**Khadijah A. Abdulkareem PhD**

**Research Visit to C.G. Bhakta Institute of Biotechnology, Uka Tarsadia University, Bardoli, India**

Dr (Mrs) K.A. Abdulkareem is a lecturer in the Department of Plant Biology, Faculty of Life Sciences, University of Ilorin, Ilorin, Nigeria. She was at CGBIBT between November 2014 and April 2015 to conduct part of her PhD research bench-work fully funded by TETfund Staff Award (Category B). She worked comprehensively on Genetic diversity in Nigerian populations of *Dipcadi filamentosum* Medik using molecular markers such as RAPD and ISSR. The research was carried out under the mentorship of Prof. (Dr.) Ramar Krishnamurthy, the Director of CGBIBT and conducive research environment of UTU.

The research work carried out led to the publication of two manuscripts in reputable journals with the following abstracts;

**Title:** Genetic Diversity in populations of *Dipcadi filamentosum* Medik using ISSR molecular markers

**Journal:***Annals of West University of Timisoara ser. Biology, 2018, 21(1): 21-28*

**Abstract:** Genetic diversity was estimated among 13 populations of *Dipcadi filamentosum* Medik. Inter Simple Sequence Repeat (ISSR) was used to generate data to examine the patterns of genetic differentiation between and within the populations. Ten primers used generated 146 amplicons of which 97.9% of loci detected revealed polymorphism. The Shannon's indices (I) and Nei's genetic diversity (h) among the studied populations from the various regions were estimated at 0.6216 (SD=0.1199) and estimate of gene flow (Nm) in the population was 5.0555. Cluster analysis (neighbor-joining, NJ) revealed that the North-West populations (KAT) are genetically distinct from the North-central populations (SOB, KAB, KAM and KAS). Ordination by Principal Component Analysis (PCA) supported the findings of NJ. The SOB and YOB; MAI and UNI populations clustered as closely related are probably as a result of correlation between the geographical locations and gene flow.

**Title:** Evaluation of genetic variation among populations of *Dipcadi filamentosum* Medik in some geographical regions in Nigeria based on RAPD Markers.

**Journal:***Ceylon Journal of Science 47(3) 2018: 241-246*

**Abstract:** The genetic variations were studied in different populations of *Dipcadi filamentosum* Medik collected from various geographical locations in Nigeria using 12 random amplified polymorphic DNA (RAPD) markers. Genomic DNA extraction was carried out using DNeasy Plant Mini Kit (QIAGEN, USA) and amplification of fragment was performed by Polymerase Chain Reaction. Amplification of 9 primers resulted in the detection of 95 loci and this represented 100% polymorphism. The sizes of the bands ranged between 1500-50bp in OPAE-14 and OPAC-11. The principal component Analysis (PCA) showed that the genetic variation observed were accounted for by the first three components (81.14%). Biplot ananlysis indicated that the markers effectively separated the populations into groups based on genetic similarity. The cluster analysis classified the

population into two major clusters with nine groups. The neighbor joining clustered populations from YOB (North East), OYO (South West) and KBA (North Central) as genetically related and close neighbours.