



**Nur HIDAYATI**

**Home Country**  
**Indonesia**

**Degree**  
**PhD in Chemical**  
**Engineering**

**Expertise**  
**Chemical Engineering**

**Research Focus**  
**Fuel Cell Science**

**Host University**  
**Newcastle University,**  
**United Kingdom**

**Fellowship Awarded**  
**2005**

Nur Hidayati is a lecturer in the department of chemical engineering at Muhammadiyah University in Surakarta, Indonesia. She and her husband have three children, one boy and two girls. At Newcastle University in the United Kingdom where Nur is a PhD student in chemical engineering, her research focus is on direct ethanol fuel cell (DEFC) technology and particularly in proton exchange membrane fuel cells which can be fed directly by ethanol.

As a fuel of direct ethanol fuel cell technology, ethanol has some advantages over methanol. Ethanol is not nearly as poisonous, and it is a relatively safe and benign fuel that can be produced in an eco-friendly manner in large quantities by a fermentation and distillation process using grains or cellulose feed-stocks, making ethanol a renewable resource.

In addition, direct fuel ethanol is far easier to store and transport than hydrogen. As a result, ethanol offers a practical solution to the challenge of providing fuel cells on board vehicles and for remote or stationary applications.

Nur's research focuses on the study of ethanol electro-oxidation. She hopes to provide insights into catalyst design for direct ethanol fuel cell technology. Her research has the following three objectives: to examine alternative commercial or homemade electro-catalysts for ethanol oxidation, to evaluate new membrane materials that allow operation at higher temperatures, and to perform experimental tests on novel direct ethanol cells.

Upon completion of her studies, Nur plans to teach and to continue developing her research career at Muhammadiyah University in Surakarta.