AntiResist allows by bringing together 29 research groups. I believe that science is a group effort and that the most important questions require close collaboration between experts from different fields.

*What I am most proud of...*

At school, especially primary and secondary school, I was a student with many difficulties to focus, and I was told many times that studying at a university level was not for me. I was even told that I should not even consider High School! My parents never forced me or put pressure on me to pursue a university degree, but I was always a very curious person and I always wanted to study science. I guess I am proud that my eagerness to become a scientist was strong enough to lead me to what I am doing today, and that I didn't let the negative comments of my teachers discourage me from my dreams.

*What challenges in your career did you have to face because of your gender/ethnicity?*

In my personal experience, I am lucky to not have yet met challenges because of my gender. I am currently mentored by a woman who inspires and encourages me. I am aware this is not always the case in other research groups and challenges may be much bigger in other countries.

*What is your wish for girls studying science in school today?*

I hope that young girls who dream of a scientific career will get to see more females represented in science so that they can identify with them and have role models.

*If you could talk to your 15-year-old self, what would you say?*

I would tell my younger self to keep her eagerness to pursue science. There is so much to learn and to discover, one can never get bored! I would also tell her to be more confident and to keep believing in her future projects.

