



Hauwa Onize RAJI

Home Country
Nigeria

Degree
PhD in Offshore Engineering

Expertise
Petroleum Engineering

Research Focus
Strength and Fatigue Analysis
Of Deep Water Offshore
Platforms

Host University
University of Strathclyde,
Glasgow, United Kingdom

Fellowship Awarded
2006

Hauwa Onize Raji is an avid reader who loves visiting new places as well as listening to the music of the eighties and nineties. She has eight brothers and sisters and says it is always chaotic but fun when the family members get together. A lecturer in the Department of Civil Engineering at Ahmadu Bello University in Zaria, Nigeria, Hauwa is currently studying offshore engineering at the University of Strathclyde in Glasgow, Scotland.

Her research is focused on studying the low-cycle fatigue behavior of floating, production, storage and offloading platforms (FPSOs). This is an important safety issue—in a number of instances damage has occurred in FPSOs due to low-cycle fatigue.

FPSO hulls are normally similar in configuration to that of conventional tankers, but several differences between tankers and FPSOs can have an impact on the fatigue design. One of these differences is that tankers operate at defined drafts on each voyage—either fully loaded or with ballast, with a cycle time of about 60 days.

FPSOs, however, operate at more frequently changing drafts, and their cycle time is every 10 to 14 days. This large draft variation can result in low-cycle fatigue which, when added to the high-cycle fatigue from wave loading, requires the development of a new fatigue analysis procedure and tools.

The goal of Hauwa's research is to develop tools to predict low-cycle fatigue and to identify critical locations where lowcycle fatigue occurs, with a view to recommending design solutions to avoid damage and failure.

When she finishes her studies in Scotland, Hauwa plans to teach in the Department of Civil Engineering at Ahmadu Bello University, Zaria.