Sabine Hauert

Sabine works at the University of Bristol as a lecturer in robotics and is currently researching how swarming nanosystems can be used for biomedical applications.

Sabine finds her inspiration in nature. She says:

"If you look at flocks of birds, they can do beautiful dances in the sky. I take inspiration from these swarm behaviours to make robots that work together in large numbers"

Sabine originally studied Computer Science at a École polytechnique fédérale de Lausanne (EPFL) in Switzerland. During an exchange year at Carnegie Mellon University in the US, she programmed little robot dogs to play soccer and compete against other teams at the international Robocup competition. This gave Sabine the taste for robots, and when she returned to Switzerland, she completed an internship on the design of swarm behaviours for flying robots to create communication networks in disaster areas. Inspired by creating robots that act as swarms, Sabine complete a master's project and PhD, on the same topic. By the end of her PhD 10 flying robots were able to fly autonomously as a swarm.

After her PhD, Sabine joined a bioengineering laboratory at MIT that made nanoparticles to treat cancer. The goal was to take inspiration from swarm robotics to make these nanoparticles work together to improve treatment outcome.

Most recently Sabine joined the Bristol Robotics Laboratory as a Lecturer in Robotics. Her group designs swarm strategies for robots that work in very large numbers and span flying robots to nanobots.

When asked about what makes her job so enjoyable, she said:

"I love exploring the unknown; engineering means finding solutions to real-world challenges. It is really satisfying to set a goal, for example design a flock for flying robots, and then see the swarm become reality. Throwing those flying robots and seeing them flock was truly magical, and it took years to reach that point. It is also rewarding to work with engineering students on their projects. Meeting with the students, seeing their progress, and brainstorming about next steps are my favourite moments of the week."