

THE 2018 CONFERMENT OF FELLOWSHIP OF THE ACADEMY OF SCIENCES MALAYSIA

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Venue : GRAND BALLROOM, LEVEL 9, SUNWAY PUTRA HOTEL, KUALA LUMPUR

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SPEECH BY

**YAB TUN DR. MAHATHIR BIN MOHAMAD
PRIME MINISTER OF MALAYSIA**

**2018 CONFERMENT OF FELLOWSHIP OF THE ACADEMY
OF SCIENCES MALAYSIA & ANNOUNCEMENT OF THE
2018 TOP RESEARCH SCIENTISTS MALAYSIA (TRSM)
ON 1 NOVEMBER 2018 AT 2.30 PM AT GRAND BALLROOM,
LEVEL 9, SUNWAY PUTRA HOTEL, KUALA LUMPUR**

1. It gives me great pleasure to be here at this event to recognise the brilliant scientific minds of the nation.
2. Since the Academy of Sciences Malaysia's (ASM) inception in 1995, you have grown to play a dynamic role in science, technology and innovation (STI) for the nation.
3. Having read some of the recent study reports, I am encouraged that ASM has carved a niche for itself by providing independent, credible,

relevant and timely scientific advice in addressing the needs of the nation.

4. ASM's efforts to champion evidence-based decision making and data-driven policy making is commendable. More needs to be done to enhance the capacity to receive and act on good advice supported by relevant facts and data. This requires a revisit of the science, technology and innovation (STI) governance system and institutional frameworks.

5. I am also pleased to note that experts from the Social Science and Economics fields have also been welcomed into the fellowship of the Academy. As we know Science, Technology and Innovation cuts across knowledge domains, sectors and communities. As such, we must take into account multi-sectorial feedback. I am pleased to note that ASM has taken this approach to gather input for the respective studies.

6. Malaysia has shifted from an agrarian based economy to an industrial economy. And together with services, manufacturing, has become a major contributor to our GDP. But the dynamism of the global economy has resulted in massive transformation and evolution that requires us, as a nation to move and transform or risk being left behind.

7. In the new economy, knowledge-intensive, high value-added, technology-enabled and adaptable industries will be at the cutting-edge. Intangible assets such as knowledge, data and innovation are key

sources of competitiveness. As such, the role of science, technology and innovation is critical to fuel economic advancement, societal progress and new sources of growth.

8. The value of science and technology is more pronounced than ever. Globally, the biggest impact of science and technology can be observed in traditional sectors such as agriculture, plantation and commodities whereby mechanisation and automation reduce the need for labour. However, Malaysia has yet to fully leverage on science and technology in these sectors.

9. The gap between Malaysia and the developed countries is widening and the potential of catching up with these countries is increasingly challenging. On the other hand, countries at a similar development stage as Malaysia are intensively developing their innovation ecosystems. These countries compete for the same markets, skilled workforce and FDIs. The potential of some of these countries to overtake Malaysia and even surpass it is very high.

10. Malaysia needs a fully functioning innovation ecosystem that is able to bridge the innovation chasm that currently exists. Collaborative innovation networks must be forged between the public sector, business and industries, research and development and civil society. By this, rapid restructuring of the economy can be achieved, initiating widespread social transformation with the participation of all concerned.

11. STI can also pave the way for new sources of growth. And this must be developed for the nation to attain global prominence. Based on the mid-term review of the 11th Malaysia Plan, focus will be given to priority areas including biotechnology, digital technology, green technology and nanotechnology.

12. In addition, key sectors that have been identified to transform the industry from being supply driven to demand-driven, user to producer as well as low to high knowledge-intensive and value-added activities together with Information and communications technology (ICT) and services. We have also to be into creative industry, and the financial services, private healthcare services, Oil and gas services and equipment (OGSE) industry, Tourism industry, Halal industry. These will enable us to move up the value chain and provide strong linkages with between sectors. Many of these areas have been identified as pace-setters and need to be nurtured to move to greater heights in the global arena.

13. Yesterday, I launched the National Policy on Industry 4.0. I hope that the policy can be well implemented to usher a new era of knowledge intensive value creation for our industries. The 3rd National Car project would be a good start to feature some of the strategies in the Industry 4.0 policy. ASM had been supportive of this initiative and I hope you will facilitate the collaborative network approach and engage with relevant partners to provide input towards making this project a reality. I believe Malaysia is well positioned to take on this challenge as the automotive industry is a pace-setter due

to the knowledge intensity and innovation capacity built up over the years since Malaysia first embarked on car manufacturing.

14. Science, technology and innovation have become increasingly competitive, while being consultative and collaborative at the same time. Science and technology is moving faster than governments can enact laws to regulate the application of emerging technologies and new business models. Agile and anticipatory governance to proactively respond to new or disruptive products and services would be vital to gain competitive advantage.

15. In this data-intensive era, science needs to embrace an open enterprise paradigm. No longer can science be confined behind laboratory and library doors. The transition from data ownership to data access will accelerate scientific discovery and applications. This would stimulate the democratisation of knowledge and cross-sector collaboration. It draws upon effective and active engagement between business, government, policy makers, communities and citizens as knowledge partners towards addressing major challenges by co-developing possible solutions. There are many areas that could benefit from the open science approach such as preventive healthcare, precision agriculture, reducing carbon footprint, safety and security for well-being and efficient resource management among others.

16. Science has become more consultative because leveraging the power of the crowd through crowdsourcing and citizen science initiatives is proving to be impactful. These initiatives not only

generate valuable information and data but empower society to tackle some of the most difficult challenges such as disaster risk reduction and monitoring the progress towards the UN Sustainable Development Goals.

17. Collaboration is an inevitable feature of 21st century science, technology and innovation. The new economy is driven by knowledge and enabled by fast-paced technology and digital connectivity, allowing radical sharing of ideas across borders. Furthermore, collaboration enables risk sharing, lowering the risks and barriers faced by each player. This also reduces reluctance to participate in innovative initiatives and makes it easier to enter new global markets.

18. The future is about creating a shared value ecosystem that paves the way for effective collaboration among partners. It is important for Malaysia to be well positioned in the global STI landscape by tapping on national and international networks. This would enable Malaysia to gain influence and strategic advantage in the global arena.

19. One key reflection of a nation's innovative and entrepreneurial spirit is the robustness of its start-up ecosystem in particular, technology-based start-ups. Start-ups apply creatively the market information and data as well as science & technology (S&T) knowledge to roll out products and services that are unique and differentiated. Start-ups can also lead the way to effectively utilise emerging technologies to realise value creation and innovation.

20. Collaborative approaches are vital to building a dynamic start-up ecosystem especially when it comes to financing models and risk sharing so that start-ups can have an appropriate safety net without having their creativity and passion stifled.

21. Many successful start-ups learnt from initial failures but in our ecosystem and culture we are quick to penalise failures rather than provide time, funds and opportunities for success. In some countries now, when it comes to financing start-ups, financial institutions require applicants to show that they have at least failed twice at previous ventures before they can be considered. They have learnt to celebrate failures to spur innovation. What about us? It is time we do things differently. Lessons can only be learnt when mistakes are made.

22. Malaysia needs to raise its game to be competitive. In order to bring Malaysia's economic sector to the next level, we must ensure the proliferation of knowledge intensive enterprises that leverage on science and technology.

23. We need to re-engineer our innovation ecosystem for STI to thrive not only now but in the future. Effective and robust innovation ecosystems for the new economy need to equally address enterprise innovation as well as social innovation.

24. In shaping a progressive Malaysia that is harmonious, prosperous and sustainable, we need to understand the forces of change and

facilitate the development of knowledge enterprises enabled by STI that can prosper in a diverse world.

25. I look forward to the new National Policy on STI (2020-2030) and the STI Master Plan that is being developed by the Ministry of Energy, Science & Technology, Environment and Climate Change through the Academy of Sciences Malaysia. I hope the policy and the master plan would serve as an effective governance tool to ensure we become more integrated and collaborative towards making Malaysia a scientifically advanced nation.

26. Malaysia also needs to invest in nurturing the workforce of the future, in particular by developing science, technology, engineering and mathematics (STEM) talents. They in turn must develop skills such as critical thinking, problem solving, communications and adaptability among others.

27. We must attune ourselves to leveraging emerging technologies such as machine learning, blockchain technology and quantum computing. We must be strategic about facilitating and deploying these technologies in Malaysia. In particular the right talent should be mobilised to develop home grown products and services that leverage on these technologies.

28. Academy of Sciences Malaysia has a huge role to play in propelling idea creation as well as monitoring and evaluation of our STI

landscape. I hope ASM will continue to provide valuable input towards charting the course towards a progressive Malaysia.

29. I wish to take this opportunity to congratulate the newly appointed Senior Fellow, elected Fellows and the selected Top Research Scientists of Malaysia (TRSM) that will be honoured today. I look forward to your valuable contribution to the advancement of STI.

30. I wish to commend the Academy of Sciences Malaysia for your passion and persistence to champion STI. Through the many facets of your contribution, you have made a mark as a significant voice for STI in this nation and beyond.

Thank you.

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