Postdocs watch out! How to get EU-funding. Interview with astrophysicist Dr. Manuel Meyer

L. Willems: Welcome to a new episode of our podcast series “KoWi-Talk”! In our podcast, we give our community interesting insights into the world of European research funding and our services.
My name is Laura Willems. I am a science communication officer at the European Liaison Office of the German Research Organizations, in short KoWi. We offer information, advice and training on the EU Framework Program for Research and Innovation, “Horizon Europe”.
In this episode, we talk about the Marie Skłodowska-Curie Actions (MSCA). The MSCA are the EU’s flagship funding program for doctoral education and postdoctoral training. KoWi offers advice in all MSCA funding lines. We support you in all stages from the application process to project management. In the run-up to your application, we offer you a free consultation service in which we read through your proposal.
In today’s episode, we have an MSCA testimonial as a guest: Dr. Manuel Meyer, who got funded for an Individual Fellowship at the University Erlangen-Nuremberg. He is a successful researcher in the field of high-energy astroparticle physics. He can tell us first-hand about his experience.

L. Willems: Mr. Meyer, we’re happy to have you here for this episode. Now we’re curious to hear about the MSCA project for which you got funded!

M. Meyer: Thank you for having me.
I work in high-energy astroparticle physics, which is a very long word to describe that we are looking at distant galaxies and exploding stars with special telescopes that measure radiation roughly 1 million times higher than x-rays. It is very interesting to look at these kind of energies because we can learn a lot about different processes in the universe.

In my project, I wanted to explore the origin of magnetic fields in the universe. We see magnetic fields in the gas in our Milky Way, and in intergalactic gas. But it is not at all clear where these magnetic fields come from.

The idea is that there were seed fields created, either in the very early universe right after the big bang, or by some injection of gas of galaxies into the intergalactic medium. These fields were then amplified as clusters of galaxies formed. But then the question again is, where do these seed fields come from? My project aimed to measure these seed fields with gamma ray observations of distant galaxies, which is very energetic radiation that can interact with photons (light particles) on their journey to Earth, and thus create electrons and their anti-particles, positrons. These electrons and positrons can again interact with photons and transfer energy to these light particles, bringing them again to gamma rays.

Thus you get a whole cascade, which we can try to measure with gamma ray telescopes. The shape of the cascade could tell us something about the strength of the intergalactic magnetic field because it would deflect these electrons and positrons. So it is really about understanding some fundamental processes in our cosmos.

L. Willems: Wow, that seems to be a very interesting project. How has the MSCA helped you advance in your career?

M. Meyer: I think it was an important step for me. First of all, it was a great opportunity for me to come back from the US where I held a fellowship at Stanford University. My goal was always to come back to Europe.

During the project, I learned a lot about analyzing data from gamma ray telescopes. I have worked in high-energy astrophysics for my entire career basically, but the MSCA project was instrumental for really going into the details, trying to understand the instrument and extracting traces of the cascade emission.

And I was lucky that I was at a great host institution, the Erlangen Center for Astroparticle Physics. I had a great group of people around me that supported me and taught me a lot, even during challenging times when we weren't able to go into the

offices. Six months after I started my fellowship, Covid broke out. But thanks to the dynamic team I had around me, this was manageable.
On top of that, I also got chances to supervise students, and to teach courses, which is also of course very important in an academic career.

L. Willems: Thank you. Now if you think back to your application process – do you have important tips for writing the proposal and for the submission process? Is there something you would have wished to know as an applicant?

M. Meyer: One of the most important things for me was to get honest feedback on my proposal. I was lucky that I had a professor at Erlangen who gave me very helpful feedback. I started describing the broad picture, but he told me to be right to the point and to start with the magnetic fields I wanted to explore. People who are not in the field need to understand what you want to do. With this feedback, I was able to write a much better proposal. So get feedback is one of my most important advices.
Also plan enough time to write the proposal! You get the guidelines for writing the proposal, a 20-30 page document, and it is really worthwhile to go through it and read it in detail. Then you have to set up the template, you have to write everything in this certain format, which really took more time that I had expected. So start early drafting your idea. When you start writing, try really to focus, to be on the point, to bring across your main points and the awesome science that you want to do!

L. Willems: And last but not least, how did the consultation service of KoWi help you with your project proposal?

M. Meyer: It ties in into getting feedback from many people. I sent my draft to KoWi and had them look over it. That was really helpful because they gave feedback on the formalities and aspects like risk assessment. They really tell you what you have to revise and which piece you should add to your proposal that you forgot, even though if it might

not be written explicitly in the guidelines, but everyone puts it. So it is definitely worthwhile to send in your draft to have them take a look!

L. Willems: Thank you for sharing all these experiences with us, and for giving us so many interesting insights into your research and your MSCA project.