

**FACULTY OF BASIC MEDICAL SCIENCES
CROSS RIVER UNIVERSITY OF TECHNOLOGY
OKUKU CAMPUS**



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The Chair,
ISN CAEN.

Report by Dr. Ijomone OM on the ISN CAEN 1A support received to visit an advanced lab

I am glad to inform you that I successfully concluded my visit to the Lab of Prof. Michael Aschner at the Department of Molecular Pharmacology, Albert Einstein College of Medicine, New York, USA. I received an ISN-CAEN 1A to support this trip. I arrived the US on 15 July, 2015 and was placed as a Visiting Scientist to the department. I settled in immediately at an off-campus accommodation that had been secured with the help of the administrative secretary of the department.

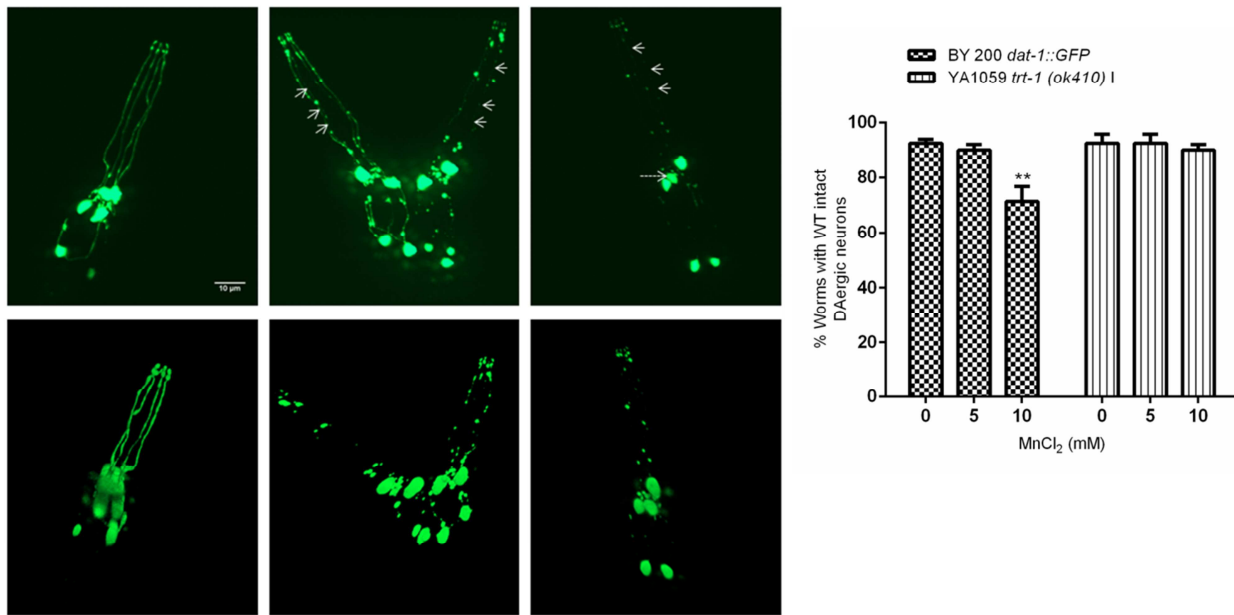
During the course of my stay which lasted for about 4 months, I received training on the use of *C. elegans* worms as an experimental model of neuroscience research, while carrying out a short-term research on the role of telomerase reverse transcriptase in manganese (Mn) induced dopaminergic toxicity. During the course of my stay I learnt make the NGM and 8P plates on which the worms are grown, as well as grow the worms. I also learnt how to prepare synchronize worms to get populations of similar developmental stages. I was also able to learn how to use the fluorescent microscope and confocal microscope. In addition I learnt how to carry out PCR and RT-PCR analysis, as well as Gel electrophoresis techniques.

For my short term research, I investigated effects of Mn-induced toxicity in *trt-1* mutation of *C. elegans*. *trt-1* in *C. elegans* is the equivalent of TERT (the catalytic subunit of telomerase reverse transcriptase) in humans. Data that was obtained suggests that Mn-induced dopaminergic toxicity may be reduced following mutations in *trt-1*.

I left the US on 5 November 2015, with improved skills and techniques that I am certain will improve my research output here at my home country. I am indeed grateful for the support provided by ISN-CAEN and will acknowledge this support in any ensuing publication.

Please find below some photographs.

Kind Regards,
Dr. Ijomone OM

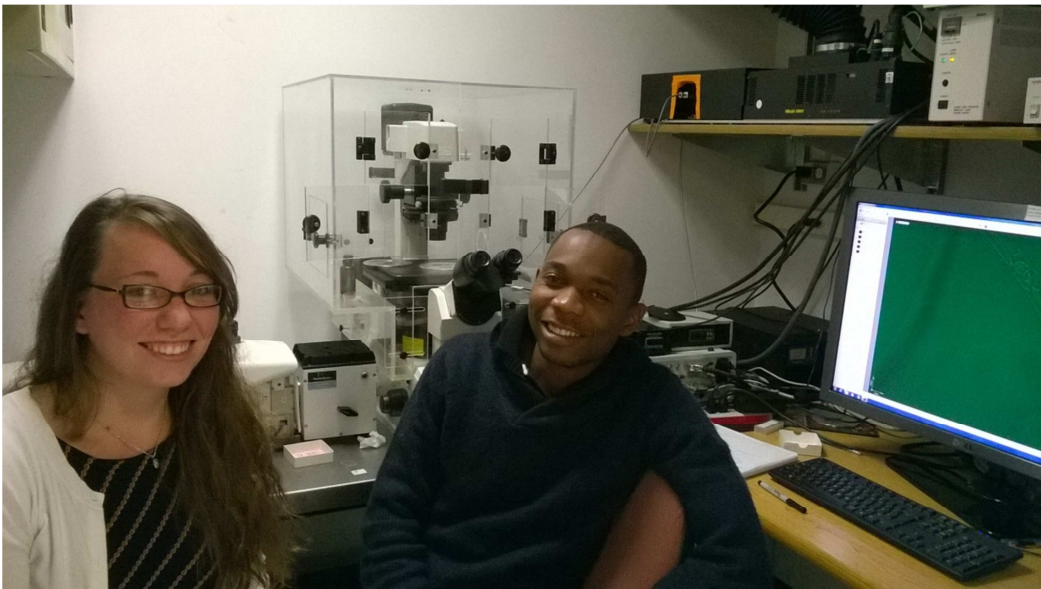


Representative confocal images in 2D (top) and 3D (bottom) of DAergic neurons and quantification of degeneration (right) following Mn treatment.

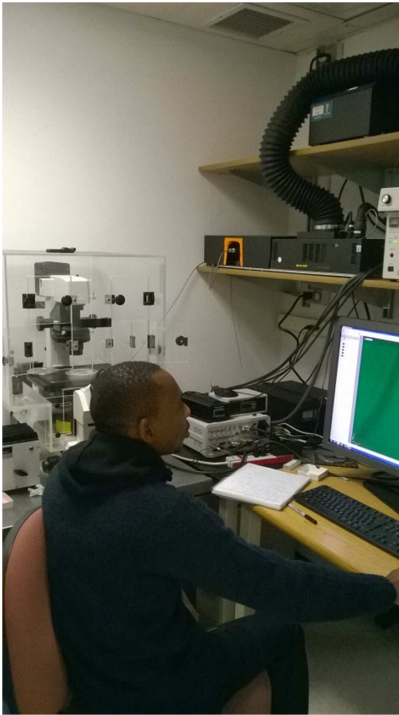
BY200 (*dat-1::GFP*) worms express green fluorescent protein (GFP) in DAergic neurons. Male *dat-1::GFP* worms were crossed with hermaphrodites of *trt-1* worms. DAergic degeneration [dendritic puncta (arrows), shrunken soma (dashed arrow) and loss of dendrites or soma]. ** $P < 0.01$



Prof Aschner (Host) and Dr. Ijomone (IBRO-ARC Bursary recipient)



Hillary (left), research assistant at the Advance Imaging Facility (AIF) tutored me on the use of the Perkin-Elmer confocal microscope.



Visualizing *C. elegans* on the Perkin-Elmer confocal microscopy at the AIF.



Prof Aschner (3rd from left), Dr. Ijomone (4th from left) with some members of Aschner's Lab