

Interview with early career scientist Martin Jucker



What is your vision on the future of climate science, what do you see as main challenges and opportunities?

In the foreseeable future, climate models will continue to become more comprehensive, and resolve more and more details. While necessary for increasing our confidence in future projections, the increased complexity might make it difficult to concentrate on specific details which are still not well understood today. On the observational side, securing funding for greatly needed high quality measurement devices such as satellites and ocean floats could become a challenge, depending on politics. Both the observational and modelling communities will also have to deal with very large datasets. Reliable solutions will have to be found for storage, access, and analysis, and relating to big data research will be crucial. I see a big opportunity for the transfer of knowledge from academic research to industry, policymakers, and the public. Even though immensely important for the success of our research, I feel that this part has long been neglected. Maybe we should take CERN as a good example, and learn from what it is able to do for particle physics. It would mean making sure that scientists receive professional support for the communication of their results, and I think that several research centres and institutions around the world have already understood this.

How would you see yourself contributing to climate science in the next years? And the next decades?

As stated above, climate models will continue to increase in complexity. But already today no single person really understands every component of an Earth System Model. Therefore, it is just as important to be able to take a step back, and work on a given research question with simpler models. This has been my approach in the past, and I see a lot of benefits from working with a hierarchy of models, where results from observations, simple, and comprehensive models together can give a much more detailed understanding of specific research questions.

Again connecting to the previous question, I see visualising scientific data as a way of making science interesting and, more importantly, approachable for a wider public and policymakers. True, this takes some effort and many of my peers think that it should be spent elsewhere. I feel that we as a research community should embrace the advances of technology, and I found that the act of condensing research into something visualisable actually helps to better understand even my own

results. I also try to be innovative when preparing a talk or conference poster, and bring some beauty and that little extra into the science.

How would you envisage your dream job in 20 years from now?

I don't have a dream job in the sense that I pursue that one pre-defined professional goal. But the perfect job would be in the country of my choosing (I still have to decide which one it would be). It would involve the opportunity to constantly learn new things from the smartest minds on the planet. It would also include both international and inter-disciplinary research, and collaboration with experts outside my own specialty. Finally, it would provide the opportunity to pass along my experience to the next generation.

Who is your biggest source of inspiration?

I've never had any single idol or famous person I wanted to copy. There are people I admire for what they have given the world, such as Freddie Mercury or Leonardo da Vinci. Or people who have achieved great things by working very hard, such as Stan Wawrinka. But if I should cite my biggest source of ideas, it would simply be the internet. There are so many people out there doing these amazing things. It can be very humbling to surf the web and see how very average most of us are.