

### Short Times Scientific Missions Ms organized in period 2016-2020

| Institution/trainer   | STSM applicants                     | Duration            | Topic/title   | Evaluation   |
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| Vall d'Hebron University Hospital, Spain<br><b>Dr José Alegre-Martin</b>  | <b>Angelika Krumina,</b><br>Latvia  | 12-22 March, 2017   | Harmonization of CFS/ME clinical standards, diagnostic strategies and management plan: comparisons between approaches in Latvia and Spain | New insights in CFS/ME diagnostics and management on Spanish/European level, with the preparation of a national-level guidance   |
| AIDS Research Institute IrsiCaixa, IGTP Health Sciences Research Institute of the Germans Trias I Pujol Foundation, Spain<br><b>Dr Julià Blanco</b> | <b>Santa Rasa,</b><br>Latvia        | 19-30 March, 2017   | Cell population phenotype and function marker determination   | Obtained knowledge and experience of immune cell population analysis, gating strategies and result interpretation to evaluate and characterize cell population phenotype and function markers in ME/CFS patients using flow cytometry. |
| Vall d'Hebron Research Institute, CFS unit, Spain<br><b>Dr Jesús Castro-Marrero</b>   | <b>Zaiga Nora-Krukle,</b><br>Latvia | 20-31 March, 2017   | Study of mitochondrial dysfunction, oxidative stress and coenzyme Q10 deficiency in CFS/ME pathophysiology                                | Acquired knowledge and skills for the detection of mitochondrial biogenesis markers, which will be implemented in the home institute's lab.  |
| Institut für Med. Immunology, Germany<br><b>Prof Carmen Scheibenbogen</b>   | <b>Anda Vilmane,</b> Latvia         | 16-27 October, 2017 | Immunological methods for studying ME/CFS biomarkers  | Acquired molecular biology methods to study ME/CFS biomarkers, in order to apply these in the home institute's lab.  |
| University of Pavia, Italy<br><b>Prof Enrica Capelli</b>  | <b>Slobodan Sekulic,</b><br>Serbia  | 15-26 January, 2018 | Metabolomics differences in chronic fatigue   | Preparation of a scientific publication concerning difficulties and commonalities in metabolomics between CFS and other common disorders.  |

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| Vall d'Hebron University Hospital, Spain<br><b>Dr José Alegre</b>                                    | <b>Sashka Zhelyazkova,</b><br>Bulgaria | 4-17 March, 2018      | The diagnosis of CFS/ME patients in Bulgaria and study of the potential role of some viral infections as risk factors in the development of the syndrome   | Acquired new knowledge in CFS/ME diagnostics and treatment, which will be applied in the home institute in Bulgaria.  |
| Rīga Stradiņš University, Latvia<br><b>Prof Modra Murovska</b>                                       | <b>Sophie Steiner,</b><br>Germany      | 11-24 March, 2018     | Detecting HHV6 and 7 with different PCR methods for biomarker research in CFS/ME   | Acquired various molecular biology methods of persistent viral infection and its activity phase detection, as well as the determination of viral load.  |
| University of Pavia, Italy<br><b>Prof Enrica Capelli</b>   | <b>Maksims Cistjakovs,</b><br>Latvia   | 12-25 March, 2018     | miRNA profiling in ME/CFS  | Mastered protocols for microbiota metagenomic research and methods for the study of various micro RNA (miRNA) expression needful for future research on ME/CFS and other autoimmune diseases.                                       |
| Oslo University Hospital, Norway<br><b>Dr Elin B. Strand</b><br><b>Prof Anne Marit Mengshoel</b>     | <b>Sandra Gintere,</b> Latvia          | 18-26 April, 2018     | Clinical practice and research about CFS/ME  | Knowledge in ME/CFS diagnostics supplemented and new knowledge acquired, which will be applied in GP practice in Latvia.  |
| Department of General Internal Medicine, Ghent University Hospital, Belgium<br><b>Dr Els Tobback</b> | <b>Stefania Diaconu</b><br>Romania     | 10-23 September, 2018 | Information about Chronic Fatigue Syndrome (CFS), concerning clinical assessment, diagnosis, investigations and management. Although frequent complains among the Romanian population, fatigue and other sleep | Obtain information within the EUROMENE network and also develop a program - initially at the Clinic where I work, and then extending to more national centres - in order to better evaluate and take care of the patients with CFS. |

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|   |  |                                       | disorders are understudied and undertreated.   |  |
| <p>London School of Hygiene and Tropical Medicine (LSHTM), UK</p> <p><b>Dr Eliana Lacerda</b><br/><b>Dr Nuno Sepulveda</b></p>  | <p><b>Tiago Domingues,</b><br/>Portugal</p>    | <p>27 November – 8 December, 2018</p> | <p>Analysis of the serological data from UK ME/CFS biobank. In this biobank, there are four main groups of patients: (i) healthy controls; (ii) patients with multiple sclerosis; (iii) ME/CFS moderately-affected patients; (iv) ME/CFS severely-affected patients. I intend to perform the following analyses:</p> <ol style="list-style-type: none"> <li>1. Estimation of seropositivity and seroconversion rates associated with different viral infections,</li> <li>2. Serological stratification of the patients in UK ME/CFS biobank using correspondence analysis and latent class analyses,</li> <li>3. Comparison of the serological profiles between different groups of patients,</li> <li>4. Preparation of a publication with the main findings.</li> </ol> | <p>Information about analysing Data referred to the IgG antibody levels against the following viruses: cytomegalovirus (CMV), Epstein-Barr virus (EBNA and VCA antigens); Human Herpes Virus 6 (HHV), Herpes Simplex Virus 1 (HSV1), Herpes Simplex Virus 2 (HSV2) and varicella-zoster virus (VZV) with two or more latent serological populations (seropositive and seronegative).</p> |
| <p>Immunology and Genetic Analysis Laboratory, Department of Earth and Environmental Science, and Centre For Health Technology, Pavia , Italy</p> <p><b>Prof Enrica Capelli</b></p> | <p><b>Anastasija Hodorozea</b><br/>Romania</p> | <p>18 – 27 March, 2019</p>            | <p>Immunological studies in patients with Myalgic Encephalomyelitis/Chronic Fatigue Syndrome</p>   | <p>Acquired knowledge and skills for techniques in the study of the human intestinal microbiota for the patients with ME/CFS.</p>  |

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| <p>Department of Bioscience and Nutrition, Karolinska Institutet, Sweden</p> <p><b>Prof Pontus Henriksson</b></p>                                      | <p><b>Fernando Estévez-López</b><br/>Netherland</p> | <p>18-30 March, 2019</p>           | <p>The main aim of his stay has been to establish an international collaboration and to discuss the potential development of a Smartphone app for identifying subgroups of people with ME/CFS according to their daily fluctuations on symptoms</p> | <p>Introduction with Smartphone app for identifying subgroups of people with ME/CFS according to their daily fluctuations on symptoms.</p>  |
| <p>Cure-ME Research Group, Faculty of Infectious &amp; Tropical Diseases, LSHTM United Kingdom</p> <p><b>Dr Eliana Lacerda</b></p>                     | <p><b>Sandra Maria Bauer</b><br/>Germany</p>        | <p>31 March-13 April, 2019</p>     | <p>Building a professional biobank for CFS/ME patient samples.</p>  | <p>Understanding of biobanking and thus data and sample collection for ME/CFS patient.</p>  |
| <p>Department of Virology, National centre of Infectious and Parasitic Diseases (NCIPD), Sofia, Bulgaria</p> <p><b>Prof Evelina Shikova-Lekova</b></p> | <p>Natasa Hinic<br/>Serbia</p>                      | <p>12-19 August, 2019</p>          | <p>Practical approach in a herpes-, papilloma and polyoma diagnostic as infection-associated biomarkers of ME/CFS</p>   | <p>Improving the knowledge of herpes-, papilloma- and polyoma viruses as infection-associated biomarkers of ME/CFS and skills in diagnostic technique of herpes- and papilloma viruses.</p> |
| <p>London School of Hygiene and Tropical Medicine, UK</p> <p><b>Dr Eliana Lacerda</b><br/><b>Dr Nuno Sepulveda</b></p>                                 | <p><b>Francisco Westermeier</b><br/>Austria</p>     | <p>18 August-1 September, 2019</p> | <p>Application of multivariate statistical methods to identify subgroups of ME/CFS patients</p>   | <p>Acquiring of experience in statistical techniques that could be applicable to the stratification of ME/CFS patients.</p>   |

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| <p>Paris Est-Creteil University,<br/>Creteil, Paris, France</p> <p><b>Prof Jerome Authier</b></p>                    | <p><b>Stefania Diaconu</b><br/>Romania</p> | <p>09-21 September, 2019.</p> | <p>European Network on<br/>Myalgic Encephalomyelitis/<br/>Chronic Fatigue Syndrome</p>   | <p>to gain knowledge about<br/>CFS, from clinical and<br/>paraclinical diagnosis to<br/>management, particularly<br/>in relation with other<br/>neuromuscular disorders.</p>            |
| <p>Department of Child and<br/>Adolescent Psychiatry,<br/>Rotterdam, Netherlands</p> <p><b>Dr. Estevez-Lopez</b></p> | <p><b>Maria Rodriguez<br/>Garcia</b></p>   | <p>1 -14 October, 2019.</p>   | <p>Brain structure and function<br/>characteristics of chronic<br/>fatigue syndrome</p>  | <p>Increasing knowledge in two<br/>specialized type of<br/>neuroimaging (i.e., diffusion<br/>tensor imaging (DTI) and<br/>resting state functional<br/>magnetic resonance (rsfMRI).</p> |
| <p>University of Pavia, Italy</p> <p><b>Prof Cinzia Di Novi</b></p>  | <p><b>Diana Arāja</b><br/>Latvia</p>       | <p>9-13 December, 2019</p>    | <p>Investigation of opportunities<br/>to use the patient-reported<br/>outcomes in evaluation of<br/>socio-economic impact of<br/>ME/CFS to society</p> | <p>Determination of the social<br/>impact of ME/CFS and to<br/>appraise the economic<br/>damage from the disease.</p>   |
| <p>The Catholic University of<br/>Valencia "San Vicente<br/>Mártir", Spain</p> <p><b>Prof Elisa Oltra</b></p>        | <p><b>Sabine Gravelina</b><br/>Latvia</p>  | <p>8 -22 February, 2020</p>   | <p>Molecular methods for<br/>studying ME/CFS biomarkers</p>  | <p>Increasing knowledge in<br/>different techniques – qRT-<br/>PCR of non-coding RNAs &amp;<br/>Northern blot of small RNA</p>  |