

ISN/CAEN Dec 2015 Category 1A Research Fellowship Report of Adeshina Oloruntoba Adekeye from Department of Anatomy and Neurobiology, Faculty of Basic Medical Sciences, Olabisi Onabanjo University in Ikenne, Ogun State, Nigeria

A Lecturer at Afe Babalola University, Department of Anatomy, College of Medicine and Health Sciences, Ado-Ekiti, Ekiti State, Nigeria.

*Host: **Prof. Richard Brown** at Psychology and Neuroscience Department, Dalhousie University in Halifax, Nova Scotia, Canada,*

Commenced Date: May 25th, 2016

Duration: 3 months.

Research focus: Effect of Dopamine Receptor (D1) Agonist (SKF-81297 hydrobromide) on motor performance, spatial learning and memory of the 5xFAD mouse model of Alzheimer's disease using 5xFAD mice and exploring motor and cognitive impairment of brain via nigrostriatal pathway and the possibility of ameliorating the disease using Dopamine receptor agonist (D1).

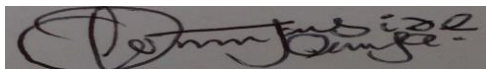
ISN/CAEN Report:

I commenced my International Society for Neurochemistry (ISN/CAEN) fellowship in May 2016 in the Laboratories of Professor Richard Brown in the Department of Psychology and Neuroscience, Faculty of Science, Dalhousie University, in Halifax, Canada. At the beginning, I was introduced into the laboratories and lab members during the lab meeting. Psychology and Neuroscience is exceptionally well represented at Dalhousie University; faculty members study the nervous system at molecular, cellular, clinical, cognitive or developmental psychology and behavioural levels. The department is a research-oriented place and makes staff safety a top priority. However, I took a series of safety courses/workshop relating to animal handling and different routes of drug administration. These courses include written examinations, practical orientation and certificates was awarded for all the courses with certification number 2016-160 giving a privilege to full research on animal at Dalhousie University. Following the successful completion of the courses, access to the laboratories and animal facilities was granted and I started with home cage observation and video recording to familiarize with the animals and to

study the repetitive behaviours observed in the mice if there any. **My research work is on the role of Dopamine receptor agonist on motor and cognitive impairment on mice**, which entails the use of transgenic mice (5xFAD mice which have been confirmed to suffer motor and cognitive impairment at the 10 months and above. I am to investigate the role of dopamine receptor agonist (D1) level in the mouse brain and determining its effects on motor and cognitive behaviour. I started with genotyping and characterisation of mice in the laboratory. I also had the opportunity to learn more about different cognitive motor behavioural and western blotting procedures.

I have completed many different types of behavioural studies among which are Balance beam, open field box, gait analysis, grid suspension, rotarod, morris water maze and open field test. We have generated a reasonable number of data points for further studies because the interest is on motor confound amelioration with Dopamine receptor agonists. I now have adequate neurotechnology and neurobehavioural skills for motor cognitive neuroscience as additional skills.

During my stay at Dalhousie University, I was also able to successfully get a fellowship award to attend a neurotechnology innovation, commercialization and entrepreneurship summer programme which lasted for two weeks with the support of my host supervisor at Dalhousie University. My stay at Dalhousie University has been a worthwhile experience because I have learned a lot and added many skills and values to my neuroscience research which will be useful to me in life and make me a better neuroscientist.. The fortnightly laboratory meetings and lab dinner event once a month have all added a very positive impact on me in terms of relationship and networking. The level of support and mutual understanding between postgraduate students in the research lab is also impressive. Everyone has been so friendly and helpful in so many ways. It has been such a lovely experience working with principal investigators who have supported and encouraged my independent research with valuable guidance. Thank you ISN for granting me this unique opportunity



Adeshina Oloruntoba ADEKEYE