Name of the MSC Fellow: Jovana Ruzic
Nationality: Serbian
Host organization: Institute of Information and Communication Technologies (IICT), Bulgarian Academy of Sciences
Country of the Host: Bulgaria
Project Acronym: DeMoMet
Project start and end date: 01/11/2018-30/04/2020
Type of MSC action, H2020: IF

Your story:
Project objectives and research field:
The main objective of DeMoMet project is to establish a framework of a computational model for optimization and prediction of bulk properties of nanoparticle reinforced copper matrix composites (CuMCs) by integrating experimental data of fabrication and characterization, computer simulations and optimization theory.

Tell us why your topic is important and/ or how it brings to advancement in your research field:

DeMoMet project has focus on investigation of the metal matrix composites (MMCs) which show excellent mechanical properties and present an attractive and desirable material in many industries. However, manufacturing costs of MMCs are currently very high mainly due to lack of material design database and limited knowledge related to their behavior in various working conditions. Proposed research aims to improve understanding of the relation between MMCs production parameters and their properties; to identify the relationship between process parameters and material behavior, which will contribute to the establishment of process parameters for fabrication of MMCs; to create a good database which could accelerate further research, development and possible implementation of MMCs. Moreover, it will provide a cost effective solution in the manufacturing of MMCs which will expand possibilities in the design of new products.

What are the benefits of participating in a MSC action?

The IICT highly encourages joint work among researchers which gives opportunities for successful scientific research and developments in mechatronics and clean technologies, human health and biotechnologies, etc. The MSCA-IF fellowship will enhance my computational and experimental skills. Also, all mentioned above will contribute to my professional career development, procurement of research independence, confidence and maturity, and it will enable broadening the network of acquaintances within the expertise cycles. Since MMCs can be used in different fields of engineering (shipbuilding, aircraft structures, space shuttles, nuclear reactors, etc.) intensive research is required for economically effective fabrication and application of MMCs.

Did you encounter any challenges during application/ implementation and did you get any help?

During preparation for the MSCA application I used advice from "The MSCA-NCP-Net4Mobility's Survivor's guide" and I've attended a few seminars organized by EURAXESS Japan about MSCA and ERC application procedures. Also, I got a great support from Prof. Karastoyanov and his team during application preparation period.

Why did you choose a widening country as a Host? What was the reason that convinced you? What is making you professionally happy here?

In 2015, I spent 5 months as a postdoctoral researcher in Prof. Karastoyanov's group as a member of the AComIn project. In this short period, we published two scientific papers and made a draft version of a monograph which was published a few months later. So far, we have established a good, respectful and professional relationship which will ensure fruitful collaboration and benefit the maximum knowledge and skills from the MSCA-IF-EF-ST fellowship.

Would you recommend others to apply? What useful advice/ tips can you give them?

I would recommend the MSCA fellowships to researchers willing to expand their knowledge and enhance their skills especially regarding project management and presentation of their own research to the wider audience. For those who want to apply for any of MCSA fellowships "The MSCA-NCP-Net4Mobility's Survivor's guide" should be something mandatory to read.