Shami A., Maier M. and Assi C.(2010). Broadband access networks: technologies and deployments. (https://books.goggle.com) *Springer Science & Business Media.* p.100.

Wang J., Ghosh M. and Challapali K. (2012). Emerging cognitive radio application: a survey. *IEEE Personal Communications.* Special Issue.

WiMax Forum (2015). Accessed 15/12/2015 from http:/www.wimaxforum.org; WiMax. White papers downloaded from http://www.wimaxforum.org/technology/White-Papers/

Yadav P., Chatterjee S. and Bhattacharya P.(2012). A survey on dynamic spectrum access techniques in cognitive radio. *International Journal of Next-Generation Networks*, 4(4): 27-46

Wikipedia (2018). Wikipedia available on https:en.wikipedia/wiki/.org retrieved 24 April, 2018.

ABOUT THE AUTHORS

[1]Jinadu O.T. works with the Department of Computer Science in Rufus Giwa Polytechnic, Owo, Nigeria. She earned PhD degree in Computer Science from the Federal University of Technology, Akure, Nigeria and had published several papers in computer architecture, artificial intelligence and software defined networking. Her current research area is on data communication in cognitive radio wireless networks. She is a member of CPN (Nigeria) and IAENG (UK) Professional bodies.

[2]Ijawoye is with the Department of Electrical Electronics Engineering Technology in Rufus Giwa Polytechnic, Owo, Nigeria. He had M.SC in Electronic Communication & Computer Engineering from University of Nottingham, UK. He had published papers on power control and communication engineering. Currently, his research is on mobile communication. He is a member of Institute of Electrical Electronics Engineer (IEEE).

[3]Ijarotimi O. is with the Department of Electrical Electronics Engineering Technology in Rufus Giwa Polytechnic, Owo, Nigeria. He had M.SC in Electronic Communication & Computer Engineering from University of Nottingham, UK. He had published papers on power control and communication engineering. Currently, his research is on mobile communication. He is a member of Institute of Electrical Electronics Engineer (IEEE).

[4]Owa V.K. is with the Department of Computer Science in Rufus Giwa Polytechnic, Owo, Nigeria. He had B.Sc. in Electrical and Electronic Engineering and M.Sc. in Computer Science from the Federal University of Technology, Akure, Nigeria. He had published papers on hardware maintenance. Currently, his research is on construction of antenna. He is a member of Institute of Electrical Electronics Engineer (IEEE).

[5]Akinboyewa N.E. works with the Department Computer Engineering in Rufus Giwa Polytechnic, Owo, Nigeria. He had M.Sc. in Communication Engineering. He had published papers on system engineering. Currently, his research is Internet applications. He is a member of CPN (Nigeria).

ACKNOWLEDGEMENT

Special thanks to the Tertiary Education Fund (TETFund) of Federal Republic of Nigeria for providing support for this research and the Polytechnic community for providing an enabling environment to carry out research in diverse fields of study.