



Witri Wahyu LESTARI

Home Country

Indonesia

Degree

PhD in Science

Expertise

Chemistry

Research Focus

Organometallic Co-ordination Chemistry

Host University

University of Leipzig,
Germany

Fellowship Awarded

2010

Witri Wahyu Lestari grew up in a small village in Central Java, Indonesia. An only child of parents who are both elementary school teachers and who always encouraged her education, she is married to a chemist and they have one daughter. Her hobbies are cooking, computers and the internet.

Witri pursued her BSc in chemistry at Sebelas Maret University in Surakarta and graduated cum laude in 2003. She became a junior lecturer at UNS in 2003 and in 2008 she earned her MSc in chemistry at the University of Leipzig in Germany, where she is also enrolled in a doctoral program studying organometallic co-ordination chemistry.

At the University of Leipzig her research focuses on the synthesis of Metal-Organic Frameworks (MOFs). MOFs are of great interest due to their novel structures, interesting properties and potential applications as new materials, for example as molecular magnets, as heterogeneous catalysts for gas separation and storage, for ion exchange and as drug delivery systems. MOFs with micro-porous architecture are promising alternatives for renewable energy in the future. Witri is aiming at generating catalytically active MOFs by employing functionalized (chiral) building blocks as bridges between the metal centers for a well-defined three-dimensional framework.

Her research is important because catalysis plays a significant role in many areas of life. A large number of organic and inorganic reactions need catalysts to reduce their activation energy and to accelerate the reaction, increasing the selectivity of specific products. Catalysts for asymmetric hydrogenations are useful in pharmaceutical industries, and heterogeneous catalysis is important in hydrocarbon cracking within oil refineries and petrochemical industries. MOFs are feasible candidates as environmentally friendly solid catalysts that are easier to separate and recover and are thus reusable.

Witri plans to teach at Sebelas Maret University in Indonesia.