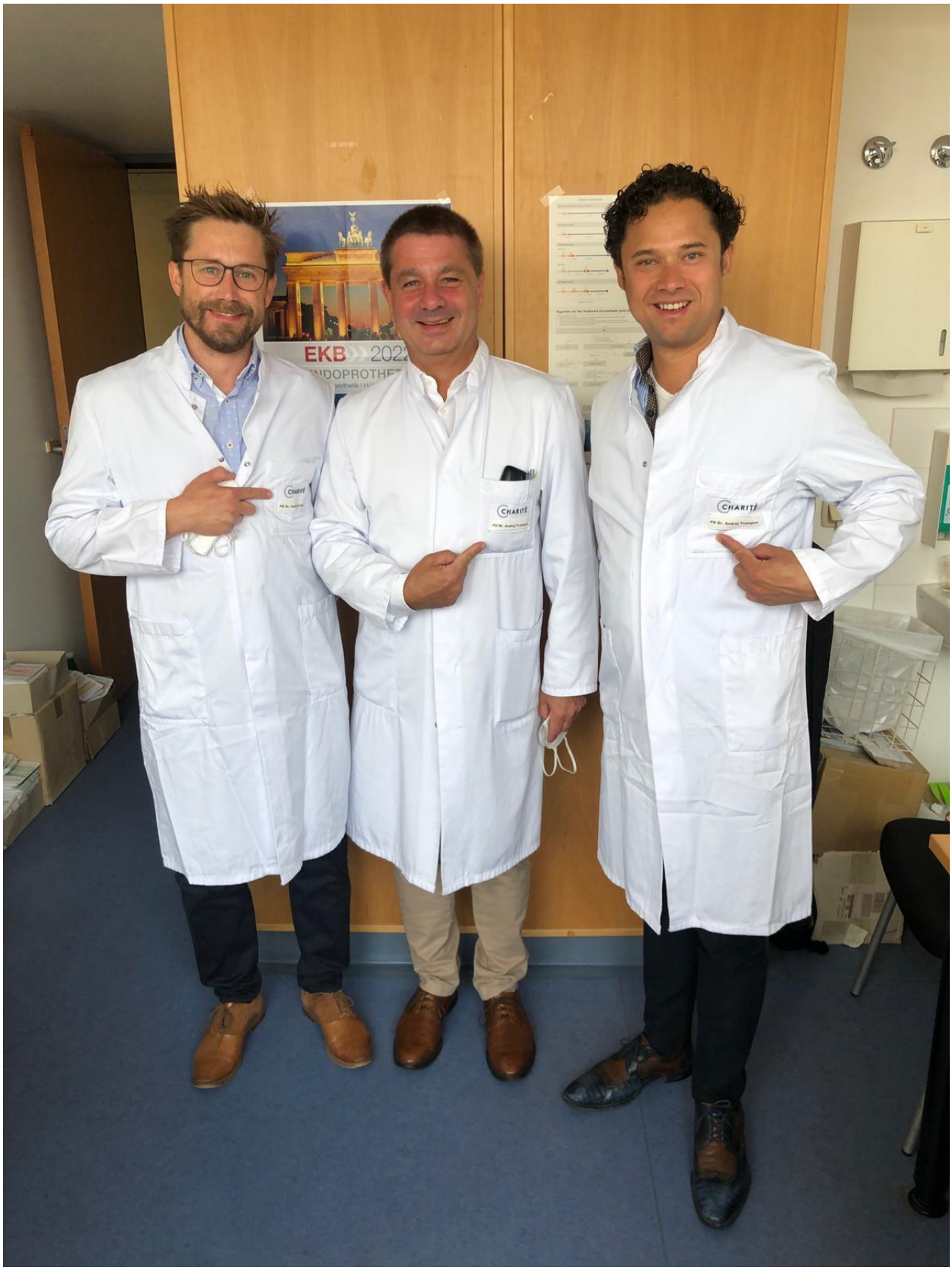
EBJIS Travelling Fellowship 2020-2021

It was a pleasure to participate in the EBJIS Travelling Fellowship with Dr. Florian Amerstorfer and Dr. Frank IJpma in September and October 2021, once pandemic restrictions were relaxed sufficiently to allow it to take place. The fellowship allowed each of us to glean experience and understanding that it is only possible to attain by being present in a specialist centre in person. This has been immeasurably valuable in supporting our development as clinicians and researchers in the field of musculoskeletal infection.

Our first host centre was the specialist orthopaedic infection unit at the Charite Hospital in Berlin, led by Professor Andrej Trampuz. The three Charite hospitals together are the largest hospital organization in Europe, providing over 3500 inpatient beds, and a total of around 400 trauma and orthopaedic beds, for both general and specialist care. Professor Trampuz introduced us to his team on the 30-bed specialist orthopaedic infection unit at the Charite Virchow Klinikum site, where patients receive specialist orthopaedic care and on site clinical infection care in parallel. This hospital site has several dedicated surgical intensive care units, which we were able to visit during our stay. The infection unit additionally provides a visiting infectious diseases consult service that serves inpatients with other device-related infections, including Left Ventricular Assist Device infections, cardiac pacemaker infections, neurosurgery-related infections, and other clinician queries.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During our stay we were able to hear a patient's history of injury and treatment at the bedside, in English. We attended infection consult rounds, and discussed ambiguous cases that highlighted the importance of collaborative contact between clinicians – prosthetic joint infection and fracture-related infection, but also suspected necrotising fasciitis, complex spinal infection, and native joint mono-arthritis. We were welcomed in the shared office space of the clinical infection team and orthopaedic team, and were able to observe and participate in the multidisciplinary care of patients with complex orthopaedic infection.

We particularly enjoyed a tour of Professor Trampuz' bespoke laboratory, showcasing the ongoing research interests of the ProImplant foundation, including therapeutic use of bacteriophages, D-lactate-based diagnostics, and other cutting edge advances in the treatment of orthopaedic infection. We are very grateful for the warmth, kindness and enthusiasm with which we were met, and for the time which Professor Trampuz' team generously shared with us.

Our second host centre was the Hospital Croix Rousse in Lyon, the regional hub of the CRIOAc specialist orthopaedic infection network in France. We were hosted by Professor Frederic Laurent in the specialist clinical and research microbiology laboratory at the Croix Rousse, which houses the national Staphylococcal Reference Unit for France, as well as the regional diagnostic microbiology laboratory. Additionally, Professor Tristan Ferry hosted us in the specialist Infectious Diseases unit at the Croix Rousse, and not only allowed us to join in the inpatient and outpatient clinical duties of his team, but explained the case histories of all of the patients presenting with complex orthopaedic infections to the Day Hospital for Orthopaedic Infections during our stay in beautiful detail, in English, so that we would have a full understanding of their history, investigations and treatment options. We particularly enjoyed the orthopaedic infection ward round in the Day Hospital, affectionately known as Black Thursday, and the opportunity to speak to patients and observe treatment including subcutaneous suppressive antimicrobial therapy and ultrasound-guided intra-articular bacteriophage therapy.

Professor Sebastien Lustig introduced us to the work of the surgical team specialising in orthopaedic infections, and discussed the surgical approach to prosthetic joint infection at the Croix Rousse. We were graciously invited to attend two revision arthroplasty procedures, and observe the manufacture of a custom spacer implant with high dose local antibiotics, as part of the two-stage revision of a complex total knee arthroplasty infection.

We were particularly grateful for the opportunity the CRIOAc Lyon team gave us to understand their ongoing national research and clinical improvement initiatives, including the national multidisciplinary team discussion record, the optimisation of suppressive and curative antimicrobial therapy, the bacteriological investigation of the persistence and pathogenicity of clinically important Staphylococcal pathogens in orthopaedic infections, and the nascent multi-centre project focusing on the production, purification and clinical application of targeted bacteriophage therapy. Professor Laurent very clearly explained the laboratory processes required to produce clinical-grade bacteriophages. We now understand the necessity for the stringent regulatory procedures for their manufacture and administration. We were allowed to observe the compounding and quality control procedures for commercially available bacteriophage preparations, and the safety checks in place to ensure their administration was unlikely to cause harm to patients or the environment. We treasured our time with the CRIOAc team, and will take a great deal from our stay in Lyon, striving to improve clinical practice in our own centres.

Finally, our travels took us to Valdotra Hospital in Ankaran, situated on the picturesque Slovenian coast. Dr. Rihard Trebse showed us personally around the beautiful custom-built orthopaedic sanatorium, constructed in 1908, that houses the regional centre for orthopaedic infection in Slovenia. We were invited to join his team on clinical rounds in the specialist ward for musculoskeletal infections, and to the specialist clinic, where we attended people undergoing treatment for some very complex and challenging pathologies. Dr. Trebse took extraordinary care to showcase the multidisciplinary work of his unit, and the philosophy and clinical understanding underlying each individual treatment decision. In the operating theatre, he allowed us an insight into well-honed specialist surgical techniques for prosthetic joint infection, but also into the exemplary theatre discipline and infection prevention processes developed in his centre. Outside clinical work, he generously took us on a breathtaking tour of the Slovenian countryside.

Dr. Trebse's team, including Dr. Mihalic and Dr. Faganeli, gave us a valuable insight into the importance of adapting research evidence in the diagnosis and management of orthopaedic infections to local service specifications, patients and clinical requirements. We learned that it is indeed possible to structure a team around the needs of the patient, and that service constraints need not have an adverse effect on the quality of care and treatment outcomes. We were grateful for the opportunity to visit the research department for the orthopaedic infection team, and to understand the ongoing diagnostic and registry monitoring work carried out by the team.

In all, we are tremendously grateful for the care and personal attention given to us by all of our hosts and their teams during our fellowship, and for what we could never have otherwise learned and experienced. We extend our sincere thanks to the EBJIS Committee and to Elenida Shkarpa, for making this fellowship possible for us under the most challenging of circumstances. We will never lose what we have learned, nor the friends we have made along the way.


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Sincerely,

Maria Dudareva, Florian Amerstorfer and Frank IJpma