Dr. Muhammad Amin, 38 years old, was born in Pinrang, Sulawesi, Indonesia. He became interested in chemistry while in secondary school in Sulawesi. After receiving his bachelor's degree in chemistry from Hasanuddin University (Makassar), Dr. Amin spent six years at Gifu University, first completing a master's and then doctoral work in analytical chemistry, specializing in ion exchange chromatography. He joined Universiti Malaysia Pahang on 29 September 2008 bypassing an opportunity for postdoctoral study at Yokohama National University.

Dr. Muhammad Amin’s area of research interest is water quality and the environment. He utilizes ion chromatography in water analysis as it is more selective and sensitive for detecting inorganic anions and cations compared to atomic absorption spectroscopy (AAS) and inductively coupled plasma (ICP).

“In Pahang, the Vice Chancellor saw a well being dug next to an oil palm tree. There is the problem of drinking water contaminated by nitrates there because of the fertilizer used.”

“Environmental pollution around the world is worrying,” he says.

“The level of potable water may become non-existent soon. In Pahang, the Vice Chancellor saw a well being dug next to an oil palm tree.”

There is the problem of drinking water contaminated by nitrates there because of the fertilizer used.

“Nitrates are easily reduced to nitrites. Short-term exposure to drinking water with a nitrate level at or just above the health standard of 10 mg/l nitrate-N is primarily a potential health problem for infants, because of their high water consumption relative to their body size and because their immature digestive systems are more likely than adults to allow the reduction of nitrate to nitrite.

“The presence of nitrite in the digestive tract of newborns can lead to a disease called methemoglobinemia.”

“Blood contains an iron-based compound called hemoglobin, which carries oxygen. When nitrite is present, hemoglobin can be converted to methemoglobin, which cannot carry oxygen. In the blood of adults, enzymes continuously convert methemoglobin back to hemoglobin, and methemoglobin levels normally do not exceed 1 percent. Newborn infants have lower levels of these enzymes, and their methemoglobin level is usually 1 to two percent. Anything above that level is considered methemoglobinemia,” he said.

Dr. Muhammad Amin is married to Andi Haryati Yusuf. The couple has four children, three boys and a girl.

Nurulhusna Ab. Hamid, 28 years old, is a native of Langgar, Alor Star, Kedah. She received her early education in Alor Star and then pursued bachelor’s and masters degrees at Universiti Malaysia Sabah in Biotechnology. After a career stint with F.A. Herbs Sdn. Bhd. as QA/QC scientist, Nurulhusna assumed her present post as Research Officer at the Institute for Medical Research (IMR), Kuala Lumpur. She is assigned to the Medical Entomology Unit.

“I have to identify the semiochemicals since many organisms including mosquitoes use chemicals to communicate. They are like spoken words, each chemical is a message.”

According to Nurulhusna, Aedes aegypti mosquito spread dengue fever, Chikungunya, yellow fever viruses, as well as other diseases. While its origin is Africa, the mosquito is now everywhere. “My Ph.D study on Aedes aegypti involves investigating the sexual behavior. I have to identify the semiochemicals since many organisms including mosquitoes use chemicals to communicate. They are like spoken words, each chemical is a message,” she observes.