

# Felda boy makes his way to world-class varsities

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**A**N underprivileged background should not be a reason for not striving hard to attain excellence. In fact, determination and the ability to make the most of the opportunities that come by, especially in education, are keys to success.

This was what Dr Mohd Azri Ab Rani came to believe at a very young age, and it had moulded him to become what he is today.

As one of the five recipients of the Merdeka Award Grant for International Attachment 2019, Azri, 35, was born into a humble family of settlers in Felda Keratong, Pahang.

He could remember clearly how his mother used to wake up at 5am everyday to make kuih to supplement the family's income.

He and his siblings would help to distribute the snacks to shops and stalls around the settlement before school.

"On weekends, my parents would collect oil palm fruits at the plantation. And during the fasting month, my father would set up a sugarcane stall at the Ramadan bazaar to earn extra income.

"He lost four of his fingers in an accident while operating the juicing machine. It was a hard life, but my parents did all they could to make ends meet and feed their five children," said the middle child of the family.

Determined to escape poverty and build a better life, Azri pushed himself to study hard as he believed that a good education was the only way to attain his dreams.

He became a good student without going for tuition and despite having no revision books.

Azri earned a place in a matriculation programme at Kolej Mara Seremban after finishing his Sijil Pelajaran Malaysia.

"I realised how ill-prepared and unsophisticated I was for my pre-university studies compared to my peers, who came from residential and



Dr Mohd Azri Ab Rani (centre) with fellow recipients of the Merdeka Award Grant for International Attachment 2019.

high-performing schools.

"They seemed to be advanced in their learning and very good in English, whereas I could hardly speak the language and had only good general knowledge.

"But that scenario just pushed me to study harder," he said.

For, at the back of his head, he had planted the dream of studying to the highest level in world-class universities.

After finishing his matriculation, Azri was offered a place at Universiti Putra Malaysia (UPM) to pursue a degree in petroleum chemistry.

"I wasn't that particularly passionate about chemistry, but I associated the programme with Petronas, a company that many young Malaysians dream of working in," he said with a smile.

He excelled in his studies with a feeling that he could compete on a level field. This was because UPM provided every student access to the same facilities and resources.

"I then aimed to do a masters degree and told my mother of my intention. She kept quiet and was quite reluctant because my family could not support my pursuit.

"I understood the situation because my younger siblings still needed funds for school," said Azri.

But fortune smiled at him during one semester holiday, as he was browsing a newspaper while eating ais kacang at a stall.

He came across an advertisement on a scholarship offer for potential students to pursue post-graduate studies under Universiti Teknologi Mara's Young Lecturers Scheme.

He applied and was offered to do a Masters in Chemistry at Universiti Kebangsaan Malaysia.

Azri had not looked back since. Not only did he obtain his masters, but he went on to Imperial College London in the United Kingdom and graduated with a PhD in ionic liquids at the prime age of 28.

He had achieved his first milestone, which was to study in a world-class university.

He then continued his post-doctoral studies in the same field at Kyoto University, Japan, under the guidance of Professor Rika Hagiwara.

Ionic liquids, he explained, are organic salts that exist in liquid at or near room temperature. They are highly tunable, allowing their physical properties (density, viscosity, conductivity, solvency) to be adjusted for specific tasks.

The unique properties of ionic liquids is said

to make them useful in a number of applications, including gas transport, as "green" solvents, solar energy storage, coal processing, paint enhancer and even nuclear fuel reprocessing.

Azri's research interest is in the field of green chemistry, where he is studying the application of ionic liquids to replace conventional solvents in batteries.

"Other than producing a battery that has excellent performance, safe and cost effective, my work will lead to the expansion of knowledge on application of sodium-ion batteries in the near future," he said.

With the Merdeka Grant, Azri is aiming to undergo a three-month attachment at the University of Texas (Austin) in the United States, under the supervision of Professor Dr John Bannister Goodenough.

The latter is among the pioneers who developed the fundamentals of the lithium-ion battery.

Goodenough, 98, is a solid-state physicist and professor of mechanical engineering and material science.

"My research novelty is sodium itself as a replacement to lithium. It may take 20 years to go to market. Maybe I won't be the one to produce and market it, but I hope this research can be my contribution to society, which will see other people innovating it," he said.

Throughout his career, Azri had won numerous accolades, such as the Special Award in Innovation at The Asia Innovation Show 2018; gold award at The 4th International Innovation Design and Articulation (i-IDEA) 2018; gold award at the International Invention, Innovation & Design Competition (IIID) Johor 2017; and, gold award at the International Exposition on Syariah Compliant Idea, Invention, Innovation and Design (ISCIID) 2016.

He is not only active in academic circles, but also participates in humanitarian efforts locally and internationally.

Among the volunteering missions that he recently embarked on were the Cambodia Concerned Mission, Humanitarian Acts Across Borders and various outreach programmes.

"I like to push myself. When I undertook my research in green chemistry, it was a new field in Malaysia.

"I take everything entrusted to me, whether it's my studies or research, as a trust and responsibility. And I must see them through the best I can," said Azri.



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