

Khairuddin Md. Arshad

Mr. Khairuddin has been with the School of Microelectronic Engineering, KUKUM for the past 3 years and is actively involved in research. He is the featured personality in this inaugural issue of Explore, which will be a regular feature of this magazine. Mr. Khairuddin is also in charge of the Diploma programme.



EX: Please tell Explore about you and your family history?

KMA: I was born in 1975 at Kampung Keranji, Pokok Sena, Kedah and am the younger of two siblings. My parents are farmers. I've grew up around farms and padi during my younger days. I married, Ms. Harianty bt Ghazali in 2003, who is a pharmacy enforcement officer with the Ministry of Health. She is stationed in Kangar too.

EX: Enlighten us of your educational background.

KMA: After SPM, I signed up for a diploma programme with UTM, Jalan Semarak between 1993-1996 and graduated as an Electrical (Power) engineer. Then I continued for my degree, from UTM, Skudai, from 1997 to 1999. After graduating I joined the microelectronic industry for a few years before continuing for a masters degree from UKM in Microelectronics. My supervisors were, A.P. Ibrahim Ahmad (Electrical & Electronics), Dr. Azman Jalar (Applied Materials) and Dr. Ghazali Omar (formerly from On Semiconductor, presently at Infineon).

EX: What made you choose this career path?

KMA: I suppose this was a lucky break for me. I was in the Microelectronics

industry, and KUKUM had just been established, which gave me an opportunity to satisfy my curiosity about many things.

EX: Could you explain about your field of research?

KMA: This field of research is focused on packaging of microelectronic devices. The final process in the microelectronic industry is to create a connection between the packaged device and the application circuit board. As such creating good and reliable but cost effective connections is important, as is every other process.

EX: In your opinion, what is your most important finding to date?

KMA: The basics for setting-up an electroless nickel immersion gold process during my tenure at On Semiconductor.

EX: What is the importance of your research to the industry?

KMA: My research results contribute towards low cost solutions for the microelectronics packaging industry. Time and process materials and its complexity are very important in the microelectronics industry. As such a process time saving of equal reliability saves the industry millions in revenue due to its highly competitive nature.

EX: What would improve your research further?

KMA: Collaboration with the microelectronics industry would be most beneficial for both parties. It would bring the industry into KUKUM and also enable KUKUM to directly participate in the industry.

EX: What are your future plans for research and education?

KMA: As for research, I would like to further my education for a Ph.D. I would also like to continue research in advanced packaging or wafer fabrication. I have two preferred institutions where I would like to further my education. They are either Technical Institute of Berlin in Germany or IMEC in Belgium.

EX: What would be your advice for young researchers in KUKUM to excel in research?

KMA: I would suggest that we pursue research in any area, however simple it may be. Understanding and improving existing technologies would also bring about fantastic results.

EX: Finally, where do you see yourself in 5 and 10 years time?

KMA: My short term goal is to obtain a Ph.D. In 10 years, assuming KUKUM still employs me, I would like to expand and extend my field of research. I wish to express my gratitude to KUKUM for supporting my research, as well as giving me the opportunity to train our future engineers. Thank you.