



Oluwabukola Abiodun OKE

Home Country

Nigeria

Degree

PhD in Electrical and Electronic Engineering

Expertise

Renewable Energy

Research Focus

Statistical Load Flow for Energy Distribution Systems

Host University

University of Nottingham,
United Kingdom

Fellowship Awarded

2010

Oluwabukola Abiodun Oke is from Are-Ekiti, a village in Nigeria where she was the youngest in her family of two boys and three girls. Mathematics has been her favorite subject since childhood and she has always wanted to be an engineer. In her leisure time she enjoys reading motivational books and listening to or singing hymns.

When she studied electrical and electronic engineering at the University of Ado-Ekiti in Nigeria, she was the only female in a class of 45 students. She graduated in 2007 with first-class honours as the best student in the Faculty of Engineering. In 2009 she earned her MSc with distinction in electrical technology for sustainable and renewable energy systems at the University of Nottingham, United Kingdom, where she is also pursuing a PhD in electrical and electronic engineering.

At the University of Nottingham Oluwabukola is researching statistical load flow for energy distribution systems. Global developments within the energy sector have emphasized renewable and sustainable energy largely due to calls to reduce CO₂ emissions. Along with the advent of deregulated electricity, this has encouraged a rise in small renewable energy generators, but most of these renewable power sources have varying output. This varying output makes it imperative to have a method to fully account for uncertainties in the power network. Probabilistic load flow analysis can account for and estimate power system operation during such uncertainties, but the main method employed in probabilistic load flow, the Monte Carlo simulation, is unwieldy due to the high computational burden placed on systems that have many renewable power generators. To forestall this problem, Oluwabukola is developing a fast but accurate method to estimate the probability distribution needed for a probabilistic load flow calculation while taking a variety of loads and power sources into consideration. Her research may be used by power grid operators worldwide and especially in Nigeria, where state governments are now making efforts to invest in renewable energy solutions to local power issues.

Oluwabukola plans to teach at the University of Ado-Ekiti in Nigeria.