ISN/CAEN RESEARCH VISIT REPORT

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Host Scientist: Dr. Anne Balkema-Buschmann

Deputy Director, Institute for Novel and Emerging Infectious Diseases (INEID)

Host Laboratory: Anne Buschmann Lab, Institute for Novel and Emerging Infectious Diseases (INEID), Friedrich- Loeffler-Institut, Greifswald- Insel Riems, Germany

Funding: ISN-CAEN Cat. 1A: Research _Visit by the applicant to another lab.

December 2014 Round

Duration: 3rd of June 2015 to 31st of July 2015

I arrived at my host laboratory located at Friedrich- Loeffler-Institut, 17466 Greifswald- Insel Riems on the 3rd of June 2015 where I met my host scientist, Dr. Anne Balkema Buschmann who gave me a warm welcome. She took me round the institute and ensured I was properly registered with the security as well as the laundry where I would have access to appropriate clothing and shoes for the lab. Dr. Buschmann immediately introduced me to some members of her laboratory, especially Dan Balkema who extended their support and helped me settle in.

Dan Balkema gave me hands on training on how to embed in paraffin-wax blocks as most of my tissues embed in wax had to be re-embedded. He also carefully put me through the safety measures and techniques of using the microtome. I immediately went ahead to cut my samples and stained them routinely with hematoxylin and eosin, after which Dr. Buschmann introduced me to Dr. Reiner Ulrich, a pathologist who assisted in looking at my stained slides to ascertain which antibodies and special stains I would require to properly elucidate heavy metal/ lead toxicities in the brain. He however advised that I stained with Ziehl-Neelsen to show acid fast lead deposits. All the slides however came back negative and Dr. Ulrich suggested I just demonstrate the Glia Fibrillary Acid Protein in the cerebrum, cerebellum and midbrain.

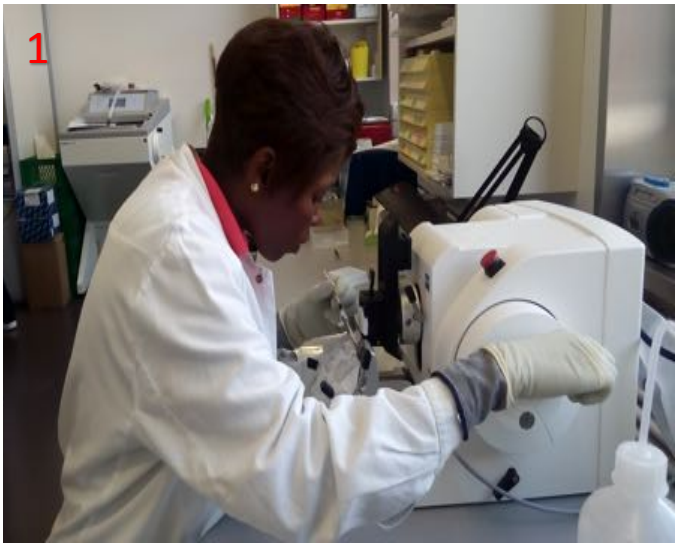
I also had the opportunity to observe other on-going research in the institute (Crimean-Congo Hemorrhagic Fever, Bovine Spongiform Encepahlopathies) and the various techniques used.

I was also opportune to witness the autopsy carried out on a cow suspected to be BSE positive and to understand the importance of no-invasive rapid diagnostic techniques as the only means of confirming BSE is isolation of the prions in the obex, which would require the slaughtering of suspected animals. However, Dr. Buschmann's lab is working on rapid non-invasive methods of diagnosis.

I had the opportunity to interact with promising scientists in different fields and this lab visit would definitely influence my career positively. I wish to also state that an article that includes results from this visit has been sent to a journal for publication and is currently under review with ISN duly acknowledged.

I am genuinely grateful to Dr. Anne Balkema-Buschmann for her warm welcome, generosity, support and mentoring before, during and after my stay. I sincerely appreciate the International Society of Neurochemistry for selecting my proposal and to Prof. Roberto Cappai and Ulrika Smrekova for their moral and secretarial support. I acknowledge Dan Balkema, a member of Dr. Buschmann's lab for his time, efforts and putting me through the workings of the lab.

Below are some pictures that were taken during my visit

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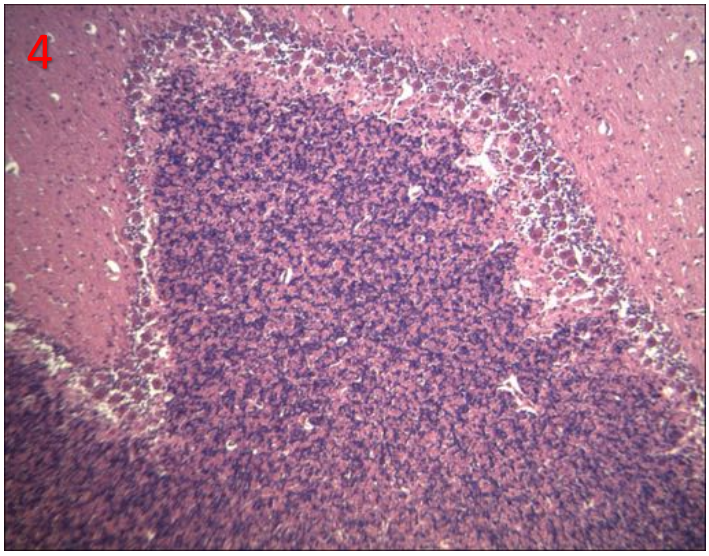
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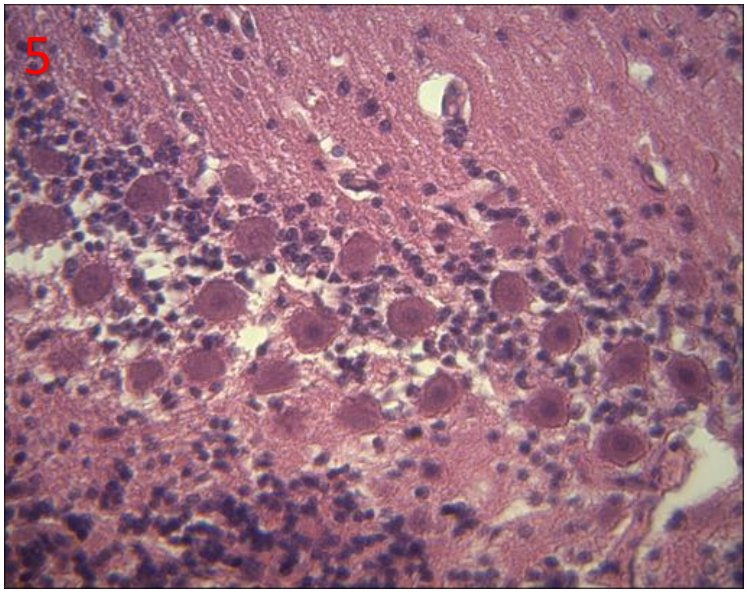

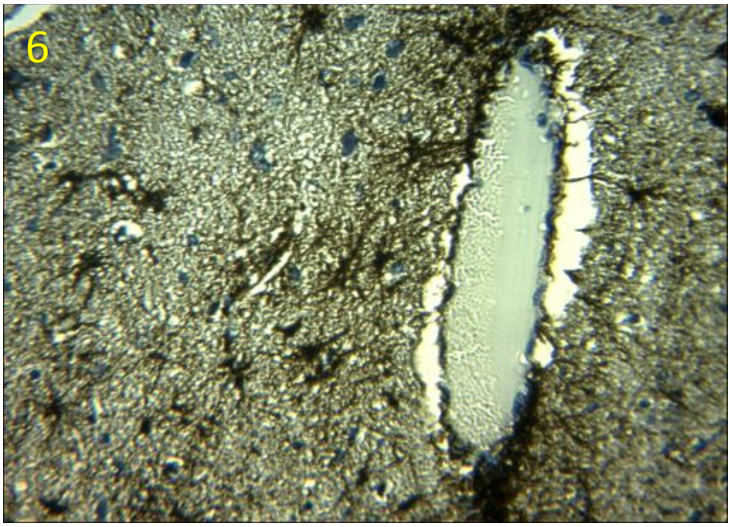

1. Using the microtome in the lab.

2. With Dr. Buschmann, removing brain and spinal cord samples during autopsy

3. Dr. Anne Balkema-Buschmann, Dan Balkema, myself and Dr. Ulrich Reiner (left to right)

4. Cerebellum of the field expsoed goat showing stratification of the Purkinje layer (H&E x100)

5. Cerebellum of the field expsoed goat showing stratification of the Purkinje layer. The Purkinje cells also showed loss of arborization. There was a change in their morphology from conical to round and they were smaller in size. (H&E x400)

6. Cerebrum of field exposed goats showing GFAP reactivity. There is upregulation of GFAP, with disruption of domains as well as scar formation around the blood vessels (x 400)