

LAMPIRAN 1

NEW STRAITS TIMES (HIGHER ED) : MUKA SURAT 11
TARIKH : 16 MEI 2018 (RABU)

THREE postgraduate students and one undergraduate from three Malaysian public universities recently stole the hearts of judges with their ability to think, communicate and collaborate creatively at the 2018 International Nanotechnology Olympiad (INO) in Teheran, Iran.

They took home a gold medal, a certificate and a €2,000 (RM9,550) prize.

The European Union sent three teams, the host country had two teams, and others came from Taiwan, South Korea and Russia.

He said the competition required every team to propose a problem-solving research concept in wastewater management, agriculture, food and packaging, alternative energy, drugs and medication, and information and communication technology.

The Nano-PTFE membrane is used specifically to decompose organic and inorganic pollutants in textile and mining wastewater.

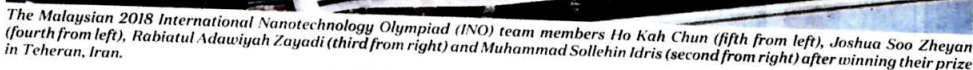
He added that participants had to pitch ideas in applying nanotechnology to solve real scientific and industrial problems. Teams were also tested in a question-and-answer session after their presentation.

"Our supervisors have always been supportive and motivated us throughout our journey," she said, adding that it was really an exciting experience for all of them.

"I salute the team's effort in maintaining calmness throughout the presentation. In addition to asking questions, I also like it when the jury gives constructive criticism and suggestions to enhance the potential of our product in future," said Rabiatul Adawiyah, who is pursuing her doctorate in science.

"My aim back then was to gain exposure and meet participants at the national level. We joined talks, visits and workshops that increased our knowledge in nanotechnology evolution, from nanomaterial processing to characterisation, application and business development.

"It was good to be able to extend my experience to the international level. We know we had to face participants from advanced countries, but we told ourselves: 'Let's do everything right and



Young scientists shine at Nanotech contest

"We were the only country to complete everything for the competition," he said.

He said he would keep in touch with his team mates and continue giving ideas to advance their research.

UKM Deputy Vice-Chancellor (economic and international affairs) Professor Datuk Dr Mohd Marzuki Mustafa said the ideas proposed during INO had potential to become industrial solutions.

"Such competitions are great opportunities for talented researchers to connect with each other," he said.

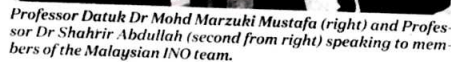
"Knowledge-sharing and team spirit are key elements for these students because not only they didn't know each other prior to the competition, they also came from different backgrounds of study.

He also said the success of the Malaysian team should be used to catalyse research and development in nanotechnology.

Only research field.



analis,



There were three other winners in the 2018 INO. The Taiwan team won €3,000 (RM14,130) for achieving the best overall score. One Iranian team won the best project in terms of business development, taking home €2,000 (RM9,550). The South Korean team won €2,000 (RM9,550) for coming up with the most novel and highest impact idea.

"The potential of this nano product in outlining more pollutants in wastewater will be identified, and the results of this research will be published in journals for reference.

"The team is grateful for its success and hopes Malaysia will create more success and great discoveries in the field of nanotechnology, as it is one of the key elements in the Fourth Industrial Revolution," said Rabi'atul Adawiyah.

DISCOURSE

Asean experience for IR 4.0

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INDUSTRY Revolution 4.0 represents the movement towards smart industry and manufacturing goals.

Asean countries, including Malaysia, are experiencing industrial transformation on an unprecedented scale with automation, data exchanges, cloud computing, cyber-physical systems, robots, Big Data, Artificial Intelligence, Internet of Things and semi-autonomous industrial techniques.

Compared with previous industrial revolutions, the fourth is evolving at an exponential pace.

And, the breadth and depth of these changes herald the transformation of entire systems of production, management and human resources.

With every industrial revolution, there has been a requirement for a skill change, and higher education must prepare graduates to handle new technologies and embrace IR 4.0.

According to Asean Socio-Cultural Community deputy secretary-general Vingthep Arthakulvalvatte, the higher education sector must be ready for this change.

He said education and training were key to social and economic development in a globalised world.

"These issues depend heavily on international cooperation as much as national action. We need to make sure our education system is marked by quality, credibility and innovation."

"We are looking at the modern trend of automation. This means it's not just about computerisation, but also the ability of different computers and machines to communicate with each other and perform complex tasks together."

"The notion has become an important reference of the education sector, considering its implication to training, curriculum and practice."

"Thus, the evident problem in the near future could not be the lack of employment, but the shortage of skills that new jobs will demand," he said.

Vingthep was speaking on Redesigning Higher Education for 4.0 Industrial Revolution — the Asean Experience session in conjunction with the Going Global 2018 conference at the Kuala Lumpur Convention Centre recently.

He said the Asean Work Plan on Education 2016-2020 included relevant priorities, such as strengthening the use of ICT through the expansion of Asean Cyber Academy (ACA).

"Among them are advancing Asean Studies Programme and courses at the higher education level through online and cross-border mobility, as well as preparing ICT-ready teachers through the enhancement of teachers' competency to address specific needs of vulnerable groups."

"These three phases of activities are in line with the Asean goals to use ICT effectively for teaching and learning. The advantage of cyber education is that it provides the opportunity for economically disadvantaged countries in Asean to enjoy high levels of education at low cost," he said.

ACU was established in 2009 to promote education cooperation and people-to-people exchange designed to help Cambodia, Laos, Myanmar and Vietnam acquire the technology and knowledge related to e-learning systems to help students in remote areas access higher education.

Thailand's Education Minister Dr Teerakit Jareonsattasin said the ministry had to abandon central planning for a redesign of its higher edu-



(From left) Dr Teerakit Jareonsattasin, Vongthep Arthakulvalvatte, Nottingham University United Kingdom vice-chancellor and president Dr Professor Shearer West, Datuk Kamel Mohamad and Dr Khine Mye discussing on Redesigning Higher Education for 4.0 Industrial Revolution — the Asean Experience at the Going Global conference. PIC BY ROSELA ISMAIL

Education is not just for living, it is also for life. There is a sense of what life is that can't be taught by machines.

DR TEERAKIT JAREONSETTASIN
Thailand education minister

cation for IR 4.0 in Thailand.

"We have tried it for centuries but it doesn't work. No one, even the most intelligent, can know what is to change."

"Education is not just for living, it is also for life. There is a sense of what life is that can't be taught by machines," he said.

In Thailand, the ministry has offered funding to any universities that want to re-design their curriculum.

He said two months later, 20 universities took the offer and the government has approved the budget to redesign the curriculum.

"For example, we have a group of engineering students who are undergoing a newly-designed curriculum to enable them to be IR 4.0-ready in the next five years or so."

"We believe in the next 10 years we will have another 100,000 more students," said Teerakit.

The ministry also welcomes foreign institutions to set up their universities in Thailand so that they can collaborate and exchange expertise. Malaysia Higher Education Ministry deputy secretary-general (chief information officer) Datuk Kamel Mohamad said higher education in this country was confronted with changing the landscape of employment trends, technologies and demands.

Kamel said the Higher Education Framework 4.0 (MyHE 4.0) was established to address the issues and challenges of IR 4.0. The framework is more specific than the Malaysia Education Blueprint 2015-2025 (Higher Education).

"Under the framework, universities have to change their curriculum and delivery to ensure that their graduates have jobs. One of the measures being taken is to produce holistic, balanced and entrepreneurial graduates who can adapt and fill in jobs that are yet to exist," said Kamel.

He said the Malaysia Education Blueprint 2015-2025 (Higher Education) had incorporated elements meant to tackle the uncertainty of IR 4.0.

Kamel said the process of teaching and learning had to be changed. Under Learning and Teaching 4.0, there are four aspects: learning spaces should be redesigned; different kinds of pedagogies are needed; curriculum must be fluid and organic; and, all the aspects should incorporate the latest learning and teaching technologies.

"For example, lecture halls with multi-tiered collaborative tables and the use of smart boards should be implemented. The ministry announced that this year, up to 30 per cent of all university programmes will adopt this concept, enabling them to respond to innovations and new areas of knowledge without being bound by traditional rigid curriculum practices," he said.

Looking ahead, Vingthep said Asean countries must think about the right balance in targeted reforms to support IR 4.0-ready education.

"Do we have the means to do it? How about the digital divide affecting those that have no access to technology?"

"Even within Asean, we have concerns about the development gap. How about the cross-sectoral coordination of efforts, including private sectors, and opportunity for a regional approach and role of the Asean Secretariat in terms of information sharing, organising politics dialogues and targeting support for Asean members?"

"The 32nd Asean High Level Task Force on Economic Integration Meeting recommended a study on the preparedness or readiness of Asean Member States in IR 4.0, which is ongoing," he said.

Vingthep also said the emergence of an Asean Education 4.0, helped trigger the transformation of mindset in curriculum design, pre-service teachers training, internship scheme and higher education competencies.

"In an age of AI, specific human skills will be more important than ever. Quality assurance, academic credit transfer, research, university networking and student mobility schemes must be responsive to and leverage the benefits of IR 4.0," he said.

Myanmar Education Ministry's Basic and Alternative Education director-general Dr Khine Mye said four phases — foundation building, interdisciplinary institutions, mainstreaming 21st century skills and interdisciplinary collaborations — have been undertaken by the country to redesign higher education for IR 4.0.



Datuk Kamel Mohamad presenting Higher Education Framework 4.0 which aims to address issues and challenges of IR 4.0.

WIRED FOR CHANGE

EDUCATION IS KEY TO IR 4.0 SUCCESS

EDUCATION is an important asset for any country. It is for this reason that the former Barisan Nasional government allocated financial aid amounting to RM61.6 billion for the education sector in the 2018 Budget.

We are entering the era of the Fourth Industrial Revolution 4.0 (IR 4.0), which is expected to transform the way we live, work and play.

Experts visualise an environment where an Internet of Things and artificial intelligence technology will connect us through smart devices, aimed at reducing human frailties and risks.

These experts see machines making our lives easier. And, as we spend most of our time at work, it is in the office that we will come up with such challenges the most.

Experts expect robots to replace humans. Such changes will not only be faced by those who work in the manufacturing sector, but also other economic and social sectors.

What all this means is that we have to be armed for such a revolutionary change.

We not only have to upskill ourselves, but we must also learn new skills. Some of the skills have to be learnt as we go along.



Education will help us face the challenges of the Fourth Industrial Revolution. FILE PIC

The answer to all these challenges lies in knowledge. It is for this reason that education needs to be supported by the government. Without education, people will be left out of the modernisation equation.

It is not possible to envisage all that will happen in the future, but wise Malaysians will seize all op-

portunities to arm themselves for such a future.

Business leaders talk of acceleration of innovation and disruption, but this continues to surprise many in and outside the work of the environment. Agility and speed will define IR 4.0.

The bottom line is that we must, through education, under-

stand the challenges brought about by IR 4.0 and learn to cope with the changes.

IR 4.0's success depends on education.

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NURTURING INTEREST IN STEM

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SCIENCE, Technology, Engineering and Mathematics (STEM) permeate every aspect of today's world, and the innovations that emerge from these fields underpin much economic development leading to the establishment of creative enterprises and rewarding careers.

People working in STEM are changing the face of the world we live in everyday, whether it is by making life-saving drugs and devices, researching new cures for cancer or creating new technologies that keep us healthier, safer and of course, entertain us.

Our education system plays a key role in equipping students with the knowledge, skills and dispositions to effect these changes.

"We need a national focus on STEM education in our early years settings and schools to ensure we have an engaged society and a highly-skilled workforce in place.

"This requires a clear understanding of STEM education in the Malaysian context. The embedding of this understanding across our education system will help transform the STEM education experience throughout the schooling years," said Education director-general Datuk Dr Amin Senin.

STEM is at the heart of a new wave which is transforming the way we live and the way we work. STEM will help a competitive country to be part of the world's developed countries.

The World Economic Forum's report states that as many as 65% of children in primary school today will work in new, STEM-based fields in the future when they enter the workforce.

The Education Ministry has taken steps by introducing the Enhancing STEM Education initiative through the Malaysia Education Blueprint 2013-2025 to encourage pupils to venture into STEM fields in secondary level and tertiary education.

It is vital as strong fundamental skills in STEM enables students to think critically and solve problems thus preparing them as highly skilled workers needed in the industry.

The initiatives to enhance STEM education have considered the six students' aspirations and how to provide qualified and adequate students in the STEM field through three steps:

- Increase students' interest through the new teaching and learning approach and the strengthening of the curriculum;
- Improve teachers' skills and abilities; and
- Improve student and public awareness.

STEM education is multi-faceted and goes well beyond the main disciplines that constitute the acronym STEM.

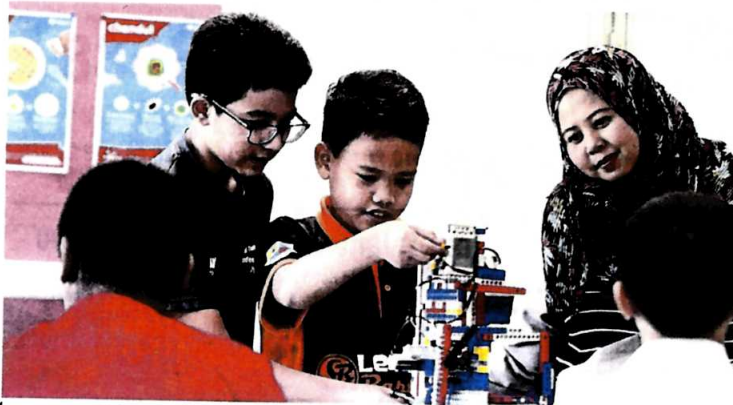
The foundations for STEM education begin in early childhood. From the earliest years through their play experiences and family environment, children engage with the world in ways that can promote learning related to STEM.

"Young children naturally engage in early STEM exploration through hands-on multisensory and creative experiences.

"By engaging in these experiences, young children are developing curiosity, inquisitiveness, critical-thinking and problem-solving capacities which are built on through their primary and second-



Let's do it: Dr Amin (second from right) launching the STEM Colloquium in Kota Kinabalu.



Making it fun: The Education Ministry has taken steps to encourage pupils to venture into STEM fields.

ary school experience," said Dr Amin.

Education Performance and Delivery Unit (PADU) Student Learning executive director Dr Azwan Abd Aziz said that various activities and programmes are planned and will be implemented under the Enhancing STEM Education initiative.

The initiative targets to increase student's interest in STEM subjects through the new teaching and learning approach and curriculum enhancement, improving teachers skills and abilities and raising student and public awareness on education and career in the STEM field.

The ministry hopes to produce students with the ability to think logically, are inventive, technolo-

gy-savvy and are able to solve problems creatively and innovatively.

To sustain a supportive STEM education ecosystem, all stakeholders will need to work together to develop a connected learning network which is advantageous to all.

Multiple stakeholders have a role to play in supporting the STEM education experience of our young people so that we, as a nation, can overcome current misconceptions concerning ability and/or gender. Creating a sustainable STEM education ecosystem is the responsibility of the wider society and will play a key role in enabling and encouraging learners to become active and responsible citizens.



Dr Azwan: All stakeholders need to work together to develop a connected learning network to benefit STEM education.

IMPROVING TEACHERS

THE objectives of the STEM Education Colloquium are to create interest and awareness among teachers on the importance of STEM in schools, as well as to improve the skills of STEM teachers through hands-on activities. The colloquium is in collaboration with higher education institutions, government agencies and the National Blue Ocean Strategy (NBOS) industry players, as they provided the complimentary venue and industry experts who contributed voluntarily for the colloquium.

The STEM Education Colloquium theme is "Education Through Exploration".

In 2018, STEM education colloquium will be implemented in four zones - Sarawak, Sabah, Kelantan and Perak - involving nearly 1,200 participants in each zone.

The university partners in each zone are Universiti Malaysia Sarawak, Universiti Malaysia Sabah, Universiti Malaysia Kelantan, and Universiti Pendidikan Sultan Idris respectively.

This is a continuation of the colloquium that was implemented in 2017 in the Central Zone (Universiti Sains Islam Malaysia), Eastern Zone (Universiti Malaysia Terengganu), Northern Zone (Universiti Sains Malaysia) and Southern Zone (Universiti Tun Hussein Onn Malaysia) involving more than 6,000 teachers.

LAMPIRAN 5
BERITA HARIAN (AGAMA) : MUKA SURAT 75
TARIKH : 16 MEI 2018 (RABU)



Dari kiri Kamal (kiri), Hamzah dan Nur Jannah pada sesi wawancara mengenai buku Sains Tabi' dari Pandangan Semesta al-Quran.



Kita buat rumusan pada akhir tiap-tiap jilid dengan menegaskan perlunya saintis Islam kembali kepada pandangan semesta Islam sebab alam semesta sekarang terancam akibat kerosakan oleh tangan manusia dan untuk memperbaikinya perlu kembali kepada bimbingan al-Quran

Kamal Hassan,
Ketua Editor Projek Profesor Ulong: Sains Tabi' dari Pandangan Semesta al-Quran

Fahami sains berdasarkan al-Quran

➔ Ulama, ahli tasawuf berperanan majukan pembangunan ummah

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■ Bangi

Alam dari perspektif Barat terjadi dengan sendiri, tetapi hakikatnya al-Quran menceritakan ia ciptaan Tuhan yang mengandungi tanda kewujudan, kebesaran, kekuasaan, ilmu dan sifat Allah SWT.

Kebanyakan penulisan dan pandangan saintis agnostik, iaitu skeptik, ateis dan peragu mengatakan kita tidak memerlukan pencipta kerana unsur semula jadi sudah memadai untuk melahirkan alam semesta.

Begitulah alam daripada pandangan semesta sekular yang tidak ada pemilik dan pencipta. Sudah tentu ia jelas bertentangan dengan ajaran Islam, manakala dari sudut akidah akan menimbulkan masalah besar.

Tambahan pula, pengajaran sains masih lagi berdasarkan kerangka pandangan alam semesta hingga ia دچار berasingan dengan agama sedangkan al-Quran me-

nganjurkan manusia mempelajari alam sebagai 'kitab' Allah SWT yang kedua.

Adalah penting untuk membincangkan kerangka kita memahami, melihat dan mempelajari alam dengan pandangan semesta al-Quran yang sangat berbeza daripada pandangan semesta sains moden yang mendasari sains itu.

Pengaruh sekular

Ketua Editor Projek Profesor Ulong: Sains Tabi' dari Pandangan Semesta al-Quran (NSWQ), Tan Sri Prof Kamal Hassan, berkata bagi mempertahankan integrasi sains agama, maka lahirkan usaha menghasilkan buku teks atau rujukan mengenai sains dari perspektif pandangan semesta al-Quran.

Beliau berkata, projek penulisan buku itu bermula pada 2011 dilaksanakan hasil bantuan dana sebanyak RM300,000 untuk tujuan penyelidikan ketika beliau dilantik Profesor Ulong oleh Kementerian Pendidikan Tinggi.

"Saya berfikir apa yang patut dilakukan dengan dana sebanyak itu dan menyedari sekolah menengah masih mengajar sains yang dipengaruhi pandangan semesta sekular, jadi kajian dilakukan untuk melihat sejauh mana integrasi antara sains dan agama.

"Kajian dilakukan di Indonesia, Malaysia, Brunei Darussalam, Singapura dan selatan Thailand mendapati banyak sekolah umat Islam ada integrasi itu tetapi tidak begitu mantap. Ini yang mendorong kita," katanya pada BH di rumahnya di Bangi, baru-baru ini.

Yang turut hadir pada sesi

wawancara itu ialah koordinator projek yang juga penulis kimia dan editor, Dr Nur Jannah Hassan serta editor kimia, Prof Hamzah Mohd Salleh.

Selain beliau dan Nur Jannah, 'kita' yang dimaksudkan Prof Kamal ialah tujuh editor dan penulis yang terlibat dalam penghasilan tiga jilid buku Sains Tabi' dari Pandangan Semesta al-Quran terbitan Institut Terjemahan & Buku Malaysia (ITBM).

Dalil yang relevan

Prof Kamal berkata, fakta sains berkaitan fizik, kimia dan biologi tidak banyak perbezaan kerana fakta adalah fakta, tetapi penting untuk memahami sains dengan cuba memahami alam sebagai asas berdirinya sains itu.

Kebanyakan buku sains tidak membincangkan pandangan semesta yang mendasari sains, iaitu melihat, mempelajari dan memahami alam sebagai asas metafizika yang menjadi tapak bagi berdirinya sains.

Katanya, buku NSWQ banyak memasukkan ayat yang relevan dengan fakta sains kerana alam bukan hanya fakta, tetapi mempunyai makna diberi al-Quran. Contohnya, fakta mengatakan matahari itu bola api yang panas dan kita melihat Allah SWT menciptakan matahari dengan tujuan tertentu.

Penciptaan matahari begitu rapi membolehkan manusia dan kehidupan wujud di bumi, manakala adanya bumi juga satu yang sangat ajaib dikaitkan dengan penciptaan Allah SWT ditegaskan dalam ketiga-tiga jilid buku itu.

Turut dikaitkan sejarah pemikiran umat Islam dan saintis Islam dahulu dengan tokoh yang hebat dalam pelbagai bidang sains tabii yang hasil kajian mereka diselitkan di tempat yang relevan.

"Kita buat rumusan pada akhir tiap-tiap jilid dengan menegaskan perlunya saintis Islam kembali kepada pandangan semesta Islam sebab alam semesta sekarang terancam akibat kerosakan oleh tangan manusia dan untuk memperbaikinya perlu kembali kepada bimbingan al-Quran," katanya.

Pendekatan praktikal

Sementara itu, Nur Jannah berkata, gaya penyampaian buku itu tidak kering dan tidak terpisahkan daripada realiti kehidupan seorang Muslim menjadikan ia sesuai untuk pelajar sekolah, universiti dan masyarakat awam.

Beliau berkata, kelebihan buku itu menggunakan pendekatan praktikal menyampaikan pandangan asas Qurani dan sains dari perspektif bahawa Tuhan sangat relevan serta meletakkan konsep ketuhanan di tempat sepatutnya.

Buku sains konvensional tidak berdasarkan alam ketuhanan, justeru, NSWQ diterjemahkan semula fakta itu sesuai dengan pandangan alam tauhidik dan jika ada yang tersasar dialihkan kepada hалуannya yang sebenar.

"Jika ada fakta yang kita tidak boleh terima langsung, terpaksa tinggalkan dan ganti yang baru. Contohnya, satu perkara yang semua warga sains tahu, kita diajarkan materi dan tenaga tidak boleh dicipta dan dimusnahkan.

"Namun al-Quran memberitahu kita bahawa Allah mencipta dan Dia memusnahkan serta mencipta kembali. Oleh itu, apabila dikatakan materi dan tenaga tidak boleh dicipta dan dimusnahkan, ia bertentangan dengan tauhid. Ini yang kita terjemahkan semula," katanya.

Lahir generasi ulul albab

Beliau berkata, buku yang menganalisis masalah kontemporari itu cuba mencari penyelesaian konflik dihadapi pada masa kini dan akan datang dengan mengaitkan sains kepada asas kepercayaan al-Quran serta ilmu tauhid.

Memikirkan bukan Islam mempelajari sains dari perspektif tauhid pastinya sukar untuk menggambarkan bakkannya, namun bagi Nur Jannah, buku berkenaan mengisi satu keperluan untuk umat Islam dan bukan Islam yang berfikir.

Malah, beliau optimis bahawa ilmu yang dikongsi dapat melahirkan generasi ulul albab dalam bidang profesional yang bukan sahaja mencapai kejayaan dan kedudukan, tetapi menjadikan sains jalan menuju Allah SWT.

"Apa sahaja bidang yang diceburi, mereka bertakwa kepada Allah SWT. Jadi, sains tidak disalahgunakan atau menyebabkan kerosakan kerana mereka mampu meletakkan segala-galanya pada perspektif yang betul," katanya.

Bersetuju dengan pandangan itu, Prof Kamal berkata, generasi ulul albab tidak semestinya dalam bentuk tradisional kerana mereka boleh lahir sebagai saintis ulu albab yang hafal al-Quran serta hebat ilmu sainsnya.

New dawn for science too

THE 14th General Election is now over. There is euphoria in the air and many are excited about the new era in the nation's politics. Many are hoping that the future will be positive for all. The call for change is now a reality.

The real test will come in the coming days, however. The new government has given itself the first 100 days to demonstrate to the people that it is truly embracing change – a change for the better, of course.

Already, we have heard of a move to increase freedom of the press. This is a healthy sign because, for far too long, the freedom to express one's opinions has been literally suppressed. In a global economy that is increasingly driven by innovation, the most precious commodity is the idea. Ideas are the drivers of real innovation. Opinions, on the other hand, breed ideas. So, by suppressing the opinions and views of people, the chances of generating constructive ideas are much reduced.

Ideas alone are not sufficient. They need to be converted into workable solutions which address the problems of the people and society. This is where science has a role to play. Science has the power to convert ideas into meaningful technologies that generate benefits for society and industry.

As a nation, we do have many challenges and issues begging for sustainable solutions. Science can be that potent force we can depend on to deliver the solutions.

Of course, we need the right talents and facilities to make that happen. These have been the biggest concerns of the scientific community. Not only are talents becoming scarce, support for science has also been dwindling in recent years.

The situation in the 1980s and 1990s was different. Many would not hesitate to say that these decades were the glory days for science in the country.



That was the time when science was given strong emphasis as one of the major pillars of the nation's development agenda. That was also the time when science never failed to be included as an important chapter in the nation's five-year plans.

We were also making good progress in convincing young Malaysians to choose science as a career option.

Unfortunately, the last few years have been literally retrogressive for science in Malaysia. Funding for research and development (R&D), which had just breached the one per cent of GDP mark, was suddenly cut. Universities bore the largest brunt of this cut.

I was told recently by one vice-chancellor that university lecturers were only given nine months' pay. The remaining three months would have to be sourced elsewhere. Adding salt to the wound, many experienced professors had their services terminated because of lack of funds.

We would like appeal to the new administration to rejuvenate the nation's ailing science for our own long-term good. First, restore funding to those universities that will give priority to R&D that benefits our society and not just to glibly satisfy the demand of many ranking agencies.

Second, the nation's R&D institutes must not be chaired by politicians. Get the professionals to chair R&D entities. One source of capable science professionals are readily available among the senior fellows of the Academy of Sciences Malaysia (ASM).

Even the Academy of Sciences, which was established to be the nation's leading science think tank, must be made more independent. For years now, Fellows of the Academy of Sciences have been appealing for it to be directly answerable to Parliament and not to be subservient to mundane demands of a ministry. Now is a good time to make that change.

Scientists in the country believe that the best person to make that change and bring back the glory days of S&T is Tun Dr Mahathir Mohamad. This is because it was during his previous tenure as PM that science had the best deal. This is the reason ASM has long paid tribute to Dr Mahathir and created the Mahathir Science Award to recognise excellence in science. Hopefully, more corporate bodies will support this award.

PROFESSOR DATUK DR AHMAD IBRAHIM
Fellow Academy of Sciences Malaysia
UCSI University