STSM Abstract – Susanne Drechsler

Sepsis-associated encephalopathy has an influence on outcome, regardless whether with or without a direct infection of the central nervous system (CNS). Inflammatory cytokines are the key interface between the CNS immune activity and brain neuropeptide signaling. Wide-range assessment of the most important cytokines and neuropeptides, specifically their gene and protein expression in brain regions during different phases and outcomes of sepsis, is critical for a potential CNS therapy. One of our translation research projects focuses on the effects of age on the development and progress the encephalopathy induces by polymicrobial abdominal sepsis in mice. Besides investigating tissue samples from the brain, collection of the cerebrospinal fluid (CSF) for analysis of additional parameters (i.e. microparticles, cell count) would certainly increase the scientific value of our study.

Therefore, this STSM enabled me to expand my knowledge of different sampling techniques in the area of CNS and additional mouse models of critical diseases. Specifically, I received an intensive training in collection of cerebrospinal fluid and was also taught how to identify and remove the choroid plexus from the murine brain. Furthermore, I got hands-on training in the kidney ischemia/reperfusion injury model. The acquired skills will be a valuable extension to our technical repertoire.