

**KERATAN AKHBAR-AKHBAR TEMPATAN**  
**TARIKH: 3 SEPTEMBER 2014 (RABU)**

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# KERATAN AKHBAR

## THE STAR (INNOVATION): MUKA SURAT 3

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Dr Rohayu Che Omar (second from right) with Nor Hazwani Nor Khalid (centre) and Intan Nor Zuliana Baharuddin (left) with the awards won in PECTA 2014.

## Paving the way for commercial success

**A**S a private university wholly owned by Tenaga Nasional Berhad (TNB), the country's leading utility company, Universiti Tenaga Nasional (UNITEN) is known for its engineering technology programmes and research.

Among some of the fields of research carried out in UNITEN are biomass studies, inspection robotics, slope management, solar car, energy power distribution planning and green technology.

Dr Rohayu Che Omar, head of the Centre for Forensic Engineering in UNITEN, leads a diverse team of researchers that studies and develops a slope monitoring system.

A slope management system monitors and maintains geotechnical designs of hill site development to mitigate risks of hazards.

TNB, which has chains of transmission lines across jungles and rural areas besides major cities in the country, is one of the stakeholders in the projects.

"Normally, transmission towers are located in high land and rural areas. Since the occurrences of landslide, erosions and structural failure can lead to loss of money, time and manpower, we identified the need for an on-site data collection and monitoring system of the transmission lines," says Dr Rohayu.

### Innovative management systems

The research started in 2002 with a grant from the Ministry of Science, Technology and Innovation to develop the Innovative Monitoring and Maintenance Rating System (IMRS) before it was expanded with additional grants from TNB and the Ministry of Education.

The team has since improved the system, which was then renamed the Innovative Slope and Structural Monitoring and Maintenance Support System (ISSMaS).

"IMRS allows people without civil engineering or geology background to understand the system. It is meant to make it user-friendly to the non-technical support personnel who rely on the system to carry out inspection or remedial work.

"On the other hand, ISSMaS is developed specifically for those with civil engineering or geology background to provide the technical specifications especially for monitoring and maintenance of the slopes and structures," explains Dr Rohayu.

The latest development to the system allows the team to not just monitor the slope movement, but also the building structural itself in real-time.

This system, called the Interactive Slope Movement Detector and Real-time Data Analyser (ISDA), is being developed by Dr Rohayu's team and under the supervision of Nor Hazwani Nor Khalid, a fellow research

team member and lecturer at UNITEN's College of Engineering.

The team is also involved in a vegetable grout research project that aims to improve stability of slopes and base foundations. Besides that, it can also serve as a replacement for concrete base in building structures.

Dr Rohayu's team is also responsible for the development of the power energy distribution planning system, known as Selective and Decision Support for Site Selection and Impact Assessment (SEDASI).

"When we carry out research, receiving and responding to feedback from our partners in the industries help us identify new problems, conduct research and provide further improvements," says Dr Rohayu.

The case is true for TNB when the company needs to identify a location for a new transmission tower or substation. SEDASI acts as a planning system to provide feasible locations for new constructions.

"The important thing about the system is that it also integrates data analysis of the locals' input for any potential project. Social science, technical and cost analyses are the underlying criteria for site selection. That is why our engineers and geologists collaborate with economists and IT researchers in projects," says Intan Nor Zuliana Baharuddin, who is one of the researchers behind the research project.

### Regional success in the horizon

Dr Rohayu's team has received numerous awards, including the Innovator Cup for the IMRS in the Invention New Product Exposition (INPEX) 2010 in Pittsburgh, USA; Gold Medal & TIPPA Award in MTE 2010; Gold Medal and Henry Goh Award for SEDASI in ITEX 2010 and INPEX 2013; gold medal for bio-vege-grout in ITEX 2012 and INPEX 2013; IFIA Gold Medal at the Korea International Women's Invention Exposition (KIWIE 2012) and the most recent gold medals from ISDA in INPEX USA 2014, as well as PECTA 2013 and ITEX 2014 in Kuala Lumpur.

The exposure received by the team at exhibitions and award shows is important for the commercialisation of their research products.

"We have been invited by companies and government agencies in and outside of Malaysia to present and commercialise our research projects," says Dr Rohayu.

Being a believer of the importance of research and product innovation, Dr Rohayu calls for a more vibrant research culture.

She says, "I hope to see more interdisciplinary research and the output of these research studies becoming commercialised worldwide."



## Kertas siasatan jangka siap hari ini

GEORGETOWN - Kertas siasatan berhubung penahanan 157 anggota Pasukan Peronda Sukarela (PPS) termasuk Adun Seri Delima, RSN Rayer dan Pengerusi PPS negeri, Phee Boon Poh dijangka diserahkan kepada Ketua Unit Pendakwaan hari ini.

Ketua Polis Pulau Pinang, Datuk Abdul Rahim Hanafi berkata, polis sedang melengkapkan kertas siasatan dan yakin dapat menyiapkannya dalam tempoh terdekat.

"Selewat-lewatnya esok (hari ini). Polis sudah membebaskan kesemua anggota PPS yang ditahan termasuk Rayer dengan jaminan polis pada jam 7 pagi tadi (semalam) selepas mengambil keterangan mereka, termasuk empat anggota PPS yang positif dadah.

"Bagaimanapun, kita perlu mendapatkan laporan dari Jabatan Kimia sama ada dadah itu berpunca dari ubat yang diambil atau pengambilan dadah. Mereka akan disiasat di bawah Akta Dadah

Berbahaya 1952. Siasatan lanjut masih dijalankan mengikut Seksyen 43 Akta Pertubuhan 1966," katanya kepada media selepas Majlis Pemakaian Pangkat Deputy Superintendan Polis (DSP) di Ibu pejabat Polis Kontinjen Pulau Pinang semalam.

Menurutnya, jika sabit kesalahan, mereka boleh dikenakan hukuman penjara tidak melebihi tiga tahun atau denda tidak lebih RM3,000 atau kedua-duanya sekali.

Abdul Rahim berkata, kes itu akan disiasat secara berperingkat berikutan empat anggota pertubuhan itu didapati positif dadah.

Terdahulu, seramai 11 anggota PPS daripada 156 yang ditahan polis didapati mempunyai rekod jenayah lampau.

Rekod itu termasuk kesalahan cubaan membunuh, ahli kongsi gelap, penyalahgunaan dadah, kesalahan di bawah akta kastam dan beberapa kesalahan lain.

Mereka ditahan Ahad lalu selepas menyertai perbarisan hari kebangsaan di Padang Kota Lama.



Abdul Rahim (kiri) memakaikan pangkat kepada Deputy Superintendan Tan Boon Hooi, seorang daripada 22 pegawai polis pada Majlis Pemakaian Pangkat Deputy Superintendan, semalam.

## Heavy rainfall expected over next two to three weeks

**PETALING JAYA:** Heavy rainfall and thunderstorms are expected to occur in the afternoons in the country over the next two to three weeks, according to the **Malaysian Meteorological Department**.

Its spokesman Dr Hisham Mohd Anip said there would be heavy rainfall when the inter-monsoon season kicks in, resulting in both warm and wet weather.

Dr Hisham said this was because the sun would be over the southern hemisphere.

"As the position of the sun is over Malaysia, we will experience more heavy rainfall and thunderstorms in the afternoons.

"During this inter-monsoon period, flash floods will also be common," he said, adding that areas like Kuala Lumpur, Penang, Malacca and Johor were likely to experience such floods.

However, the inter-monsoon season would not last for long and is expected to end by the last week of October.

Dr Hisham said Malaysians could expect less rain this week, due to the changes in the wind pattern.

With the country now in the tail end of the southwest monsoon season, the temperature is expected to be in the normal range of between 32°C and 34°C.

"Usually, the wind is stronger but it has weakened over the past few weeks," said Dr Hisham.

