Widening Country Inspiration Story

"Talk to people with experience."

Organisation name: Institute of Optical Materials and Technologies, Bulgarian Academy of Sciences (IOMT-BAS)
ESRs: Mikhail Levchenko and Maryam Viqar
Organisation type: Research organisation
Country: Bulgaria
Project Acronym: PLENOPTIMA
Project start and end date: 1.01.2021 – 31.12.2024
Type of MSC action, Horizon 2020: Innovative Training Networks
Is your organisation a coordinator? No

What is your project about?

The PLENOPTIMA project aims to develop a cross-disciplinary approach to plenoptic imaging, which includes new optical materials and sensing principles, signal processing methods, new computing architectures, and vision science modelling. PLENOPTIMA consists of five of the strongest research groups in nanophotonics, imaging and machine learning in Europe with twelve innovative companies, research institutes, and a pre-competitive business ecosystem developing and marketing plenoptic imaging devices and services. The IOMT-BAS research topics – optical coherence tomography and dynamic speckle analysis, ultimate goal is to establish these methods in biomedical application and non-destructive testing, and to train next generation researchers and creative professionals in these fields.

Why is your project important for society?

PLENOPTIMA, being in its essence a research project, is dedicated to establishing new multi-sectorial doctoral programmes in order to train 15 early-stage researchers who are expected to become experts possessing wide scope of research capabilities and interests as well as versatility of research approaches. All participants are involved in key activities, which contribute to the full implementation of the project's innovation potential and create a solid platform for the future expansion of project ideas. The results generated within the project comprise new knowledge, algorithms, methods, software, prototypes, and data.

What kind of support did you get?

During the application process we had considerable help from our partners who had experience in previous MSCA projects. When the project was approved we had support in various administrative steps from the Vice-President of BAS, from our colleagues from the Institute of Organic Chemistry and from the Migration Directorate at the Ministry of Internal Affairs and the Bulgarian embassies in India and the Russian Federation.

How did you find the partners in your consortium?

We had had a long-lasting cooperation with Prof. Gotchev from Tampere University (coordinator of the PLENOPTIMA project) in the field of coherent optical imaging methods and we were willing to expand it to plenoptic imaging.

What tips can you give other organisations that would like to apply for MSCA?

Apply for the MSC actions. The process of implementing the projects is long and sometimes difficult from administrative point of view. However, the programme brought benefits to both IOMT-BAS and the supervisors. We expanded our knowledge in new fields, met with scientists from different countries and of different experience, and established new research networks. Important advice is to talk to people with experience.

Why did you choose a widening country as a host and how did you find your host organisation?

Mikhail Levchenko:

I wanted to have experience as a scientist in a European Union country. My teacher and a colleague of my supervisor told us that there was an opportunity to apply for an early-stage researcher position in Bulgaria. I applied and was selected for the position.

Maryam Viqar:

When considering a PhD programme my focus was to get a topic which would have impact and which is related to my previous experience. Optical Coherence Tomography has huge impact on human well-being and IOMT-BAS is well-equipped in terms of expertise and the infrastructure required. Hence, I chose it as my host organisation. I came across the offer for a Joint Doctoral Degree on the Euraxess portal which I usually visit to check for open positions.

More information on the project:

The Marie Sklodowska-Curie Actions (MSCA) support researchers at all stage of their career across all disciplines. The MSCA also support cooperation between industry and academia and provide innovative trainings and career developments.

The MSCA Innovative Training Networks (ITN) support competitively selected joint research training/ doctoral programmes, implemented by partnerships of universities, research institutions, businesses, SMEs from different countries across Europe and beyond.

The MSCA-NET project is the MSCA NCP project to facilitate the transnational cooperation to achieve a consistent and harmonised level of NCP support. The scientific community can also profit from our project to support their MSCA application.